VOCATIONAL CURRICULUM-2020

(For the Academic year 2020-21)

[70% CONTENT IN VIEW OF COVID-19 PANDEMIC]

GENERAL FOUNDATION COURSE

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

Dr. A.Ashok I.A.S
COMMISSIONER

INTERMEDIATE EDCATION
Government of Telangana
Nampally, Hyderabad- 500001
Phone: 040-24655915

Fore word

In any developing society with a booming population, Vocational Education occupies an important position for generating large scale employment opportunities. Viewed in this context the importance of Vocational Education for our country cannot be over emphasized. Vocationalization of Secondary Education was introduced in 1988 at the Intermediate level. Recently, the Government of India has developed a National Skills Qualification Framework for establishing a clear path for vocational education from the school level to the highest level. The Department of Intermediate Education has recently framed a new curriculum to bring greater value to the system of vocational education. The primary aim of this reform is to prepare the students with employable skills for absorption in organized sectors and in few cases, even for self-employment.

State Institute of vocational education and Board of Intermediate Education, Telangana have reviewed the curriculum of vocational courses in order to reorient them for their practical approach. Greater emphasis is now being placed on Laboratory work and on the job training.

Simultaneously, The State Institute of Vocational Education and the department of Intermediate Education are presently making efforts to upgrade the quality of infrastructure in the colleges to meet the challenges of the changed curriculum. I am confident that the revised curriculum and the new text books would prove to be beneficial to the students in the vocational stream and help them train in need based productive courses leading to gainful employment.

Commissioner of Intermediate Education
Government of Telangana

GENERAL FOUNDATION COURSE
FIRST YEAR
TIME SCHEDULE, WEIGHTAGE & BLUE PRINT

S. No	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
01	General Education	40	24	3	3
02	Rural Education	40	18	3	2
03	Entrepreneur Development	40	16	2	2
04	Computer Education	30	10	2	1
	Total	150	68	10	08

Note: The question paper contains two sections.

Section – A of question paper contains 10 questions carries 2 marks each. The student has to answer all questions.
Section – B of question paper contains 8 questions carries 6 marks each. The student has to answer five questions.

COURSE CONTENTS:

1. **GENERAL EDUCATION**: Behavioral And Social Issues - Child Labour – Drug Abuse – Public Health& Swachh Bharat – Early Marriages – Gender Equality – Goal Setting - Time Management – Traffic Sense – Human Rights – Corruption In Public Life – Communal Harmony & National Integration - Demonetization.

2. **RURAL EDUCATION** :
   Rural Poverty And Unemployment – Panchyat Raj System – Afforestation – Rural Waste And Recycling – role of agencies in rural development – development of rural industries – banks and ngo's in rural development.

3. **ENTREPRENEUR DEVELOPMENT** :

   Entrepreneurship – Entrepreneurial Behavior – Entrepreneur Competencies- Women Empowerment- Make In India- Start Ups.

4. **COMPUTER EDUCATION**:

   Introduction – Basics of Computers- Types of Computers & its classifications- Block Diagram of Computers & Familiarity of Its Components – Software and it's Applications- Digital Communications and Internet- Digitalization.

SYLLABUS
GENERAL FOUNDATION COURSE
SECOND YEAR

TIME SCHEDULE, WEIGHTAGE & BLUE PRINT

S.No	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
01	Environment Education	40	18	3	2
02	Personality Development	30	10	2	1
03	Self-Employment	40	18	3	2
04	Employability Skills	40	22	2	3
	Total	150	68	10	08

Note: The question paper contains two sections.

Section – A of question paper contains 10 questions carries 2 marks each. The student has to answer all questions.
Section – B of question paper contains 8 questions carries 6 marks each. The student has to answer five questions.

COURSE CONTENTS:

1. **Environment Education**:

   Introduction – Impact of Industrialization on Environment – Environment Pollution – Measures To Control Pollution – Typical Environment Problems – Occupational Hazards – Safety Measures

2. **PERSONALITY DEVELOPMENT**:

   Leadership qualities – Stress Management – Problem Solving- Decision Making - Swoc Analysis - Change Management.

3. **SELF EMPLOYMENT** :

   Planning & Establishing Small Enterprise — Managing Small Enterprise – Social Responsibility of Business – Evaluating a Small Enterprise – Managerial Skills

4. **EMPLOYABILITY SKILLS**:

   Soft Skills – Self Confidence – Personal Effectiveness – Work Ethics - Group Discussion – Team Building - Resume – Interviews – Career Options & Job Opportunities

GENERAL FOUNDATION COURSE
FIRST YEAR

Time: 3 Hrs **Max. Marks: 50**

SECTION – A

Note: (i) Answer all the questions **10 x 2=20**

(ii) Each questions carries two (2) marks

1. Define Child Labour.
2. What is Corruption.
3. Define demonetization.
4. Define Rural Poverty.
5. What is meant by Rural Development.
6. Define Village Industry.
7. What is Motivation.
8. What is Risk.
9. What is Computer.
10. What is meant by Internet.

SECTION – B

Note: (i) Answer any five (5) questions **5x 6=30**

(ii) Each questions carries six (6) marks

11. Explain the causes of Child Labour.
12. Write briefly setting of Life Time Goals.
13. Explain the causes of Corruption and steps to eradicate Corruption.
14. Explain different types of Rural Unemployment.
15. Explain the advantages of BIO-Gas.
16. Write briefly about CMEY.
17. Explain the characteristics of an entrepreneur.
18. What are the objectives of Make in India.
19. Write about characteristics of Computer.
20. Explain the Block Diagram of the Computer

GENERAL FOUNDATION COURSE

SECOND YEAR

Time: 3 Hrs **Max. Marks: 50**

SECTION – A

Note: (i) Answer all the questions **10 x 2=20**

(ii) Each questions carries two (2) marks

1. Define Pollution
2. What is Thermal Pollution.
3. What is Air Pollution.
4. What is meant by Stress Management.
5. What is decision Making.
6. What is Self Employment.
7. What are Social Responsibilities.
8. What is Co operative Society.
9. What is Self Confidence.
10. Define Attitude.

SECTION – B

Note: (i) Answer any five (5) questions **5x 6=30**

(ii) Each questions carries six (6) marks

11. Briefly explain different types of Pollution.
12. Explain the measures to control Pollution.
13. Explain various types of Stress Reduction Ideas.
14. Explain briefly basic kinds of Decisions.
15. Explain about various Managerial Skills.
16. Explain the features of Sole Proprietorship.
17. Explain different between Public and Private Company.
18. What are the various factors which can build for development of Self Confidence.
19. Explain various good Work Ethics by Employees.
20. Explain various types of Interviews.

LIST OF PARTICIPANTS

1.	**Dr. P. Nagabhushanarao,** JL in G.F.C., MAM Government Junior College for Girls, Nampally, Hyderabad, TS
2.	**Dr. V.K.Swamy**, Director, Skill Development, Telangana Academy for Skills and Knowledge, Begumpet, Hyderabad, TS.
3.	**Dr. N. Manoharan,** Soft skills, Entrepreneurship Development & Employability Skills Faculty Achievers Academy Hyderabad, TS.
4.	**Co-ordinator:** Sri .K.Vishweshwar, Lecturer, S.I.V.E O/o The Commissioner of Intermediate Education Telangana, Hyderabad

Sd/- A.Ashok
COMMISSIONER OF INTERMEDIATE EDUCATION

30% DELETED CONTENT IN VIEW OF COVID-19 PANDEMIC
GENERAL FOUNDATION COURSE
FIRST YEAR

S .NO	Unit No. Name of the Unit	Topic /Sub Topic to be Deleted in detail heads	Two Marks Questions Deleted	Six Marks Questions deleted
1	Unit-1 General Education	1.4) Early Marriages 1.4) Gender Equality 1.7) Time Management 1.9) Human Rights	5) What are the early marriages? 6) Define Gender Equality. 8) What is time management? 10) Define Human Rights.	5) Write Briefly History of early marriages. 6) Explain the important aspects of Gender Equality. 9) Explain the ways to improve time management skills and increase productivity. 11) Write chronology of events regarding Human Rights.
2	Unit-2 Rural Education	2.3) Afforestation 2.7) Banks and NGO'S in Rural Development	8) Define Afforestation. 9) Write about recreation forestry. 18) What is meant by Lead Bank scheme? 19) Define NABARD. 20) What is meant by Regional Rural Banks? 21) Write about OUT REACH.	16) Explain the role of Banks in Rural Developments. 17) Explain the functions of NABARD. 18) Explain the functions of RRB. 19) Explain the functions of NGO'S. 20) Explain about the objectives of OUTREACH.
3	Unit-3 Entrepreneur Development	3.3) Entrepreneur Competencies 3.6) Start-ups.	13) Write briefly about start-ups.	8) Explain briefly about various Personal entrepreneurial characteristics. 11) Write about the unique characteristics of start-ups.
4	Unit-4 Computer Education	4.2) Types of Computers and its classification 4.4) Software and its Application	NIL 4) What is meant by Software?	3) Write about the classifications Of computers.

GENERAL FOUNDATION COURSE

SECOND YEAR

S. NO	Unit No. Name of the Unit	Topic /Sub Topic to be Deleted in detail heads	Two Marks Questions Deleted	Six Marks Questions deleted
1	Unit-1 Environment Education	1.3) Typical Environmental Problems. 1.4) Occupational Hazards.	9) What is mean by Occupational Hazards.	6) Write Briefly about typical Environment Problems. 7) Explain briefly about various Occupational Hazards.
2	Unit-2 Personality Development	2.1) Introduction Leadership Qualities	1) Define Personality.	1) Explain Briefly about Leadership Qualities. 2) Write the Good Qualities of Outstanding Leaders.
3	Unit-3 Self-Employment	3.3) Managing Small Enterprise 3.5) Evaluating a Small Enterprise	11) What is meant by Evaluation of Small Enterprises.	6) Explain about Evaluation a Small Enterprise.
4	Unit-4 Employability Skills	4.3) Personal Effectiveness 4.7) Resume 4.9) Job opportunities	4) What is meant by Personal Effectiveness. 8) What is meant by Resume?	3) Explain briefly about Personal Effectiveness and Self Confidence.

VOCATIONAL CURRICULUM-2020

(For the Academic year 2020-21)

ENGLISH

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

30% DELETED CONTENT IN VIEW OF COVID-19 PANDEMIC
ENGLISH FIRST YEAR

MODULE / UNIT	Name of the Unit to be omitted	Writer's Name
Module : I Unit 3	Short Story : The Umbrella Man	Roald Dahl
Module : II Unit 5 Unit 7	Prose : Aim for the Stars : Saina Nehwal Short Story : How Much Land does a Man Need?	Source : Internet Leo Tolstoy
Module : III Unit 10	Poetry : Climate Change	Julia Melnokova
Module : VI Unit 21	Study Skills - Information Transfer : 4. Flow Charts, 5. Tables and 6. Route Maps	---
Module : I Unit 1 Unit 2 Unit 4	Prose : My Mother Poetry : A Little Grain of Gold Language and Usage : 4.1 Parts of speech 4.2 Articles **Revision Test – I**	A P J Abdul Kalam Rabindranath Tagore --- ---
Module : II Unit 6 Unit 8	Poetry : The Royal Tombs of Golconda Language and Usage : Prepositions **Revision Test – II**	Sarojini Naidu --- ---
Module : III Unit 9 Unit 11 Unit 12	Prose : On the Rule of the Road Short Story : The Medal Language and Usage : Tenses **Revision Test – III**	A G Gardiner Bibhutibhushan Bandyopadhyay --- ---
Module : V Unit 20	Language and Usage : Correction of Errors in Sentences	---
Module : VI Unit 21 Unit 22	Language and Usage : Study Skills (Except Information Transfer : 4.Flow Charts, 5.Tables and 6.Route Maps – Pages from 249 to 253) Comprehension Passages **Model Question Paper**	 --- --- ---

SECOND YEAR

MODULE / UNIT	Name of the Unit	Writer's Name
Module : I Unit 2 Unit 3 Unit 4	Poetry : I Celebrate Myself Short Story : The Boy Who Broke the Bank Comprehension and Composition : Study Skills – I Section – B : Vocabulary : A Part of it Section – C : Understanding Non-verbal Data: Tables; Tree Diagrams and Flow Charts	 Walt Whitman Ruskin Bond --- ---
Module : II Unit 8	Composition : Letter Writing – Only Informal	---
Module : III Unit 9 Unit 11	Prose : To Sir with Love Short Story : My Elder Brother	E.R.Braithwaite Prem Chand
Module : VI Unit 22	Comprehension Passages: S. Nos. 10,11, 12 & 13	---
Module : I Unit 1 Unit 4	Prose : Dancing in the Rain Comprehension and Composition : Study Skills – I : Section – A: Punctuation Section – B: Vocabulary – 4. One-word substitutes [Except a Part of it 34 – 40 (Page – 40 : First NINE Lines)] Section – C : Understanding Non-verbal Data [Except TABLES; TREE DIAGRAMS;FLOW CHARTS–From 51– 57] Section – D : Understanding Advertisements **Revision Test – I**	Ajim Premji --- --- --- -- ---
Module : II Unit 5 Unit 6 Unit 7 Unit 8	Prose : Opportunities for Youth Poetry : The Magical Earth Short Story : Parige Composition:Letter Writing – Formal Letters [Except Informal Letters From 103–108] **Revision Test – II**	Jawaharlal Nehru Gulzar Vattikota Alwar Swamy --- ---
Module : III Unit 10 Unit 12	Poetry : Polonius' Advice to his Son Comprehension and Composition : Section – A : Filling in forms Section – B : Resume / CV / Bio-data and Cover Letters Understanding Job Advertisements **Revision Test – III**	Shakespeare --- --- ---
Module : VI Unit 21 Unit 22	Comprehension and Composition: Section B – Note-making Comprehension Passages [Except S.Nos. 10,11, 12 & 13 – From 283 – 285] **Model Question Paper**	-- --- --- ---

09001 (New) V

Total No. of Questions - **13**
Total No. of Printed Pages - **7**

Regd. No. | | | | | | | | | | |

ENGLISH
Paper - II

***Time* : 3 Hours** ***Max. Marks* : 50**

Section - A

1. Answer **ANY TWO** of the following questions in about 100 words each. $2 \times 4 = 8$

   (a) What does Nehru say about Gandhi in the essay 'Opportunity for Youth'?

   (b) What kind of freedom does Azim Premji recommend to the children of India?

   (c) What is happiness, according to Jawaharlal Nehru?

   (d) What does Azim Premji expect from parents and teachers?

2. Answer **ANY TWO** of the following questions in about 100 words each. $2 \times 4 = 8$

   (a) What tricks does the earth show, according to Gulzar?

   (b) "For the apparel oft proclaims the man," says Shakespeare in the poem, 'Polonius' Advice to his Son'. Elaborate and say if you agree with the poet.

   (c) The earth knows how to do magic! Support this statement with examples from the poem, "The Magical Earth".

   (d) Sketch briefly the character of Polonius, based on the poem, 'Polonius' Advice to his Son'.

3. Answer **ANY ONE** of the following questions in about 100 words each. $1 \times 4 = 4$

   (a) Describe the condition that forced Mallaiah to collect parige late in the evening.

(b) Mallaiah's father became very old, it became inevitable for Mallaiah to do the messenger's job in the village. Elaborate.

(c) How did Mallaiah come to know the news about his father and his sister?

SECTION - B

4. Read the following **passage** carefully and answer **ANY FOUR** questions given after it. $4 \times 1 = 4$

It was 7 p.m. The *jawans* had sent prisoners into the cells, locked them and started gossiping in the veranda. They described the atrocities committed by them in various prisons as great deeds. They also talked about prisoners' adventures and the various methods which were adopted to quell them. They said all those things were their precious experiences.

i) When did the *jawans* lock the cells?

ii) Where did the *jawans* start gossiping?

iii) The *jawans* talked about their own atrocities as great deeds. Write **true** or **false**.

iv) The rooms in jails are called ..... (fill in the blank).

v) Which word fromt the passage means **different**?

vi) Which word from the passage means **suppress**?

5. Read the following **passage** carefully and answer **ANY FOUR** questions given after it. $4 \times 1 = 4$

Some students were asked to list what they thought were the present 'Seven Wonders of the World'. The following received the most votes, in order of ranking:

1. The Pyramids of Egypt 2. The Taj Mahal 3. The Grand Canyon 4. The Panama Canal 5.The Empire State Building 5. St. Peter's Basilica and 7. The Great Wall of China. While gathering the votes the teacher noted that one student had not finished her paper yet. On being asked why, the girl said that she was unable to make up her mind as there were so many wonders. Then the teacher said, "Tell us what you have, and maybe we can help." The girl then read,

'1. To see 2. To hear 3. To touch 4. To taste 5. To feel 6. To laugh and 7. To love'. The room became quiet. The things we overlook as being simple and ordinary are truly wondrous. A gentle reminder that the most precious things in life cannot be built by hand or bought by man.

i) What was the task given to the students?

ii) Name the first two of the seven wonders that got most votes.

iii) Why couldn't a girl of that class make up her mind?

iv) What are the first three wonders that the girl read out?

v) How do we often regard truly wondrous things?

vi) What does the girl's response remind us of?

6. Study the **advertisement** given below and answer **ANY FOUR** questions given after it. $4 \times 1 = 4$

(i) What is the advertisement about?

(ii) What does the railways ban?

(iii) What is the punishment for carrying inflammables in trains?

(iv) What is the security helpline number?

(v) Write the motto of the South Central Railway.

(vi) What will decide your safety?

7. Read the non-verbal data given in the **pie-chart** below and answer **ANY FOUR** questions given after it. $4 \times 1 = 4$

(i) What does the pie chart show?

(ii) How many factors contribute to the cost of publishing?

(iii) What is the expenditure incurred on Royalty?

(iv) The minimum expenditure is incurred on _____

(v) What two factors together contribute to 50% of the total cost of publishing?

(vi) More money was spent on binding than on printing. Say true or false.

SECTION - C

8. Rewrite the following passage / sentences using **FOUR** of the **punctuation marks** wherever necessary. $4 \times \frac{1}{2} = 2$

having got the larger frame I looked more closely at my own country and wrote the discovery of india

9. Match **ANY FOUR** of the following words in Column 'A' with their **meanings/definitions** in Column 'B'. $4 \times \frac{1}{2} = 2$

(i)	colleague	( )	a. a person who believes that God does not exist
(ii)	mission	( )	b. sudden wish to do something
(iii)	domestic	( )	c. polite behavior that shows for other people
(iv)	atheist	( )	d. some special work

(v) impulse ( ) e. a person that you work with in a profession or a business

(vi) deportment ( ) f. relating to the work that is done in a person's home

10. Fill in the **FOUR** blanks of the given **bank form** based on the information furnished below. $4 \times \frac{1}{2} = 2$

You are Mr. M. Shireesh. You need to pay your IPE Examination fee Rs.600/- Withdraw from your Savings Bank Account No. 10405072354 today by filling in the following withdrawal form.

NOT NEGOTIABLE

TOKEN NO.

CPF - 3 Commp. No. 2200074

STATE BANK OF INDIA

SAVINGS BANK WITHDRAWL FORM

Date ①

② / Branch ACCOUNT NO./

Name of the Account Holder ③

Rupees ④

Savings Bank Acount

Rs. ⑤

Cash Transfer

Paid stamp

PAY CASH

Scroll No.

Passing Officer

⑥ Account Holder's Signature

Ajanta

Note: This Savings Bank withdrawl Order form is not a cheque. Unless this form is accompanied with Pass Book Payment will be refused.

11. Prepare a **curriculum vitae** in response to the following advertisement. $1 \times 2 = 2$

12. Write a **letter to the Principal** of your college requesting him to issue your transfer, bonafide and conduct certificates. $1 \times 4 = 4$

period of study - no dues - issue of transfer, bonafide and conduct certificates - request.

OR

Write a **letter to the Editor** based on the hints given below:

Plantation of trees- protecting them- rains- no water problems - adaption of 20 trees by one person- green earth- happy earth - quality life

OR

Write a **letter to the District Collector** requesting him/ her to take necessary steps to close the unused open bore wells which create a big threat to children.

unused open borewells - children in danger - measures to close - request.

13. Read the following passage and **make notes**. $1 \times 2 = 2$

Adolescence is a time of life when a person's self esteem is known to fluctuate significantly. It is estimated that up to a half of all adolescents will struggle with low self esteem .There are some common indicators that suggest a teenager may have issues with self esteem.

One of the most observable signs of low self esteem is when a teenager walks everywhere with his head pointed downwards and his chin stuck to the top of his chest. Teens with low self esteem often feel like they want to hide and get through public situations unnoticed. Teens who feel that they are not worth much may find it very hard to make eye contact with others when communicating. They avoid making a connection because they assume others have the same negative view of them as they do. Then again, the language teens use will often convey what it is they believe. Phrases like "1 am useless", "I always get it wrong," are examples of someone expressing negative beliefs about who she is.

Teenagers who feel bad about themselves will often seek to be negative about others. This is usually a defence mechanism. Often teens will be most critical of others who exhibit similar qualities that they don't like about themselves. Feelings of worthlessness can also manifest in a genuine fear of physical contact from others. When teens feel they are not valuable or worthwhile they can crave attention.

Feelings of inadequacy in teens may also be manifested as excessive bragging about themselves, their achievements, or appearance. They may speak too loudly and be aggressive in their tone. They may also avoid social situations. Teens who have few friends or weak bonds with peers commonly have low self esteem.

SPECIAL NOTE : While setting the Question Paper one must follow the instructions related to the reduction in syllabus and enhancement of choice in Question Paper without fail.

VOCATIONAL CURRICULUM-2020

(For the Academic year 2020-21)

[70% CONTENT IN VIEW OF COVID-19 PANDEMIC]

AGRICULTURAL CROP PRODUCTION

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education, Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

Dr. A.Ashok I.A.S
COMMISSIONER

500001

INTERMEDIATE EDCATION
Government of Telangana
Nampally, Hyderabad-

Phone: 040-24655915

Fore word

In any developing society with a booming population, Vocational Education occupies an important position for generating large scale employment opportunities. Viewed in this context the importance of Vocational Education for our country cannot be over emphasized. Vocationalization of Secondary Education was introduced in 1988 at the Intermediate level. Recently, the Government of India has developed a National Skills Qualification Framework for establishing a clear path for vocational education from the school level to the highest level. The Department of Intermediate Education has recently framed a new curriculum to bring greater value to the system of vocational education. The primary aim of this reform is to prepare the students with employable skills for absorption in organized sectors and in few cases, even for self-employment.

State Institute of vocational education and Board of Intermediate Education, Telangana have reviewed the curriculum of vocational courses in order to reorient them for their practical approach. Greater emphasis is now being placed on Laboratory work and on the job training.

Simultaneously, The State Institute of Vocational Education and the department of Intermediate Education are presently making efforts to upgrade the quality of infrastructure in the colleges to meet the challenges of the changed curriculum. I am confident that the revised curriculum and the new text books would prove to be beneficial to the students in the vocational stream and help them train in need based productive courses leading to gainful employment.

Commissioner of Intermediate Education
Government of Telangana

S No.	Contents	Page No.
I	**Introduction**	4
II	**Objectives of the Course**	5
III	**Skills to be provided**	6
IV	**Job Opportunities** a) Wage Employment b) Self-Employment	8
V	**Scheme of Instruction and Examination& OJT**	9
	SYLLABUS	
VI	**First year** **Theory** Paper I: Principles of Agricultural Crop Production Paper II: Soil and Water Management Paper III: Farm Management & Agricultural Extension **Practicals** Paper I: Principles of Agricultural Crop Production Paper II: Soil and Water Management Paper III: Farm Management & Agricultural Extension	12
VII	**Second Year** **Theory** PaperI: Management of Field & Commercial Crops Paper II: Management of Horticulture Crops Paper III: Seed Production & Processing **Practicals** PaperI: Management of Field & Commercial Crops Paper II: Management of Horticulture Crops Paper III: Seed Production & Processing	23
VIII	**List of Equipment**	32
IX	**Collaborating Institutions and On The Job Training Sites** a) List of Collaborating Institutions b) On – the – Job Training Sites	44
X	**Teaching staff and their Qualification**	45
XI	**Vertical Mobility**	46
XII	**Reference Books**	47
XIII	**Model Question Papers**	49
XIV	**List of Participants**	55

I. INTRODUCTION

Sustainable agricultural production is becoming a challenging task in view of depleting land & water resources, unpredictable climatic conditions, rising population growth rate and meeting the demand for food grain production. However, the problem can be tackled by adopting intensification and diversification in agricultural systems and raising productivity levels through education, training, research, technology adoption and institutional support. Farmer remains at the centre stage in the whole system and this entrepreneurship can be made more productive by developing his competency levels both in technical and managerial skills. A trained manpower serves and acts as a guiding force in exploiting potentials in agricultural production in general and Agricultural Crop Production in particular. Vocational initiative is an important link between education and production functions. An emphasis is laid, therefore, on developing competencies among the students through improvement of their skill – set.

Curriculum for a vocational course should contain ingredients such as (i) selection of competencies for on-the-job performance (ii) instructional programmes on principles and elements of a particular study subject and for development of skills to perform practical activities and (iii) developing capabilities to start either agricultural business or attain gainful employment.

The additional efforts are made for the value addition of course syllabus in terms of adequate exposure to seed production & processing, micro irrigation, landscape designing, nursery management, Co-operative societies etc., which will widen the scope of employability of students and throw open many job opportunities in different sectors.

The students who pass out vocational course at 10+2 stage are likely to absorb themselves in various sectors or initiate own agricultural business. The present competency based curriculum on Agricultural Crop Production offers possible employment opportunities and job description giving details of responsibilities and skill sets required for efficient performance. It will serve as a foundation in organization of instructional programmes for theory and practical classes and to prepare instructional material such as book writing, poster and chart preparations, practical manuals / Audio visual aids and even production of video programmes.

The competency based curriculum on Agricultural Crop Production will also help in structuring apprenticeship training programmes and serve as a guide to the employers with regard to measuring competency of the students. The focused practicals will also bridge the gaps between theory and practice. Apart from the course content, it has also given information on possible requirement of laboratory equipment, workshop materials, farm implements, spraying equipment and other materials used as inputs in Agricultural Crop Production. It also provides list of collaborating institutions and on-the-job training sites, besides curriculum outlines for each OJT site.

The curriculum of “Agricultural Crop Production” will be useful to various agencies engaged in implementation of vocational education and to those who are looking towards employing appropriate technical manpower. It will also serve as a guide for curriculum development in sub-disciplines of the vocation.

The students who undergo this Vocational course have handful practical experience which helps them in exposure to Private Industry / Public Employment.

II OBJECTIVES OF THE COURSE

1. To develop man power with scientific knowledge and skills for sustainable Agricultural Crop Production.
2. To develop capability for gainful employment.
3. To develop capabilities for world of work service sector
4. To provide the elements and principles of Agricultural Crop Production with reference to:
    - Climate and weather parameters including agro climatic zones of the region
    - Soil characteristics of the region
    - Tillage practices
    - Irrigation water management including micro irrigation techniques
    - Dry land farming, Soil & Water conservation and watershed management
    - Manures and fertilizers
    - Efficient crops and cropping systems and Contingency crop planning
    - Plant protection – Pests, diseases, weed management, bio-control and IPM technologies
    - Nursery management and landscape designing
    - Production technology for field, commercial and horticulture crops
    - Sustainable agriculture practices like farming systems
    - Organic farming
    - Harvest and post-harvest handling
    - Marketing guidelines
5. To address the issues of climate change
6. To develop all necessary skills in practical Agricultural Crop Production.
7. To develop abilities for organization of farmers meeting, field days, crop seminar and such other extension activities.
8. To train students for developing entrepreneurship in seed production and agro-input supply
9. To develop capabilities and competencies for agribusiness.
10. To provide knowledge about the functioning of cooperative societies.
11. To provide knowledge about credit facilities and supporting schemes.
12. To acquaint with farm accounting and record maintenance.
13. To develop competency in computing cost of cultivation and balance sheet preparation.
14. To expose towards the recent developments in the fields of production, marketing, extension and ICT’s

III. SKILLS TO BE PROVIDED

1. Identification of field problems – nature and extent
2. Conducting field demonstrations
3. Organizing field days
4. Conducting of on-farm trials
5. Organizing Agricultural Crop Production campaigns
6. Preparation of cropping scheme
7. Assisting in layout and conduct of field trials
8. Identification and handling of agro-meteorological instruments
9. Maintaining meteorological instruments and observatory
10. Recording of weather data
11. Interpretation of weather data
12. Analysis of rainfall and interpretation
13. Familiarization and use with primary and secondary tillage implements
14. Familiarization and use with seeding equipment
15. Seed bed preparation and methods of planting
16. Identification crops and varieties
17. Assessment of labour requirement for operations
18. Acquaintance, use and maintenance of farm records
19. Calculation of seed requirement for various crops
20. Demonstrating seed treatment
21. Identification of organic manures
22. Demonstrating Rhizobium inoculation
23. Identification of organic and concentrated organic manures
24. Identification and growing of green manure crops
25. Preparation of vermin-compost and use in field and horticulture crops
26. Maintenance of farming system models
27. Identification of nutrient deficiency symptoms
28. Application of fertilizers (time, method and rate)
29. Identification of pest and disease problems
30. Acquaintance with special operations like earthing up, propping, desuckering, nipping, pruning etc in various field and horticulture crops
31. Identification of weeds in different crops and their control measures

32. Use of pesticides, herbicides and other chemicals
33. Use of plant protection and herbicide equipment
34. Preparation and use of bio-pesticides
35. Soil sampling and analysis for various plant nutrients
36. Familiarization and use of soil testing equipment
37. Identification of commercial inorganic fertilizers
38. Calculation of fertilizer needs of crops
39. Detection of adulteration in fertilizers
40. Determination of soil physical properties
41. Assessment of irrigation water quality and familiarization with Indian water quality standards
42. Determination of water holding properties of soils
43. Familiarization with drip and sprinkler irrigation methods
44. Calculation of crop water requirements
45. Identification of land capability class, characterization of soil losses due to erosion, suggestion of soil and water conservation practices
46. Managing crops in fields
47. Selection of site and orchard layout
48. Raising nursery and transplanting procedures
49. Recording of biometric observations
50. Cleaning and grading of produce
51. Acquaintance with seed certification procedures
52. Rouging in seed production plots
53. Identification of maturity in various crops
54. Determination of moisture content in seed
55. Practice in cleaning, grading, drying, packaging, tagging and storage
56. Computation of cost of production of crops
57. Familiarization and processing of loan application
58. Preparation and use of audio-visual aids
59. Preparation of exhibits, charts and display boards
60. Managerial skills, ability to convince, exposure to different communication media
61. Familiarization with ICT’s like e-nam, e-sagu etc.

IV. JOB OPPORTUNITIES

a) Wage Employment

1. Village Level Assistant / village Level Worker / Village Extension Worker
2. Field Assistant / Farm Assistant / Field man / Agriculture Assistant / Agriculture Extension Officer / Village Extension Officer (Including equivalent positions in Command Area Development Agency, Dry land Development Projects, Drought Prone Area Programme)
3. Field Investigator / Field Demonstrator / Village Coordinator
4. Meteorological observer
5. Plant observer / Scouting
6. Plant Protection Assistant
7. Laboratory Assistant
8. Seed Production Assistant
9. Seed Grader
10. Processing Assistant in processing plants
11. Agriculture Marketing Assistant
12. Farm Storage Assistant
13. Cane Assistant / Cane Inspector
14. Soil Conservation Assistant / Watershed Management Assistant
15. Secretary to Agricultural Cooperative Societies
16. Agricultural Assistant in Grameena Banks
17. Salesman / Helper in Inputs Wholesale Shops/Farmer's Service Societies / Agro-Services Centers
18. Vocational Instructor (Agricultural Crop Production)

b) Self-Employment

1. Agri-Input Supplier
2. Seed Grower
3. Crop producer
4. Custom Service
5. Contractor / Contractor Farming

V. ANNUAL SCHEME OF INSTRUCTION AND EXAMINATION FOR AGRICULTURAL CROP PRODUCTION COURSE

FIRST YEAR

Part-A		Theory		Practicals		Total	
		Periods	**Marks**	**Periods**	**Marks**	**Periods**	**Marks**
1.	English	150	50	0	0	150	50
2.	General Foundation course	150	50	0	0	150	50
	Part-B						
3.	**Paper-I** Principles of Agricultural Crop Production	135	50	135	50	270	100
4.	**Paper-II** Soil & Water Management	135	50	135	50	270	100
5.	**Paper-III** Farm Management & Agricultural Extension	135	50	135	50	270	100
Part-C							
6.	**OJT**	0	0	365	100	365	100
	Total	**705**	**250**	**770**	**250**	**1475**	**500**

*on the Job Training for 1st year from 1st November to 31st December

SECOND YEAR

Part-A		Theory		Practicals		Total	
		Periods	**Marks**	**Periods**	**Marks**	**Periods**	**Marks**
1.	English	150	50	0	0	150	50
2.	General Foundation course	150	50	0	0	150	50
	Part-B						
3.	**Paper-I** Management of Field & Commercial Crops	110	50	115	50	225	100
4.	**Paper-II** Management of Horticulture Crops	110	50	115	50	225	100
5.	**Paper-III** Seed Production & Processing	110	50	115	50	225	100
Part-C							
6.	**OJT**	-	-	450	100	450	100
	Total	**630**	**250**	**795**	**250**	**1425**	**500**
TOTAL FIRST YEAR AND SECOND YEAR MARKS 1000							

*OJT Programme for 2nd year students from 1st August to 31st October.

EVALUATION OF ON THE JOB TRAINING:

The "On the Job Training" shall carry 100 marks for each year and pass marks is 50. During on the job training the candidate shall put in a minimum of 90 % of attendance. The evaluation shall be done in the last week of January.

Marks allotted for evaluation:

S.No	Name of the activity	Max. Marks allotted for each activity
1	Attendance and punctuality	30
2	Familiarity with technical terms	05
3	Familiarity with tools and material	05
4	Manual skills	05
5	Application of knowledge	10
6	Problem solving skills	10
7	Comprehension and observation	10
8	Human relations	05
9	Ability to communicate	10
10	Maintenance of diary	10
	Total	100

NOTE: The On the Job Training mentioned is tentative. The spirit of On the Job training is to be maintained. The colleges are at liberty to conduct on the job training according to their local feasibility of institutions & industries. They may conduct the entire on the job training periods of (365) First year and (450) Second year **either by conducting classes in morning session and send the students for OJT in afternoon session or two days in week or weekly or monthly or by any mode which is feasible for both the college and the institution**. However, the total assigned periods for on the job training should be completed. The institutions are at liberty to conduct On the Job training during summer also, however there will not be any financial commitment to the department.

SCHEME OF INSTRUCTION PER WEEK

	Part-A	**Theory**	**Practicals**	**Total**
1.	English	4	-	4
2.	General Foundation Course	4	-	4
	Part-B			
3.	Paper –I	4	4	8
4.	Paper-II	4	4	8
5.	Paper-III	4	4	8
6.	**Total**	**20**	**12**	**32**

VI. SYLLABUS
AGRICULTURAL CROP PRODUCTION
FIRST YEAR THEORY
PAPER-I: PRINCIPLES OF AGRICULTURAL CROP PRODUCTION

S.No	Name of the Unit	No. of periods	Weight age in marks	Short Answer Questions	Essay type Questions
I	Agriculture	12	4	2	-
II	Agro meteorology	36	16	2	2
III	Tillage and Tilth	28	16	2	2
IV	Cropping Systems	18	10	2	1
V	Weed Management	25	16	2	2
VI	Sustainable Agriculture	16	6	0	1
	Total	**135**			

DETAILED SYLLABUS

1. **Agriculture**
   1.1 Terminology – Agriculture, Agronomy & its relationship with basic sciences
   1.2 National & International Institutes of agriculture research in India
   1.3 Agro climatic zones of Telangana-soils, land use pattern, major sources of irrigation and ground water potential.
2. **Agrometeorology**
   2.1 Terms & Definitions – Weather & Climate
   2.2 Earth Atmosphere – its composition, extent and Structure-Atmosphere weather variables, atmospheric pressure.
   2.3 Monsoon, types and impact on agricultural operations
   2.4 Wind, solar radiation, Air temperature, Soil temperature, Humidity & Evaporation and their utility in Agricultural Crop Production
   2.5 Weather hazards and their mitigation – drought cyclones, and their effect on Agricultural Crop Production.
   2.6 Weather forecasting – Importance and types of weather forecasts and their uses, remote sensing and its application in agriculture
   2.7 Agriculture and weather relations, modification of crop micro climate, climatic normal for crop and live stock production.
   2.8 climatic variability, global warming, causes of climate change and its impact on regional and national agriculture.
3. **Tillage and Tilth**
   3.1 Definition, Objectives and Factors influencing tilth,types of tillage – Primary tillage, secondary tillage & intercultural operations
   3.2 Characteristics of fine tilth of soil-effect on soil properties – pore space, structure, bulk density, particle density and color of the soil.

3.3 Sowing – methods of sowing – time and depth of sowing of major agriculture crops of Telangana – Crop stand establishment – factors effecting of optimum stand establishment.
3.4 planting geometry – competition – types of competition, intra and inter plant competition – plant population – effect on growth and yield – optimum plant density and planting pattern for major crops of Telangana.
3.5 Types of implements in agriculture – Primary, Secondary, seeding and harvesting implements.
3.6 Modern concepts of tillage – Conservation of soil moisture through minimum tillage, zero tillage and stubble mulch farming.

4. Cropping Systems

4.1 Management of crops & cropping systems in rain fed areas – intercropping, Sequence croppingand Crop rotation
4.2 potential cropping system
4.3 late onset, dry spell and early withdrawal of monsoon in India and in Telangana.
4.4 Farming systems – mixed farming - advantages
4.5 Components of IFS and its advantages – site specific development of IFS models for different agro climatic zones in rain fed, irrigated and irrigated dry conditions.

5. Weed Management

5.1 Common weeds, Losses, benefitsand Crop-weed association and competition
5.2 Classification of weeds – based on morphology, life cycle, habitat, origin, association and soil P^H with examples.
5.3 Methods of weed control and classification of herbicides
5.4 Mixtures, compatibility with agro chemicals and relevance in agriculture
5.5 Chemical weed control in different crops (Rice, Blackgram, groundnut, cotton, onion & Mango) and Integrated weed management
5.6 Micro herbicides and Nano herbicides

6. Sustainable Agriculture

6.1 Introduction, Definition,factors affecting ecological balance and major components of sustainable agriculture systems
6.2 Organic farming - definition, principles, relevance to modern agriculture & components of organic farming
6.3 conversion of soil to organic farming
6.4 Organic nutrient management, types of organic manures, biofertilizers – efficient use of organic sources of nutrients

AGRICULTURAL CROP PRODUCTION
FIRST YEAR
PAPER-II: SOIL AND WATER MANAGEMENT (THEORY)

S.No	Name of the Unit	No. of periods	Weight age in marks	Short Answer Questions	Essay type Questions
I	Soil in Relation to Plant Growth	25	14	2	2
II	Mineral Nutrition, Manures & Fertilizers	35	18	3	2
III	Irrigation Water Management	40	18	3	2
IV	Dry land Agriculture	35	16	2	2
	Total	**135**		**10**	**8**

DETAILED SYLLABUS

1. **Soil in Relation to Plant Growth**
   1.1 Components of a mineral soil, soil texture and soil structure
   1.2 Soil fertility and soil productivity
   1.3 Crusting, compaction, hardpan – light soils, shallow – ill drained and flooded soils.
   1.4 Soil reaction – acidity, salinity, alkalinity, saline alkaline soils – properties and soil diagnostic criteria – effect of these on soil conditions and plant growth.
   1.5 Reclamation of problematic soils.
   1.6 GIS – role in detection and management of problem soils.
2. **Mineral Nutrition, Manures and Fertilizers**
   2.1 Essential elements – Classification, Functions and deficiency symptoms
   2.2 Classification of manures & fertilizers.
   2.3 Biogas plant, green manuring – types & crops and Vermicomposting, Biofertilizers
   2.4 Fertilizer application methods
   2.5 Fertilizer recommendations approaches – soil test based fertilizer recommendations – Integrated nutrient management – Definition and component
   2.6 soil, plant and management factors influencing use efficiency –
   2.7 Sources, method and time of nutrient application under irrigated and rainfed conditions – Nano fertilizers.
3. **Irrigation Water Management**
   3.1 Definition and objectives of irrigation and drainage- Soil moisture availability – Field capacity, permanent wilting point, available soil moisture.
   3.2 Surface and ground water resources – important major irrigation projects in Telangana
   3.3 Water requirement of crops – crop water requirement, critical stages for irrigation

3.4 Water management practices for major field and horticultural crops of Telangana (Rice, Groundnut, Maize, Redgram, Mango, Citrus & Banana)
3.5 factors influencing WUE – Methods of irrigation and Micro irrigation
3.6 Different criteria - feel and appearance method – soil moisture retention and depletion of available soil moisture (DASM) – IW/CPE ratio.

4. Dry land Agriculture

4.1 Characteristics of dry land & rainfed agriculture- Problems of dry land agriculture – Climate & Soil
4.2 Soil erosion – Water& wind erosion, Losses due to erosion
4.3 Soil & Moisture conservation – Agronomic, Mechanical
4.4 Watershed management – weather harvesting structures suitable for different soils – In-situ and Ex-situ

AGRICULTURAL CROP PRODUCTION
FIRST YEAR
PAPER-III: FARM MANAGEMENT & AGRICULTURAL EXTENSION (THEORY)

S.No	Name of the Unit	No. of periods	Weight age in marks	Short Answer Questions	Essay type Questions
I	Introduction to farm management	20	8	1	1
II	Farm records	20	8	1	1
III	Agricultural marketing	25	12	3	1
IV	Farm credit	20	8	1	1
V	Agricultural cooperation	25	14	2	2
VI	Agricultural extension	25	14	2	2
	Total	**135**		10	8

DETAILED SYLLABUS

1. **Introduction to Farm Management**
   a) Definition, management of farm with respect to land, labour, capital and organization
   b) Maintenance of farm records
      (i) Farm managers dairy
      (ii) Cash book
      (iii)Wage Register
      (iv)Stock registers of agricultural equipment, livestock, fertilizers and insecticides
      (v) Dead stock register
      (vi)Inventory
2. **Agricultural marketing**
   a) Definition and importance of agricultural marketing, functions of markets, defects in the present marketing system, steps taken to safeguard the farmers,Regulated markets- functions and advantages.
   b) Marketing channels of food grains, oil seeds; concept of Rythu Bazar – e-nam, mana ooru, mana kuragayalu
   c) Rythubandhupathakam – Marketing godowns and their management
3. **Farm credit**
   a) Meaning, definition, need and classification of farm credit.
   b) Sources of credit, scale of finance, easy lending in good credit system, Sources of credit – NABARD, RRD, Kisan credit cards.
   c) Crop insurance – Pradhan Mantrifasalbhima Yojana, types of insurance

4. **Agricultural cooperation**
   a) Definition, meaning, aims and principles of cooperation.
   b) Cooperative institutions – India / Telangana – Credit and Non-credit activities; multipurpose cooperative institutions, different functions of farmers cooperatives

5. **Agricultural extension**
   a) Extension education – meaning, objectives; differences between formal education and extension education
   b) Extension models – audio-visual aids; mass communication-media, method and result demonstrations,exhibitions, farmers training centers.
   c) Leadership qualities- self-help groups, dynamics, Krishi Vigyan Kendras; DATTC; Rythumithra; PRA, FPO'S (Farmer Produce Organization) for training farmers and farm women.
   d) New trends in agricultural extension – Privatization of extension, merits, problems, strategies with examples.
   e) Cyber extension – meaning, features, successful models.
   f) Indigenous Technical Knowledge (ITKs) and ICT's (Information and Communication Technology)

AGRICULTURAL CROP PRODUCTION
SECOND YEAR
PAPER-II: MANAGEMENT OF HORTICULTURE CROPS (THEORY)

S.No	Name of the Unit	No. of periods	Weight age in marks	Short Answer Questions	Essay type Questions
I	Introduction	5	2	1	
II	Nursery Management	8	6	0	1
III	Landscaping	8	6	0	1
IV	Production of fruit crops	21	10	2	1
V	Production of vegetable crops	10	8	1	1
VI	Production of flower crops	12	8	1	1
VII	Production of plantation crops	8	6	0	1
VIII	Production of spice crops	20	10	2	1
IX	Medicinal and Aromatic Plants	10	08	1	1
X	Protected cultivation Techniques	08	04	2	0
	Total	**110**			

DETAILED SYLLABUS

1. **Introduction**
   Definition, Importance and Scope of Horticulture; Divisions of Horticulture
2. **Nursery Management**
   Types of Nursery beds; Propagation methods, preparation of nursery beds, handling of nursery plants.
3. **Landscaping**
   Importance; elements and principles of landscape design; establishment and maintenance of lawns
4. **Production of fruit crops**
   Commercial cultivation of the following crops with respect to area, production & productivity, climate, soil, varieties, propagation, different systems of planting, manures & fertilizers, irrigation requirement, intercultivation& weed control, plant protection, training, pruning, harvesting and post harvest guidelines
   4.1 Mango 4.4 Guava 4.7 Custard apple
   4.2 Banana 4.5 Sapota
   4.3 Citrus 4.6 Apple ber
5. **Production of vegetable crops**

Commercial cultivation of the following crops with respect to origin, area, production & productivity, climate, soil, varieties, planting, manures & fertilizers, irrigation requirement, intercultivation& weed control, plant protection, harvesting and post harvest guidelines

5.1 Tomato
5.2 Lady Finger
5.3 Brinjal
5.4 Leafy Vegetables
5.5 Gourds

6. **Production of flower crops**

Commercial cultivation of the following crops with respect to origin, area, production, climate, soil, varieties, propagation, manures & fertilizers, irrigation requirement, intercultivation& weed control, plant protection, harvesting, grading, packing and post harvest guidelines.

6.1 Rose
6.2 Jasmine
6.3 Chrysanthemum
6.4 Gladiolus
6.5 Carnations
6.6 Dhavanam

7. **Production of plantation crops**

Commercial cultivation of the following crops with respect to origin, area, production, climate, soil, varieties, propagation, planting, manures & fertilizers, irrigation requirement, intercultivation& weed control, plant protection, harvesting, post harvest guidelines and processing

7.1 Papaya
7.2 Coconut

8. **Production of spice crops**

Commercial cultivation of the following crops with respect to origin, area, production & productivity, climate, soil, varieties, propagation, planting, manures & fertilizers, irrigation requirement, intercultivation& weed control, plant protection, harvesting, post-harvest guidelines and processing

8.1 Chillies
8.2 Turmeric
8.3 Onion
8.4 Coriander

9. **Medicinal and Aromatic Plants**

9.1 Aswagandha
9.2 Asparagus
9.3 Aloevera
9.4 Lemon grass
9.5 Citronella

10. **Protected cultivation techniques**

AGRICULTURAL CROP PRODUCTION
SECOND YEAR
PAPER-III: SEED PRODUCTION & PROCESSING (THEORY)

S.No	Name of the Unit	No. of periods	Weight age in marks	Short Answer Questions	Essay type Questions
I	Plant breeding	15	10	2	1
II	Seed Importance	30	18	3	2
III	Seed production techniques of varieties/hybrids of rice, maize sunflower, cotton, groundnut, blackgram, redgram	20	16	2	2
IV	Seed Certification	15	10	2	1
V	Seed Testing	25	14	1	2
VI	Role of WTO and OECD in see marketing	05	04	2	0
	Total	**110**			

DETAILED SYLLABUS

1. **Plant breeding: Introduction -**
   Objectives of plant breeding, self pollination mechanisms, cross pollination mechanisms, male sterility, vegetative reproduction, hybridization - techniques
2. **Seed: Importance**
   a) Difference between seed and grain, characteristics of quality seed, classes of seed – nucleus, breeder, foundation certified and truthfully labeled seed
   b) Principles of seed production, Isolation distance, Rouging, synchronization, supplementary pollination, maintenance of physical and genetic purity in released varieties
   c) Difference between hybrids and varieties
3. **Seed production techniques of varieties/hybrids of**
   Rice, maize, Bajra, sunflower, cotton, Groundnut, Blackgram, redgram, greengram
4. **Seed Certification**
   Processing, seed drying, seed threshing, seed cleaning, seed treatment, seed storage, multigrade seed processor.
5. **Seed testing:**
   Moisture, physical purity, genetic purity, viability vigour, factors influencing seed germination, seed dormancy, methods to break dormancy, GOT (Grow Out Test), seed packing, seed act – intellectual property rights
6. **Role of WTO and OECD in seed marketing.**

VIII. LIST OF EQUIPMENT

Sl. No	Item	Number/Quantity Requir
1.	Spade	15
2.	Pickaxe/Kudali	15
3.	Khurpi	30
4.	Sickle/Hansiya/Koyta	15
5.	Crow bar	03
6.	Buckets	06
7.	Baskets/Tokra	15
8.	Seed and fertilizer drill (Bullock drawn)	01
9.	Wooden Plough	03
10.	Mould board Plough	01
11.	Harrow	02
12.	Ridge Former/Leveller	01
13.	Cultivator	01
14.	Hand Hoe	03
15.	Wheel Harrow	01
16.	Plank	01
17.	Winnowing Stool	01
18.	Hand rotary duster	01
19.	Food sprayer	01
20.	Knapsack sprayer	01
21.	Power sprayer	01
22.	Seed treating Drum	01
23.	Insect killing bottle	05
24.	Insect net	05
25.	Seed storage bins	06
26.	Soil augers	03
27.	Sampling tube	03
28.	Soil and water test kits	02
29.	Soil colour chart	01
30.	Rain gauge	01
31.	Dry and wet bulb thermometer	01
32.	Hygrometer	01
33.	Physical balance	01
34.	Weight box	01
35.	Mortar and pastle	01
36.	Laboratory grinder	30
37.	Aluminium moisture box	01
38.	Digestion and distillation unit	01
39.	Distillation water still	01
40.	Sieves set	01
41.	Hot plate	01
42.	Water bath	01

43.	Insect cabin box	06
44.	Thermometer	06
45.	Chemical balance	01
46.	Trays	06
47.	Wash bottle	15
48.	Sample divider	01
49.	Gravity separator	01
50.	Conductivity bridge	01
51.	Conductive bridge	01
52.	Hand refractor meter	01
53.	Tensiometers	01
54.	Neutron Moisture meter	01
55.	Digestion and distillation unit	01
56.	Flame photometer	01
57.	Calorimeter	01
58.	Distilled water unit	01
59.	Sprinkler irrigation unit	01
60.	Drip irrigation unit	01
61.	Tractor 35 HP	01
62.	Power tiller	01
63.	Tractor drawn cultivator, disc harrow, disc plough, M.B. plough, Ridger etc.	01
64.	Moisture meter	01
65.	Precision balance (0.01 g precision & 500 grams capacity)	01
66.	Double ring infiltrometer	01
67.	Secataur	10
68.	Push Hoe	04
69.	Grafting and budding knife	10
70.	Water can with rose	10
71.	Germination trays	10
72.	Measuring tape	01
73.	Tree pruner	02
74.	Refrigerator	01
75.	Electrical oven	01
76.	Weather tracker	01
76.	Charts showing symptoms of nutrients, disorders, pests and Diseases	
76.	Charts showing different methods of training	

B. LIST OF GLASSWARE

Sl. No	Item	Quantity Required
1.	Beakers -50 ml to 100 ml	As per requirement
2.	Petri dishes (100 mm dia)	50
3.	Graduate measuring cylinders	As per requirement
4.	Conical Flask – 50 ml to 100 ml	As per requirement
5.	Pipetters (capacity-5 ml to 50 ml)	As per requirement
6.	Glass jars	25
7.	Carboury 20 liters	01
8.	Test tubes	200
9.	Funnel	As per requirement
10.	Burettes	05
11.	Glass rod	2 kg
12.	Watch glasses	100
13.	Clamps of different types	As per requirement
14.	Rubber tubing and glass rubbing	As per requirement
15.	Round bottom flask 250 ml	03
16.	Stands and Try pot	As per requirement
17.	Porcelain tile	As per requirement
18.	Asbestos sheet	05

C. LIST OF CHEMICALS

Sl. No	Item	Quantity Required
1.	Conc. Nitric acid	2 L
2.	Conc. Sulphuric acid	2 L
3.	Conc. Hydrochloric acid	2 L
4.	Boric acid	½ kg
5.	Acetic acid	½ kg
6.	Oxalic acid	½ kg
7.	Sodium hydroxide	2 kg
8.	Potassium hydroxide	1 kg
9.	Potassium permanganate	1 kg
10.	Potassium dichromate	1 kg
11.	Devardas alloy	1 kg
12.	Activated charcoal	½ kg
13.	Calcium chloride	2.5 kg
14.	Copper sulphate	1 kg
15.	Ferrous ammonium sulphate	0.5 kg
16.	Barium chloride	2.5 kg
17.	Chloroform	2 kg
18.	Indicators of various types like methyl red, methyl orange Phenophthalene	5 g each
19.	PH. Buffer tablets 4,7 and 0	10 tablets each
20.	Carbon tetra chloride	2 kg
21.	Mercuric chloride	0.5 kg
22.	Magnesium carbonate	0.500 g
23.	Silver Nitrate	0.500 g

24.	Potassium thyocynate	100 g
25.	Stannous chloride	500 g
26.	Universal Indicators	500 g
27.	Sodium bicarbonate	1 kg
28.	Potassium dihydrogen phosphate	0.5 kg
29.	Perchloric acid	500 g
30.	Orthophosphoric acid	1 L
31.	Sodium hypo chloride	100 g
32.	Iodine	1 L
33.	Rectified spirit	50 g
34.	Diphenyl amine	50 g
35.	Ammonium molybdate	100 g
36.	Ammonium hydroxide	5 L
37.	Ethyl alcohol	2 L
38.	Para nitropheyl	100 g
39.	E.D.T.A. Disodium salt	50 g
40.	Eriochrome black T indicator	100 g

D. LIST OF SOME IMPORTANT HERBICIDES FUNGICIDES AND PESTICIDES

Item	Quantity Required
A) Herbicides	
1. Simazine	As per requirement
2. 2-4D	As per requirement
3. Diuron	As per requirement
4. MCPA	As per requirement
5. Butachlor	As per requirement
6. Fluchloralin (Basalin)	As per requirement
7. Pendimethalin	As per requirement
8. Isoproturon	As per requirement
9. Gramoxone (Paraquat)	As per requirement
10. Tribunal (MethaBenzthiazuron)	As per requirement As per requirement
11. Atrazine	As per requirement
12. Alachlor	As per requirement
B) Fungicides	
1. Bordeaux mixture	As per requirement
2. Copper oxy chloride	As per requirement
3. Captan, thiram	As per requirement
4. Zineb	As per requirement
5. Dithane-Z78 and Dithane – M 45	As per requirement
6. Wettablesulphur power	As per requirement
7. Streptocycline	As per requirement
8. Tetracycline	As per requirement
9. Carbendizem	As per requirement
10. Mycobutanil	As per requirement
11. Hexaconazole	As per requirement
12. Tetraconazole	As per requirement
C) Pesticides	
1. Methyl bromide	As per requirement
2. Imidachloprid	As per requirement
3. E.D.C.T. mixture	As per requirement
4. Aluminium phosphide	As per requirement
5. Malathion	As per requirement
6. Dimethoate 25 EC	As per requirement
7. Phorate granules	As per requirement
8. Isoprothalane	As per requirement
9. Phosphomidon 100 EC (Vegetables)	As per requirement
10. Monoctorophos (Vegetables)	As per requirement
11. Carbofuron	As per requirement
12. Thimet granules	As per requirement
13. Quinolphos	As per requirement
14. Parathion 2% dust	As per requirement

15. Zinc phosphide	As per requirement
16. Difenucarb	As per requirement

.LIST OF OTHER MATERIAL

Sl. No Item	Quantity Required
1. Nylone	100 metres
2. Metre tapes	10 metres
3. First Aid Box	01
4. Fire extinguisher	01
5. Graph papers	one roll
6. Muslin Cloth	As per requirement
7. Grease/Lubrication oil	As per requirement
8. Stationery	As per requirement
9. Fertilizers, Insecticides, pesticides, fungicides	As per requirement
10. Axe and Hacksaw	one each
11. Fitter shoes	As per requirement
12. Hunter shoes	05
13. Rubber gloves	two pairs
14. PH paper stripps	15

F. LIST OF SOME IMPORTANT FERTILIZERS MANUFACTURED IN INDIA

A. NITROGENOUS i. Ammonium sulphate ii. Ammonium chloride iii. Calcium ammonium nitrate **iv.** Urea
B. PHOSPHATIC i. Single super phosphate ii. Triple super phosphate **iii.** Rock phosphate
C. POTASSIC i. Murate of potash **ii.** Sulphate of potash
D. N.P. FERTILISER i. Diammonium phosphate ii. Nitrophosphates iii. Ammonium phosphate iv. Urea ammonium phosphate

v. Ammonium polyphosphates
E. NPK COMPEXES (N, P205, K20) i. NPK complex (15,15,14) ii. NPK complex (19,19,19) iii. NPK complex (17,17,17) iv. NPK complex (10,26,26) v. NPK complex (14,28,14) vi. NPK complex (14,35,14) vii. NPK complex (12,32,16)

G.LIST OF AUDIO-VISUAL AIDS

Sl. No	Item	Quantity Required
1.	Panel boards	12
2.	Charts and posters	20
3.	Pamphlets and leaf lets	As per requirement
4.	Video cassettes	As per requirement
5.	Television and VCP	one
6.	Over head projector	one
7.	Slide projector	one
8.	Camera	one
9.	Video camera	one
10.	CCD Panel	one

H.LIST OF FIELD FECILITIES

Sl. No	Item	Quantity Required
1.	Wet land	1 ha
2.	Dry land	1 ha
3.	Irrigated Dry land	1 ha
4.	Bullock pair (may be hired on daily wage basis to Give practical training to students)	1ha

I.ADDRESSES FOR PROCUREMENT OF INPUTS

A. SUGGESTED LIST OF SUPPLIERS OF EQUIPMENTS

1. M/s American Spring and pressing Works Pvt. Ltd., marve Road, Malad, Mumbai – 400064 or 24-157 Shakti Nagar, New Delhi.
2. M/s Addison Co. Pvt. Ltd., 158, Mount Road, Chennai – 2.
3. M/s Shaw Wallace and Co., 25, Pollock street, Calcutta – 1.
4. M/s Sunbeam Corporation, L-4, Cannaught Circus, New Delhi – 110001.
5. M/s Indo – German Planting Machinery Co. Ltd., 4- Mahatma Gandhi Road, Bangalore.
6. M/s Crop Protection Corporation, 10, Hamam Street, 4th floor, Mumbai – 400001.
7. M/s Aditya Industries, 635-A, Tiruvottiyur High Road, Chennai – 19.
8. M/s Sigma Street Industries (Regd.) A-2, Industrial Estate, Ludhiana – 3.
9. M/s Jardine Handerson Ltd., Agency Dept. 4, Civil Road – Calcutta.
10. M/s K.S.I. Instruments, Rajaji Nagar, Bangalore – 560010.
11. M/s Systronic Instruments, Ahmadabad.
12. M/s Toshniwal Industries, Ajmer (Rajasthan).
13. M/s Aimil Instruments, Ahmadabad.
14. M/s K. Lal Instruments, New Delhi.
15. M/s Elico Instruments, New Delhi.

B. SUGGESTED LIST OF SUPPLIERS OF GLASSWARES

1. Brosil Glass works Ltd., New Delhi.
2. Hi-Tech Glass works, Shri Ganganagar (Rajasthan)
3. Corning Glass works.
4. Dholpur Glass House, Dholpur, Rajasthan.
5. Jain Scientific Glass, Ambala Cantt. Punjab.
6. Gupta Scientific Glass, Ambala Cannt., Haryana.

C. SUGGESTED LIST OF SUPPLIERS OF CHEMICALS

Local suppliers of following manufacturer

1. B.D.H. chemicals
2. Glaxo Chemicals Division
3. Riddle Chemicals
4. Lobo – Chemicals
5. E-Merck Chemical division
6. CDH chemicals
7. SISSCO Chemicals

D. SUGGESTED LIST OF SUPPLIERS OF PESTICIDES, FUNGICIDES AND HERCIDES

1. Bayer (India) Limited, Express Towers, Nariman point, P.O.Box. 1436, Mumbai – 400021 or 1/56, Janpath, New Delhi – 110001.
2. Bharat Pulverising Mills Pvt. Ltd., Shriniketan 14, Queens Road, Mumbai – 400020 or 1/185B, Asif Ali Road, New Delhi – 110002.
3. Ciba of India Ltd., Royal Insurance Bldg., 14-J, Tata Road, P.O.B.No. 479, Mumbai – 400004.
4. Consolidated Crop Protection Pvt., Ltd., B.1, Tara Bang Estate Charni Road, Mumbai – 400004.

5. Cynamid India Ltd., 254-D-2, Dr. Aannie Besant Road, Mumbai – 400010.
6. Esso standard Eastern Inc., Parliament Road, Mazagaon, P.Box No. 16202, Mumbai – 400010.
7. Hoechst pharmaceuticals Ltd., Dugal House, Backhay, Post Box No. 273, Mumbai – 400001 or Horchst House Asaf Ali Road, New Delhi – 110002.
8. Imperial Chemical Industries Ltd., I.C.I. House, 34, Chowringee, Calcutta – 16.
9. May and Baker (India) Pvt., Ltd., Connaught circus, Chaudhary Bldg., New Delhi – 110001.
10. Mehta Pharmaceuticals (P). Ltd., Chheharta, Amritsar.
11. Mysore Insecticides Company, 31 A, North Beach Road, Post Box No. 1835, Chennai-1.
12. National Organic Chemical Industries Ltd., Mafatlal House, Beachpay Reclamation, Mumbai – 400001.
13. Pesticides India, Mewar Oils and General Mills Ltd., Post Box No. 20, Udaipur – 313001.
14. Sandox (India) Ltd., 3, Witter Road, Ballard Estate, Mumbai – 400003 or 4/1 Asal Ali Road, New Delhi – 110002.
15. Standard Chemicals and Pharmaceutical Co., Atlas Mills, Mumbai – 400010.
16. Tata Fision Ltd., 21, Ravelin Street, Fort, Mumbai – 400001.
17. Union Carbide India Ltd., 1, Middleton Street, Calcutta – 16.
18. Excel Industries Ltd., Jogeshwari, Mumbai – 400060.
19. Hindustan Antibiotics.
20. BASF India Ltd., 501, Barakhamba Road, New Delhi – 110001.
21. Endofil Chemicals Ltd., Nirlon House, Dr. Annie Besant Road, Mumbai – 400025.
22. M/s Rallis India Ltd., United India life Building, F-Block Connaught Place.
23. New Delhi – 110001.

E. SUGGESTED LIST OF SUPPLIERS OF SEEDS

i. National Seed Corporation.
ii. State Seed Corporation.
iii. Nath Seeds Ltd., Adalai Road, Aurangabad – 431005.
iv. Mahyco Seeds, Jalana, Maharashtra.
v. Tarai Development Corporation, Nainital.
vi. Gangotri Hybrids, PashimVihar, New Delhi.
vii. Chaddha Seeds, Haldwani, Pant Nagar.
viii. Century seeds, New Delhi.
ix. Indo-American Seed Co., New Delhi.

F. SUGGESTED LIST OF SUPPLIERS OF FERTILISERS

1. Coromandel Fertilizers Ltd.
2. EID parry (India), Ennore, T.N. (Pvt.)
3. Fertilizer and chemicals Travancore Ltd., Alwaye, Kerala (Pub)
4. Fertilizer and chemicals Travancore Ltd., Ambalamedu, Cochin – Phase I, Kerala (Pub.)
5. Fertilizer and chemicals Travancore Ltd., Ambalamedu, Cochin – Phase II, Kerala (Pub.)
6. Fertilizer Corporation of India Ltd.
7. Gujarat State Fertilizers Co. Ltd., Baroda, Gujarat (Pvt.)
8. Hari Fertilizers, Varanasi, U.P. (Pvt.)
9. Hindustan Fertilizer Corporation Ltd.,

10. Indian Farmer Fertilizer Co-operative Ltd.,
11. National Fertilizer Ltd., Punjab.
12. Shriram Fertilizers and Chemicals, Kota.
13. Southern Petrochemical Industries Corporation Ltd., Tuticorin, T.N.
14. D.C.M. Chemical Works, Delhi.
15. DharamsiMorarji Chemicals Co., Kumhar, M.P./Ambernath, Maharashtra.
16. Hindustan Copper Ltd., Hletri, Rajasthan\
17. Hindustan Zinc Ltd., Debari, Udaipur, Rajasthan
18. Udaipur chemicals and fertilizers, Madri, Udaipur, (Rajasthan)
19. Shah Wallace and Co., Avedi, T.N.

IX. COLLABORATING INSTITUTIONS AND ON THE JOB TRAINING SITES

A) List of Collaborating Institutes

1. Professor Jayashankar Telangana State Agricultural University
2. Regional Agricultural Research Stations(Jagityal / Palem / Rudrur / Adilabad / Warangal)
3. Agriculture Research Stations in several districts
4. Indian Council of Agricultural Research Institutes
5. Agriculture colleges (Hyderabad / Aswaraopet / Palem / Warangal / Polasa)
6. Krishi Vigyan Kendras (KVK)
7. National Seed Corporation / TSSCA(Telangana State Seed & Organic Certification Authority) / Seed Companies
8. Horticulture Training Institute, Red Hills, Hyderabad
9. Department of Agriculture / Horticulture / Sugars
10. State Farms / Private Farms / Sugar Factories
11. Fertilizer Companies – IFFCO / RCF / KRIBHCO / NFL / GSFC
12. Pesticide manufacturers
13. DATT Centres
14. Loyola Academy, Secunderabad

B) On - the – Job Training Sites

1. State Government Farms
2. Professor Jayashankar Telangana State Agricultural UniversityResearch and Seed Production Farms
3. National and State Seed Corporation
4. Seed Industries
5. Meteorological Observatory
6. Krishi Vigyan Kendras
7. Sugar Factories
8. Private Seed Production Farms
9. Seed Processing units/Plants
10. Seed Testing Laboratories
11. Soil Testing Laboratories
12. Soil Conservation Centres
13. Watershed Project Areas
14. Agriculture & Cooperative Societies
15. Agri-Clinics

16. College of Agriculture, Rajendranagar, Telangana
17. MANAGE, Rajendranagar, Telangana
18. National Institute of Rural Development, Rajendranagar, Telangana
19. CRIDA, Hayatnagar, Hyderabad, Telangana
20. ICRISAT, Patancheru, Telangana
21. Indian Institute of Oilseeds Research, Rajendranagar, Telangana
22. Indian Institute of Rice Research, Rajendranagar, Telangana
23. Area of Village Extension worker
24. Irrigation companies
25. WALAMTARI, Rajendranagar, Telangana and Chelgal, Jagityal
26. Regional Agricultural Research Stations (Jagityal / Palem /Rudrur / Adilabad / Warangal)
27. Horticulture Training Institute, Red Hills, Hyderabad
28. Loyola Academy, Secunderabad

X TEACHING STAFF AND THEIR QUALIFICATIONS

A) Lecturer at 10+2 Level

Essential Qualifications:
B.Sc. (Agriculture) with FIRST class and 3 years of experience in Agriculture and allied Departments / Fertilizer Companies / Seed Industries / Sugar Factories

Preferential Qualifications:
M.Sc. (Agriculture) in Agronomy / Agricultural Economics / Horticulture / Extension Education / Seed Production Technology

B) Instructor / Demonstrator / Lab Assistant

i. B.Sc. (Agriculture)
ii. Intermediate (10+2) certificate in Agricultural Crop Production Vocational Course
iii. Diploma in Agriculture

XI. VERTICAL MOBILITY

a) With Bridge Course

Eligible for admission into:

1) B.Sc.
2) B.Sc.(Ag); B.Sc.(Commercial Agriculture and Business Management); B.V.S.C; B.Sc. (Horti.) (Through EAMCET)
3) B.Sc. (Home Science)

b) Without Bridge Course

Eligible for admission into

1) B.Sc. (Farm Science & Rural Development)
2) B.A/B.Com/B.B.M

XII. REFERENCE BOOKS

1. Mavi, H.S. (1985). Introduction to Agro meteorology. Oxford & IBH Publishing Co., New Delhi.
2. Patterson, S. (1985). Introduction to Meteorology. Mc-Graw Hill Book co., Inc., New York.
3. Gupta, O.P. (1984). Scientific weed management. Today and tomorrow's Printers and Publishers, New Delhi.
4. Rao, V.S. (1992). Principles of weed science. Oxford & IBH Publishing Co., New Delhi.
5. Sankaran, S. and Mudaliar, V.T. (1993). Principles of Agronomy. The Bangalore Printing & Publishing Co., Ltd., Bangalore.
6. Yellamanda Reddy, T. and SankaraReddi, G.H. (1995). Principles of Agronomy. Kalyani Publishers, Ludhiana.
7. Morachan, Y.B. (1986). Agricultural Crop Production and Management. Oxford & IBH Publishing Co., New Delhi.
8. Murthy, J.V.S. (1994). Watershed management in India. Wiley eastern Publishers, New Delhi.
9. Gupta, U.S. (1975). Physiological Aspect of Dry land Farming. Oxford & IBH Publishing Co., New Delhi.
10. SankaraReddi, G.H. and Yellamanda Reddy, T. (1996). Efficient use of Irrigation water. Kalyani Publishers, Ludhiana.
11. Gupta, O.P. (2004). Modern Weed Management. Agrobios (India), Jodhpur -342002.
12. Misra, R.D. and Ahmed, M. (1987). Manual on Irrigation Agronomy. Oxford & IBH Publishing Co., New Delhi.
13. Brady, N.C. (1995). The nature and Properties of soil. Mac Millan Publishing Company, New York.
14. Purohit, S.S. (2004). Medicinal Plant Cultivation. Agrobios (India), Jodhpur -342002.
15. Sahai, V.N. (1990). Fundamentals of Soil. Kalyani Publishers, Ludhiana.
16. Tisdale, S.L., Nelson, W.L. and Beaton, J.D. (1993). Soil Fertility and Fertilizers. Mac Millan Publishing Company, New York.
17. Gustafson, A.F. (2003). Hand Book of Fertilizers. Agrobios (India), Jodhpur – 342002.
18. Kanwar, J.S. (ed.). (1976). Soil Fertility - Theory and Practice. ICAR, New Delhi.
19. Hillel, D. (1980). Fundamentals of Soil Physics. Academic Press, New York.
20. Tondon, H.L.S. (1994). Fertilizer Guide. FDCO, New Delhi.
21. Jones, S.U. (1987). Fertilizers and Soil Fertility. Prentice Hall of India Private Limited, New Delhi.
22. Yawalkar, K.S., Agarwal, J.P. and Bokde, S. (1997). Manures and Fertilizers. Agri-Horticultural Publishing House, Nagpur.
23. Gupta, P.K. (2003). Soil, Plant, Water and Fertilizer Analysis. Agrobios (India), Jodhpur – 342002.
24. Seetharaman, S., Biswas, B.C., Maheswari, S. and Yadav, D.S. (1996). Hand Book on Fertilizer Usage. The Fertilizer Association of India, New Delhi.
25. Curran, P.J. (1991). Principles of remote sensing. ELBS & Longman, London.
26. De, G.C. (1989). Fundamentals of Agronomy. Oxford & IBH Publishing Co., New Delhi.
27. Russel, E.W. (1973). Soil Conditions and Plant Growth. Longmans, 10th Edition.
28. Singh, S.S. (1993). Principles and Practices of Agronomy. Kalyani Publishers, New Delhi.
29. N.C.E.R.T. Publications, Aurobindo Marg, New Delhi – 110016.
    a) Soils and its Properties: Instructional – cum – Practical manual (1985)
    b) Weeds and Weed Control: Instructional – cum – Practical manual (1985)
    c) Fertilizers and manures: Instructional – cum – Practical manual (1985)
    d) Agricultural Meteorology: Instructional – cum – Practical manual (1985)

e) Water Management: Instructional – cum – Practical manual (1985)
f) Crop Management: Instructional – cum – Practical manual (1985)
g) Farm Management: Instructional – cum – Practical manual (1985)

30. Mahendra Pal (1986). Proceedings of the National Symposium on Cropping Systems, 3-5th April, Indian Society of Agronomy, New Delhi – 110011.
31. Joshi, S.S. and Kapoor, T.R. (1981). Fundamentals of Farm Business Management. Kalyani Publishers, New Delhi.
32. Balasubramaniyan, P. and Paliniappan, S.P. (2004). Principles and practices of Agronomy. Agrobios (India), Jodhpur – 342002.
33. Singh Chidda. (1983). Modern Techniques of Raising of Field Crops. Oxford & IBH Publishing Co., New Delhi.
34. Murthy, J.V.S. (1994). Watershed Management in India. Wiley Eastern Publishers, New Delhi.
35. Somani, L.L., Vittal, K.P.R. and Venkateshwarlu, B. (1992). Dry land agriculture – State of art or Research in India. Scientific Publishers, Jodhpur.
36. Sharma, B.L. (1991). Dry land farming – Perspectives and Prospects. Daya publishing House, New Delhi.
37. Mohammad Shadi and Raja, M. (1987). Dry land Agriculture in India. Rawat Publications, Jaipur.
38. Sahu, D.D. (2003). Agro meteorology and Remote Sensing. Agrobios (India), Jodhpur – 342002.
39. Panda, S.C. (2004). Dry land Agriculture. Agrobios (India), Jodhpur – 342002.
40. Sharma, A.K. (2004). A Hand Book of Organic Farming. Agrobios (India), Jodhpur - 342002.
41. Vegetable crops in India – Yawalkar K.S. Agri Horticulture Publishing House, Allahabad.
42. Fruit physiology and production – Amar singh, Kitabistan, Allahabad.
43. Principles and procedures of plant protection – chattopadhaya S.B. Oxford & IBH Publishing Co. New Delhi.
44. Seed Technology – Agrawal R.L. Oxford & IBH Publishing Co. New Delhi.
45. Principles of seed Technology Agarwal P.K., ICAR New Delhi.
46. Introduction to Horticulture – Kumar N., Rajyalakshmi Publications, Tamil Nadu.
47. Plant propagation – Principles and Practices – Hartman H.T and Kester, Prentice Hall of India Pvt. Ltd., Mumbai.
48. Ornamental Horticulture in India – Randhawe G.S., Today and tomorrow's Printers and Publishers, New Delhi.
49. Cultivation and utilization of medicinal and aromatic plants – Atal E.K. & Kapoor CSIR, New Delhi.
50. Hand Book of Agriculture – ICAR, New Delhi.
51. Agricultural marketing in India – Acharya S.S. and Agarwarl N. L. Oxford & IBH Publishing Co. New Delhi.
52. Fundamentals of farm Business Management – Johl& Kapoor.
53. Extension Education – Adivireddy.
54. Agroforestry hand book – Negi SS 1999, International book distributor, Dehradun
55. Climate change and global crop productivity – Reddy K.R and Hudges MF 2000, CAB publishing House, USA
56. Modern concepts and advanced Principles in Agricultural Crop Production. Panda SE 2012, Agribios (India) Publishers, Jodhpur
57. Forage Production. Subashchandra Bose M, Balakrishnan V 2001, South Asian Publishers, Delhi

XIII. MODEL QUESTION PAPERS

AGRICULTURAL CROP PRODUCTION
MODEL QUESTION PAPER
I YEAR THEORY
PAPER-I
PRINCIPLES OF AGRICULTURAL CROP PRODUCTION

Time:3 Hours **Max.marks:50**

SECTION - A

Note: i) Answer all Questions.
ii) Each question carries 2 marks **2x10=20 Marks**

1. Define agriculture.
2. Expand IRRI.
3. Write about Rainfall.
4. What are the uses of atmosphere?
5. Define Zero tillage.
6. Write about rotavator.
7. What is meant by farming system?
8. Define weed.
9. Write chemical weed control in mango.
10. Define mixed cropping

SECTION– B

Note: i) Answer any 5 Questions
ii) Each Question Carries 6 marks **5x6=30 Marks**

11. Write about the economic importance of monsoons on farm operations.
12. Describe the agriculture weather relation.
13. What are the objectives of tillage?
14. Write about the factors influencing tilth.
15. What are the principles of crop rotation?
16. Write about objectives of farming system.
17. Explain different weed control methods.
18. Write the classification of weeds.
19. Write about the principles of organic farming.
20. Write short notes on:
    Intercropping b) good seed bed c) wind

AGRICULTURAL CROP PRODUCTION
MODEL QUESTION PAPER
I YEAR THEORY
PAPER – II
SOIL AND WATER MANAGEMENT

Time: 3 Hours **Max . Marks: 50**

SECTION – A

Note: i) Answer all questions.
ii) Each question carries two marks.
10x2=20Marks.

1. Define Soil pH.
2. What is soil texture?
3. Write the functions of sulphur.
4. What are macro nutrients ?
5. Write the deficiency symptoms of nitrogen.
6. Define Irrigation.
7. What is available soil moisture?
8. Define critical stages of irrigation.
9. What is mulching?
10. Define watershed.

SECTION – B **5x6 =30 Marks.**

Note : i) Answer any Five questions.
ii) Each question carries Six marks.

11. Explain components of mineral soil.
12. Give the classification of manures and fertilizers.
13. Explain soil sample procedure.
14. Briefly describe fertilizer application methods.
15. Explain green manuring.
16. What are the objectives of irrigation?
17. Explain the water management practices for the following crops.
    a)Rice b) Mango .
18. Explain drip irrigation with a diagram.
19. Describe the climate problems of dry land agriculture.
20. Write short notes on:
    a) Drainage b) soil structure c) bulky organic manure.

AGRICULTURAL CROP PRODUCTION
MODEL QUESTION PAPER
I YEAR THEORY
PAPER – III
FARM MANAGEMENT AND AGRICULTURE EXTENTION

Time: 3 Hours **Max . Marks: 50**

SECTION – A

Note: i) Answer all questions.
ii) Each question carries two marks.
10x2=20Marks.

1. Define Farm management.
2. List out forms of capital.
3. What is market intelligence?
4. Define agricultural marketing.
5. Give the concept of rythu bazars.
6. Why do farmer need credit?
7. What is motive of cooperation?
8. Define cooperation.
9. What is extension education?
10. What is exhibition?

SECTION – B **5x6 =30 Marks.**

Note: : i) Answer any Five questions.
ii) Each question carries six marks.

11. Describe the factors of production.
12. What is an Inventory? What is its importance in farm management?
13. Explain Rythu Bandhu Pathakam.
14. Explain the functions of a good marketing system.
15. How do you classify farm credit based on the duration?
16. What is Pradhaan Mantri Fasal Bhima Yojana?
17. Explain the principles of cooperation.
18. What are the functions of primary agricultural credit societies?
19. What are the objectives of Krishi Vigyan Kendras?
20. Write short notes on :
    a) Crop insurance b) Diary c) Taccavi loans.

AGRICULTURAL CROP PRODUCTION
MODEL QUESTION PAPER
II YEAR THEORY
PAPER – I
MANAGEMENT OF FIELD AND COMMERCIAL CROPS

Time : 3 Hours **Max . Marks: 50**

SECTION – A

Note : i) Answer all questions.
ii) Each question carries two marks.
10x2=20Marks.

1. What are cereals?
2. Write seed rate, spacing of sorghum.
3. Write botanical name and family of maize and Ragi crop.
4. Give the botanical name and family of Green gram.
5. Write about extraction of Acids from Bengal gram leaves.
6. Write about phyllody of sesamum.
7. Write symptoms and control measures of castor –semi looper.
8. Define Ratoon cropping.
9. What is curing?
10. Give the botanical name of cowpea.

SECTION – B **5x6 =30 Marks.**

Note : i) Answer any Five questions.
ii) Each question carries six marks.

11. Write weed control in rice crop.
12. Write plant protection of in Rice crop.
13. Explain cultivation of Black gram.
14. Explain cultivation of Bengal gram crop.
15. Write soils, important varieties for ground nut crop.
16. Write seed rate, spacing and fertilizer management of sunflower crop.
17. Explain cultivation of Mesta crop.
18. Write in detail about plant protection in sugarcane crop.
19. Explain nursery management and planting in tobacco crop.
20. Write short notes on :
    a) Retting b) Nipping in tobacco c) Blast .

AGRICULTURAL CROP PRODUCTION
MODEL QUESTION PAPER
II YEAR THEORY
PAPER – II
MANAGEMENT OF HORTICULTURE CROPS

Time : 3 Hours **Max . Marks: 50**

SECTION – A

Note : i) Answer all questions.
ii) Each question carries Two marks.
10x2=20Marks.

1. What is pomology?
2. Name two varieties of Banana.
3. Write about soils for sweet orange.
4. Write two varieties for tomato.
5. Write climate for rose.
6. Write botanical name and family of chilli.
7. Write seed rate for turmeric.
8. Give the botanical name of Ashwagandha.
9. What is Green house?
10. What is mulching?

SECTION – B **5x6 =30 Marks.**

Note: i) Answer any Five questions.
ii) Each question carries Six marks.

11. Describe briefly the preparation of nursery beds.
12 . Explain principles of land scaping.
13. Write about the commercial cultivation of mango crop.
14. Write seed rate, spacing and fertilizer management of lady finger.
15. Write cultivation of Rose crop.
16. Write planting, fertilizer management and irrigation of papaya of crop.
17. Explain plant protection of onion crop.
18. Explain cultivation and uses of Alovera crop.
19. Write about commercial cultivation of Guava crop.
20. Write short notes on:
    a) Bolting in onion b) Fruit borer c) Uses of papaya.

AGRICULTURAL CROP PRODUCTION
MODEL QUESTION PAPER
II YEAR THEORY
PAPER – III
SEED PRODUCTION AND PROCESSING

Time : 3 Hours **Max . Marks: 50**

SECTION – A

Note : i) Answer all questions.
ii) Each question carries Two marks.
10x2=20Marks.

1. What is Hybridization?
2. What is Dioecy?
3. Write goals of seed technology.
4. Expand NSC and APSSDC.
5. What is Isolation?
6. What is flag leaf clipping?
7. Write benefits of seed treatment.
8. What is seed processing?
9. Define seed dormancy.
10. What is OECD?

SECTION – B **5x6 =30 Marks.**

Note: i) Answer any Five questions.
ii) Each question carries Six marks.

11. Explain modes of pollination in plants.
12 . Explain classes of seed.
13. Explain agronomic principles of seed production.
14. Explain certified seed production in black gram.
15. Explain foundation seed production in maize crop.
16. Write about seed certification process.
17. Name methods of seed drying and explain any one method.
18. Explain about finding of moisture in seeds.
19. How can you find seed viability?
20. Write short notes on:
    a) Seed testing b) Rouging c) Seed dormancy.

XIV. LIST OF PARTICIPANTS

1.	**Dr.A. MadhaviLata** Associate Professor, Department of Agronomy, College of Agriculture, PJTSAU RajendraNagar, Hyderabad.
2.	**Sri R. Sivanand,** Deputy Director of Agriculture, Department of Agriculture, Hyderabad.
3.	**Dr.M.Ramesh,** Scientist, RARS, Palem, Nagarkurnool Dist.
4.	**M.K.Mazharuddin** JL in CP&M, GJC, Khanapur, Nirmal Dist.
5.	**Sri K.Vishweshwar** Co-Ordinator, SIVE O/o the Commissioner of Intermediate Education, Hyderabad.

Sd/- Dr A. Ashok
COMMISSIONER OF INTERMEDIATE EDUCATION

30% DELETED CONTENT IN VIEW OF COVID-19 PANDEMIC (THEORY)
AGRICULTURAL CROP PRODUCTION

COURSE CODE: 109

FIRST YEAR

PAPER-I: PRINCIPLES OF AGRICULTURAL CROP PRODUCTION

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 AGRICULTURE	NIL	NIL	NIL
2	UNIT-2: AGROMETEROLOGY	2.8 Climate change	8. Define climate change.	3. Define Humidity and write about the significance and importance of humidity in crop production. 4. Define transpiration and write about the factors influencing transpiration.
3	UNIT-3: TILLAGE AND TILTH	3.4 Crop density	8. What is crop density	5. What is plant geometry? Give the population of major crops and their effect on growth.
4	UNIT-4: CROPPING SYSTEMS	4.2 Choice of crops and cropping based on length of growing season. 4.3 Contingent crop planning.	5. Define potential cropping system.	NIL
5	UNIT-5: Weed Management	5.4 Herbicide rotations 5.6 New developments in herbicides	11. What is herbicide rotation? 12. Define herbicide mixture. 13. What are Nano herbicides?	NIL
6	UNIT-6: SUSTAINABLE AGRICULTURE	6.3 Choice of crops and varieties in organic farming	5. Define herbicide rotation. 6. Define Nan herbicide.	NIL

AGRICULTURAL CROP PRODUCTION - FIRST YEAR

PAPER-II: SOIL AND WATER MANAGEMENT

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 SOIL IN RELATION TO PLANT GROWTH	1.3 Physical problems of the soil 1.5 Soil fertility management 1.6Remote sensing	NIL	1. Write the physical problems of soil. 2. Explain the biological problems of soil
2	UNIT-2: MINERAL NUTRITION, MANURES AND FERTILISERS	2.6 Nutrient use efficiency	NIL	11. What is nutrient use efficiency? Write the factors influencing on it.
3	UNIT-3: IRRIGATION WATER MANAGEMENT	3.2 Water resources of Telangana 3.3.2 Effective rainfall 3.3.4 Effective root zone depth 3.3.5 Moisture extraction pattern 3.5 Water use efficiency 3.6 Scheduling of irrigation	7. What is effective rainfall and effective root zone depth? 8. What is moisture extraction pattern?	6. Briefly describe the assessment of quality of irrigation water. 7. Describe the scheduling of irrigation.
4	UNIT-4: DRY LAND AGRICULTURE	4.4 Efficient crops and cropping system	NIL	9. Describe the uses of fertilizer in dry land.

AGRICULTURAL CROP PRODUCTION - FIRST YEAR

PAPER-III: FARM MANAGEMENT AND AGRICULTURAL EXTENTION

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 Introduction to farm management.	1.1) Nature, and scope of farm management.	NIL	16. Briefly explain the nature and scope of farm management
2	UNIT-2 Agricultural marketing	1. Classification of markets. 2. regulated markets.	4) How are markets classified? 7) What are regulated markets? 8) List out the functions and advantages or regular markets.	NILL
3	UNIT-3 Farm credit.	3.2.1.4 Commercial bank 1. Regional rural banks (RRBs).	9) Describe the objectives, structure and role of Regional Rural Banks (Grameena Banks).	NILL
4	UNIT-4 Agricultural cooperation	Cooperative societies Act – Features. 4.2.3 Multi – purpose cooperative society	4) What are the salient features of cooperative societies Act 1904?	NILL
5	UNIT-5 Agricultural Extension	1.Objectives of Agricultural Extension 2. Farmers producer organization. 5.5) Cyber Extension. 5.6) Indigenous Technical Knowledge (ITKs) and ICTs.	3) Explain the objectives of extension education. 11) What is farming situation based extension? 12) Define Cyber extension. 13) What is information and communication technology? 14) Write about ITKS.	NILL

AGRICULTURAL CROP PRODUCTION - SECOND YEAR
PAPER-I: MANAGEMENT OF FIELD AND COMMERCIAL CROPS

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 Cereals and millets	1.6) oats and quinoa	8. Write botanical name and family of oats and quinoa.	6. Write seed rate, sowing, and distance of oats /Quinoa.
2	UNIT-2: Pulses	2.6)cluster bean	NILL	5. Explain cultivation of cluster bean.
3	UNIT-3. Oil seeds	3.7) Niger. 3.8)soyabean.	11. Give the botanical name and family of Soyabean and Niger.	9) Explain cultivation of soyabean crop. 10) Explain cultivation of Niger crop. 15) Write plant protection in soyabean. 19) Write seed rate, spacing, and fertilizer management of soya bean crop. 20) write seed rate, spacing and fertilizer management of Niger crop.
4	UNIT-4. Fibers	4.3) Jute.	NILL	7) Explain cultivation of jute crop. 9) Write seed rate, spacing, and fertilizer management in jute crop. 11) Write soils, irrigation and weed management in jute crop.
5	UNIT-5: Sugar crops	5.2) sugarcane planting methods.	NILL	1) Explain planting methods in sugarcane. 4) Write about seed material and its planting in sugarcane crop.
6	UNIT-6: Tobacco	6.1) Types of tobacco	NILL	3) Explain varieties of tobacco in detail.
7	UNIT-7 Fodder /Forage crops.	7.3) napier grass	3. Give the seed rate of horsegram and cowpea .	NILL

AGRICULTURAL CROP PRODUCTION - SECOND YEAR
PAPER-II: MANAGEMENT OF HORTICLRURAL CROPS

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1	NIL	NIL	NIL
2	UNIT-2:	NIL	NIL	NIL
3	UNIT-3	NIL	NIL	NIL
4	UNIT-4:	4.5 SAPOTA 4.6 APPLE BER 4.7 CUSTARD APPLE	1. Write briefly about irrigation water management in apple ber. 2. Write a short note on planting method in custard apple. 3. Write a short not on climate, soils and varities of sapota? 4. Name any two varieties of sapota? 5. Write briefly about propagation of sapota?	1. Write about commercial cultivation of apple ber. 2. Write about commercial cultivation of custard apple. 3. Write about commercial cultivation of sapota?.
5	UNIT-5:	5.2 LADY FINGER 5.5 BITTER GOURD	1. Write whitefly symptoms and control.	1. Write seed r, spacing and fertilizer management of lady finger. 2. Write seed rate, spacing and fertilizer management of bitter gourd. 3. Write cultivation of bitter gourd.
6	UNIT-6:	6.4 GLDIOLOUS 6.6 DHAVANAM	1. Write botanical name and family of gladiolus. 3. Write botanical name and family of dhavanam?	1. Write cultivation of gladiolus.
7	UNIT-7:	NIL	NIL	NIL
8	UNIT -8	8.4 CORIANDER	1. Write botanical name and family of coriander.. 2. Write about climate of coriander.	1. Write cultivation of coriander.
9	UNIT-9	9.4 LEMON GRASS	NIL	1.Write about cultivation practices and extraction of oils from lemon grass
10	UNIT - 10	NIL	1. Define protected cultivation. 2. What are surface cover cultivation?	NIL

AGRICULTURAL CROP PRODUCTION - SECOND YEAR
PAPER-III: SEED PRODUCTION AND PROCESSING

S No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 Plant Breeding	1.3) Cytoplasmic Inheritance.	4) What is cytoplasmic inheritance? 5) What is cytoplasmic male sterility? In which crop CMS is seen? 6. Write limitations in using male sterile systeems	3) Explain male sterility and its types. 4) Explain cytoplasmic genetic male sterility in detail.
2	UNIT-2: Seed	1) Maintenance of Genetic Purity during seed production.	NILL	5) Explain maintenance of genetic purity during seed production.
3	UNIT-3: Seed production techniques	3.1) seed production of cotton crop. 3.4) seed production of sunflower crop.	NILL.	8) Explain certified seed production in sunflower crop. 9) Explain certified seed production in cotton. 12) Explain hybrid seed production in sunflower crop. 13) Explain hybrid seed production in cotton crop.
4	UNIT-4 Seed Certification	4.6) seed storage	3) Name any four instruments used for upgrading the quality of cleaned seeds.	4) Name the factors influencing the life span of seeds during storage .Explain them.
5	UNIT-5 Seed testing	5.5) Seed Vigor Tests. 5.7) Seed Dormancy.	5) Define Seed dormancy.	4) Write kinds of seed vigor tests. Explain them. 6) Explain causes seed dormancy .Write about conventional methods to break seed dormancy.
6	UNIT-6 Role of WTO and OECD	6.2) OECD work on market studies.	3) Write the functions of OECD.	NILL

VOCATIONAL CURRICULUM-2020

(For the Academic year 2020-21)

[70% CONTENT IN VIEW OF COVID-19 PANDEMIC]

LIVESTOCK MANAGEMENT &DAIRY TECHNOLOGY

(Course Code: 110)

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

Dr. A.Ashok I.A.S
COMMISSIONER

INTERMEDIATE EDCATION
Government of Telangana
Nampally, Hyderabad- 500001
Phone: 040-24655915.

Fore word

In any developing society with a booming population, Vocational Education occupies an important position for generating large scale employment opportunities. Viewed in this context the importance of Vocational Education for our country cannot be over emphasized. Vocationalisation of Secondary Education was introduced in 1988 at the Intermediate level. Recently, the Government of India has developed a National Skills Qualification Framework for establishing a clear path for vocational education from the school level to the highest level. The Department of Intermediate Education has recently framed a new curriculum to bring greater value to the system of vocational education. The primary aim of this reform is to prepare the students with employable skills for absorption in organized sectors and in few cases, even for self-employment.

State Institute of vocational education and Board of Intermediate Education, Telangana have reviewed the curriculum of vocational courses of second year from the academic year 2019-20 in order to reorient them for their practical approach. Greater emphasis is now being placed on Laboratory work and on the job training.

Simultaneously, The State Institute of Vocational Education and the department of Intermediate Education are presently making efforts to upgrade the quality of infrastructure in the colleges to meet the challenges of the changed curriculum. I am confident that the revised curriculum of second year for Vocational Courses would prove to be beneficial to the students in the vocational stream and help them train in need based productive courses leading to gainful employment.

Sd/- Dr. A.Ashok
COMMISSIONER OF INTERMEDIATE EDUCATION

SCHEME OF INSTRUCTION AND EXAMINATION& OJT

ANNUAL SCHEME OF INSTRUCTION AND EXAMINATION
LIVESTOCK MANAGEMENT AND DAIRY TECHNOLOGY
FIRST YEAR

Part-A		Theory		Practicals		Total	
		Periods	**Marks**	**Periods**	**Marks**	**Periods**	**Marks**
1.	English	150	50	0	0	150	50
2.	General Foundation course	150	50	0	0	150	50
	Part-B						
3.	**Paper-I** Ruminant Animal Production and Management	135	50	135	50	270	100
4.	**Paper-II** Non Ruminant Animal Production and Management	135	50	135	50	270	100
5.	**Paper-III** Feeds and Feeding of Livestock	135	50	135	50	270	100
Part-C							
6.	**OJT**	0	0	365	100	365	100
	Total	**705**	**250**	**770**	**250**	**1475**	**500**

SECOND YEAR

Part-A		Theory		Practicals		Total	
		Periods	**Marks**	**Periods**	**Marks**	**Periods**	**Marks**
1.	English	150	50	0	0	150	50
2.	General Foundation course	150	50	0	0	150	50
	Part-B						
3.	**Paper-I** Livestock Health Management	110	50	115	50	225	100
4.	**Paper-II** Milk Processing and Milk Products	110	50	115	50	225	100
5.	**Paper-III** Milk Quality, Extension &Entrepreneurship	110	50	115	50	225	100
Part-C							
6.	**OJT**	-	-	450	100	450	100
	Total	**630**	**250**	**795**	**250**	**1425**	**500**
TOTAL FIRST YEAR AND SECOND YEAR MARKS 1000							

EVALUATION OF ON THE JOB TRAINING:

The "On the Job Training" shall carry 100 marks. During on the job training the candidate shall put in a minimum of 90 % of attendance.
The evaluation shall be done in the last week of January.

Marks allotted for evaluation:

S.No	Name of the activity	Max. Marks allotted for each activity
1	Attendance and punctuality	30
2	Familiarity with technical terms	05
3	Familiarity with tools and material	05
4	Manual skills	05
5	Application of knowledge	10
6	Problem solving skills	10
7	Comprehension and observation	10
8	Human relations	05
9	Ability to communicate	10
10	Maintenance of dairy	10
	Total	100

NOTE: The On the Job Training mentioned is tentative. The spirit of On the Job training is to be maintained. The colleges are at liberty to conduct on the job training according to their local feasibility of institutions & industries. They may conduct the entire on the job training periods of (363) I year and (450) SECOND YEAR**either by conducting classes in morning session and send the students for OJT in afternoon session or two days in week or weekly or monthly or by any mode which is feasible for both the college and the institution**. However, the total assigned periods for on the job training should be completed. The institutions are at liberty to conduct On the Job training during summer also, however there will not be any financial commitment to the department.

LIVESTOCK MANAGEMENT AND DAIRY TECHNOLOGY
FIRST YEAR
PART B – VOCATIONAL SUBJECT
PAPER – I: RUMINANT ANIMAL PRODUCTION AND MANAGEMENT (THEORY)

S. No	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
1.	Introduction - Confirmation points of Different Ruminants.	5	2	1	1
2.	Breeds of dairy cattle, buffaloes , sheep and Goats	20	8	1	1
3.	Housing, Hygiene and sanitation of Livestock farms.	15	8	1	1
4.	Selection and Breeding of Ruminant animals	15	8	1	1
5.	Care and Management of Ruminant animals	25	10	2	1
6.	Activities in a Livestock farm	15	8	1	1
7.	Reproductive System – A.1.	25	10	2	1
8.	Lactation and milking methods	15	8	**1**	**1**
	Total	**135**			

SYLLABUS

1.	**Introduction – confirmation points** 1.1. - 1.2. Role of livestock in Indian Economy 1.3. Common terms used in farm animal management 1.4. External body parts of dairy animal, sheep and goat.
2.	**Breeds of dairy cattle, buffaloes, Sheep and Goats.** 2.1. Definition of breed – classification of Indian cattle breeds. 2.2. Indian breeds of dairy cattle. 2.3. Exotic dairy breeds. 2.4. Indian buffalo breeds. 2.5. - 2.6. Various Goat Breeds
3.	**Housing of Ruminant animals** 3.1 Selection of site for Livestock Farms 3.2 Systems of housing for cattle-loose housing system - conventional dairy barn 3.3 - 3.4 Cleaning and Sanitation in Livestock farms 3.5 - 3.6 Vermi-culture
4.	**Selection and Breeding of Ruminant animals** 4.1 - 4.2 Culling of Ruminant animals 4.3 Systems of breeding-Inbreeding Cross breeding and Upgrading 4.4 State and National breeding policies for enhancing Livestock production.
5.	**Care and management of Ruminant animals** 5.1. Care and management of calf, heifer,milch,dry and pregnant cattle. 5.2. Care and management of bulls and bullocks 5.3. Care and management of kids and lambs 5.4. - 5.5. Care and management of Pregnant Ewe and Doe 5.6. - 5.7. Management of Animals during Transport

6.	**Activities in Ruminant Livestock farms** 6.1. Dairy farm routine 6.2. Restraining methods of dairy cattle, sheep and goat. 6.3. - 6.4. Methods of Identification in dairy cattle, sheep and goat 6.5. - 6.6. Common vices of dairy animals, sheep and goats 6.7. Weaning of calf, lamb and kid 6.8 Grooming, disbudding,hoof trimming, Castration and De-ticking 6.9 Dipping, Clipping and shearing operations 6.10 -
7.	**Reproductive system - Artificial Insemination** 7.1. - 7.2. - 7.3. Oestrous cycle - symptoms of heat 7.4. A.I. advantages - disadvantages 7.5. Collection ,evaluation and freezingof semen 7.6. Insemination methods 7.7. Embryo transfer Technology - Advantages and disadvantages. 7.8 - 7.9 Pregnancy diagnosis 7.10 Parturition – Assistance and other precautions
8.	**Lactation and milking methods** 8.1. - 8.2. Lacto genesis and galactopoesis 8.3. Milk let down 8.4. Milking methods 8.5. Sources of Milk contamination – steps in clean milk production.

LIVESTOCK MANAGEMENT AND DAIRY TECHNOLOGY
FIRST YEAR
PART B – VOCATIONAL SUBJECTS
PAPER –III: NON- RUMINANT ANIMAL PRODUCTION AND MANAGEMENT (THEORY)

S.No	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
1.	Swine production	45	23	3	2
2.	Poultry production	55	28	3	3
3.	Rabbit production.	15	8	2	2
4.	Pet animal management	20	11	2	1
	Total	**135**	70		

SYLLABUS

1.	**Swine production** 1.1Role of swine production in Indian Economy 1.2 Common terms used in swine production 1.3 External body parts of pig 1.4 Important indigenous and exotic breeds of swine 1.5 Housing for different classes of pigs 1.6 Selection and culling of pigs 1.7 - 1.8 Care and management of different classes of pigs. 1.9 - 1.10 Swine farm routine 1.11 - 1.12 Weaning 1.13 Castration 1.14 - 1.15 -
2.	**Poultry production** 2.1 Role of Poultry production in Indian Economy 2.2 Common terms used in poultry production 2.3 External body parts of Fowl 2.4 Important indigenous and exotic breeds of poultry 2.5 - 2.6 Housing systems for Brooders, growers, layers and broilers. 2.7 Selection and culling of poultry 2.8 - 2.9 - 2.10 Care and management of Broilers 2.10 Summer management of poultry 2.11 Transportation of day old chicks and adult birds. 2.12 - 2.13 Poultry farm routine 2.14 Cleaning and sanitation in poultry sheds 2.15 - 2.16 Debeaking and vaccination schedule 2.17 Layout of hatchery 2.18 Incubators,setters and hatchery 2.19 Selection of eggs for hatching 2.20 Sexing of chicks 2.21 Disinfection and fumigation of hatchery equipment

3.	**Rabbit production** 3.1 Common terms used in rabbit production 3.2 External body parts of rabbit 3.3 Important indigenous and exotic breeds of Rabbit 3.4 Housing for different classes of Rabbit 3.4 Selection and culling of rabbits 3.5 Systems of breeding in rabbits 3.6 - 3.7 - 3.8 - 3.9 - 3.10 Identification and Weaning
4.	**Pet animal management** 4.1 Common terms used in pet animals 4.2 External body parts of Dog and cat 4.3 Important breeds of dog and cat 4.4 Housing for dogs and cats 4.5 - 4.6 - 4.7 Grooming, nail trimming and washing of dogs and cats. 4.8 Deworming and deticking 4.9 -

LIVE STOCK MANAGEMENT AND DAIRY TECHNOLOGY
FIRST YEAR
PART B – VOCATIONAL SUBJECTS
PAPER – II: FEEDS & FEEDING OF LIVESTOCK [THEORY]

S.No.	Name of the Unit	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
1	Digestive system	10	05	0	1
2	Common Feeds and Fodders	14	07	1	0
3	Formulation of rations	16	07	0	1
4	Feeding of Dairy animals	20	09	1	1
5	Feeding of sheep and goat	05	04	1	1
6	Feeding of pigs and rabbit	05	04	1	0
7	Feeding of poultry	05	04	1	1
8	Feeding of dogs and cats	05	04	1	0
9	Quality control of Feeds	05	04	1	0
10	Feed plant	15	07	1	1
11	Fodder production	20	08	1	1
12	Fodder conservation	15	07	1	1
	Total	135	70		

SYLLABUS

1.	**Digestive System:** 1.1. Digestive system of ruminants. 1.2. Digestive system of pig 1.3. - 1.4. - 1.5. Digestive system of Dog 1.6. Digestive system of cat
2.	**Common Feeds and Fodders:** 2.1. a) Classification of Nutrients and their role in Animal nutrition - water, crude fiber, ether extract, Proteins, Minerals Vitamins and Nitrogen free extract b) Importance of analysis (proximate) of feeds 2.2. - 2.3. Importance of unconventional feeds 2.4. Composition of Commonly used Feeds and Fodders
3.	**Formulation of Rations:** 3.1. Definition of Ration and Feeding Standards 3.2. Desirable Characters of Good ration 3.3. Thumb rules of Feeding Cattle,Buffalos, sheep and goat. 3.4. Principles Formulation of rations for different classes of animals 3.5. - 3.6. -
4.	**Feeding of Dairy Animal** 4.1. Feeding of newborn calf 4.2. Feeding of calf up to 1 year age 4.3. Feeding of Heifer, milch and Dry animal 4.4. - 4.5. -

5.	**Feeding of Sheep and goat** 5.1 Feeding of newborn and orphans 5.2 - 5.3 Feeding of ram lambs 5.4 - 5.5 Feeding of breeding stock
6.	**Feeding of Pig and Rabbit** 6.1 Feeding of piglet 6.2 Feeding of gilt 6.3 Feeding of sow 6.4 Feeding of boar 6.5 -
7.	**Feeding of poultry** 7.1 - 7.2 Feeding of different age groups of broilers
8.	**Feeding of Dogs and cats** 8.1 Feeding of different Classes of dogs 8.2 -
9.	**Quality control of feeds** 9.1Procurement and storage of feed ingredient 9.2 - 9.3 - 9.4 Packing and forwarding of feeds 9.5 Storage of concentrates - space requirement 9.6 Cleaning and Fumigation of stores 9.7 Use of Pesticides in feed stores to control Biological Agents 9.8 -
10.	**Feed plant** 10.1 Methods of purchasing, procurement of feed ingredients and their physical evaluation 10.2 Grinding of Feed ingredients – Equipment 10.3 Mixing of Feed ingredients – Equipment 10.4 Pelleting process - Advantages – Disadvantages 10.5 -
11.	**Fodder production** 11.1Study of soils for fodder production 11.2 Importance of green fodder feeding for economic milk production 11.3 Crop rotation 11.4 Study of different forage farm equipment-Ploughing, Harrowing, Planking etc. 11.5 General principles of irrigation, fertilizers requirement in fodder production 11.6 - 11.7 -

12.	**Fodder Conservation** 12.1 Chaffing of fodders - Advantages - Disadvantages 12.2 Improvement of low quality roughages and non conventional feeds–urea paddy Straw treatment 12.3 - 12.4 Design of silage pit 12.5 Method of silage making 12.6 Importance of feeding silage to animals 12.7 Method of Hay making 12.8 -

LIVESTOCK MANAGEMENT AND DAIRY TECHNOLOGY
SECOND YEAR
PART B – VOCATIONAL SUBJECTS
PAPER – I: LIVESTOCK HEALTH MANAGEMENT [THEORY]

S.No.	NAME OF THE UNIT	No. of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
1	Health	03	02	1	0
2	First Aid	06	05	1	0
3	Bacterial Diseases	20	12	1	1
4	Viral Diseases	16	10	1	1
5	Protozoan Diseases	10	07	1	1
6	Helminthic& external parasitic diseases	11	07	1	1
7	Mycotic diseases	08	05	1	1
8	Production and Systemic diseases	12	06	1	1
9	Diseases of New born	06	04	1	0
10	Reproductive disorders	12	07	1	1
11	Principles of Disease control and prevention	06	05	0	1
	Total	110	70		

SYLLABUS

1.	**Health** 1.1.Definitions of health and disease 1.2.Signs of health and ill health 1.3.- 1.4.-
2.	**First aid** 2.1.Definition of first aid and its principles 2.2.Attending to traumatic condition 2.3.Attending to poisoning cases 2.4.- 2.5.- 2.6.Attending to fracture 2.7.First aid kit 2.8.-

3.	**Bacterial diseases** 3.1. Classification of Livestock diseases - Bacterial, viral, protozoan, helminthic, Production. 3.2. Anthrax 3.3. Black Quarter 3.4. Brucellosis 3.5. Vibriosis 3.6. Haemorrhagicepticaemia 3.7. Tuberculosis 3.8. Johnes disease 3.9. Leptospirosis 3.10. Listeriosis 3.11. Actinomycosis 3.12. Actinobacillos 3.13. Contagious bovine pleuropneumonia 3.14. Contagious caprine pleuropneumonia 3.15. Tetanus 3.16. Enterotoxemia 3.17. Colibacillosis 3.18. - 3.19. - 3.20. - 3.21. - 3.22. -
4.	**Viral diseases** 4.1. Rinderpest 4.2. Foot and mouth disease 4.3. - 4.4. Pox diseases: Buffalo pox, Cow pox ,Sheep pox, Goat pox, Fowl pox 4.5. Infectious Bovine rhinotracheitis 4.6. - 4.7. Blue tongue 4.8. - 4.9. Contagious Ecthyma 4.10. Hog cholera 4.11. Mareks Disease 4.12. Avian Leucosis complex 4.13. - 4.14. Avian influenza
5.	**Protozoan diseases** 5.1. Anaplasmosis 5.2. Babesiosis 5.3. Theileriosis 5.4. Trypanosomiasis 5.5. - 5.6. Coccidiosis 5.7. Amoebiasis
6.	**Helminthic and External parasitic diseases** 6.1. Round worms 6.2. Tape worms 6.3. - 6.4. Nasalschistosomisis 6.5. Flies

	6.6. Ticks and mites
7.	**Mycotic diseases** 7.1. Ring worm 7.2. -
8.	**Production & Systemic diseases.** 8.1. Ketosis 8.2. Milk fever 8.3. - 8.4. Pregnancy toxaemia 8.5. Bloat 8.6. Acid and Alkaline indigestion 8.7. - 8.8. Pneumonia 8.9. Enteritis 8.10. Dermatitis
9.	**Diseases of New born** 9.1. Calf scours 9.2. Calf septicemia 9.3. Hypoglycemia and hypothermia 9.4. Piglet anaemia 9.5. -
10.	**Reproductive disorders** 10.1. Anoestrus 10.2. Dystocia 10.3. Retained placenta 10.4. - 10.5. Pyometra 10.6. - 10.7. Other diseases associated with reproduction
11.	**Prevention and control of diseases** 11.1. Isolation of sick animals 11.2. Disinfection of premises 11.3. Quarantine 11.4. Hygienic disposal of dead animals 11.5. Action plan during diseases 11.6. Deworming schedules in Livestock and poultry 11.7. - 11.8. -

LIVESTOCK MANAGEMENT AND DAIRY TECHNOLOGY
SECOND YEAR
PART B – VOCATIONAL SUBJECTS
PAPER – II: MILK PROCESSING AND MILK PRODUCTS [THEORY]

S.No.	NAME OF THE UNIT	No. of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
1	Milk Reception	06	04	1	0
2	Filtration and cream separation	06	04	1	1
3	Heat treatment to milk	10	06	1	1
4	Cleaning and Sanitization	10	06	1	0
5	Steam and Refrigeration	10	06	0	1
6	Liquid milks	10	06	1	1
7	Fat rich milk products	10	06	1	1
8	Ice cream	08	06	1	1
9	Fermented milk products	10	06	1	0
10	Concentrated and deride milks	12	08	1	1
11	Indigenous milk products	10	06	0	1
12	Packing and storage of milk products	08	06	1	0
		110	70		

SYLLABUS:

1.	**Milk Reception** 1.1. Milk collection and transportation 1.2. Methods of milk preservation 1.3. - 1.4. -
2.	**Filtration and cream separation** 2.1. Milk Filtration and clarification 2.2. Cream separation methods 2.3. Cream separator – parts and arrangements of parts 2.4. - 2.5. -
3.	**Heat treatment to milk** 3.1. Pasteurization – definition – objectives, advantage s and disadvantages 3.2. Types of pasteurization 3.3. Batch pasteurization 3.4. - 3.5. - 3.6. Sterilization of milk 3.7. Homogenization of milk definition, advantages, disadvantages 3.8. -
4.	**Cleaning and Sanitization** 4.1. Detergents and sanitizers- desirable characters 4.2. - 4.3. Cleaning and sanitization-methods-hand, machine and CIP systems 4.4. - 4.5. Cleaning and sanitization of HTST pasteurizer and other equipment
5.	**Steam and refrigeration** 5.1. - 5.2. - 5.3. - 5.4. Vapour compression cycle and constructional details 5.5. Bulk cooler, plate chillers (shell and tube chillers)

6.	**Liquid milks** 6.1. Flavoured milks 6.2. - 6.3. - 6.4. Recombined and Reconstituted milk 6.5. Irradiated milk
7.	**Fat rich products** 7.1. - 7.2. Butter 7.2.1. Definition, composition and legal standards 7.2.2. Methods of manufacture – desi method 7.2.3. Creamery method of butter preparation 7.2.4. Types and uses of butter 7.3. Ghee 7.3.1. Definition – composition and legal standards 7.3.2. Desi method of ghee preparation 7.3.3. Preparation of ghee from cream 7.3.4. Prestratification method 7.3.5. Agmark grading
8.	**Ice cream** 8.1. Definition, composition, legal standards 8.2. Figuring of ice cream nut 8.3. - 8.4. - 8.5. Softy ice cream
9.	**Fermented milk products** 9.1. Starter cultures- importance of types 9.2. Classification of fermented milks 9.3. Dahi- srikhand 9.4. - 9.5. -
10.	**Concentrated and dried milks** 10.1. Preparation of condensed and evaporated milks 10.2. -
11.	**Indigenous milk products** 11.1. Classification of indigenous milk products with examples 11.2. - 11.3. - 11.4. -
12.	**Packing and storage of milk products** 12.1 Definition – objectives of packing 12.2 - 12.3 -

LIVESTOCK MANAGEMENT AND DAIRY TECHNOLOGY
SECOND YEAR
PART B – VOCATIONAL SUBJECTS
PAPER – III: MILK QUALITY, EXTENSION & ENTERPRENEURSHIP (THEORY)

S.No	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
1.	Composition of Milk	15	10	2	1
2.	Physico Chemical properties of milk	14	10	2	1
3.	Adulterants and preservatives	14	10	2	1
4.	Microbiology of milk	15	10	2	1
5.	Estimation of microbes in milk	11	8	1	1
6.	Livestock Economics				
7.	Milk procurements	10	8	1	1
8.	Dairy sheep and goat Cooperatives	16	10	2	1
9.	Marketing	15	10	2	1
10.	Livestock extension				
11.	Livestock entrepreneurship				
	Total	**110**			

SYLLABUS

1.	**Composition of Milk** 1.1. - 1.2. Composition of milk from different species 1.3. - 1.4. Factors affecting composition of milk
2.	**Physico Chemical Properties of milk** 2.1. Colour and flavor 2.2. PH and Acidity 2.3. - 2.4. Freezing and boiling point 2.5. - **2.6.** Off- flavours
3.	**Adulterants and Preservatives** 3.1. - 3.2. - **3.3.** Adulteration of buffalo milk with cow milk – Hansa test
4.	**Microbiology of Milk** 4.1. - 4.2. - 4.3. Microbial standards of raw and pasteurized milk 4.4. Microbial spoilage of milk
5.	**Estimation of microbes in milk** 5.1 MBRT and RRT tests 5.2 Direct Microscopic count(DMC test) 5.3 -
6.	**Livestock Economics** 6.1. Scope and importance of principles of economics in Dairying 6.2. - 6.3. Economic institutions supporting dairy development programmes 6.4. - **6.5.** -

7.	**Milk procurement** 7.1 Systems of Milk collection 7.2 - 7.3 Principles involved in pricing of milk products 7.4 Planning for milk collection and transportation routes. 7.5 Measures to enhance milk collection during lean season
8.	**Dairy, Sheep and Goat Cooperatives** 8.1 History of cooperative movement in India. 8.2 Cooperative movement in Dairy Industry. 8.3 - 8.4 Aims and functioning of village milk cooperative society. 8.5 - 8.6 - 8.7 Records and registers in a milk society 8.8 - 8.9 Insurance of dairy animal and processing center.
9.	**Marketing** 9.1 - 9.2 Marketing of dairy animals 9.3 - 9.4 Strategy for marketing of milk products 9.5 - 9.6 Role of salesman and marketing personalities in marketing of dairy products.
10.	**Livestock Extension** 10.1. Role of Extension in dairy development 10.2. - 10.3.Selection of Extension methods for effective transfer technology 10.4.Communications process-aims objectives and problems 10.5.Role of information technology in dairy extension. 10.6. -
11.	**Livestock Entrepreneurship** 11.1. - 11.2. - 11.3. - 11.4. Entrepreneur development for rural youth 11.5. Programmes for entrepreneurship development in dairying

VIII. LIVESTOCK MANAGEMENT AND DAIRY TECHNOLOGY

LIVESTOCK MANAGEMENT AND DAIRY TECHNOLOGY

MODEL QUESTION PAPER

FIRST YEAR

PAPER-I: RUMINANT ANIMAL PRODUCTION AND MANAGEMENT (THEORY)

Time: 3 Hours **Max.marks:50**

SECTION - A

Note: i) Answer all Questions.

ii) Each question carries 2 marks **2x10=20 Marks**

1. Name the parts of in the head portion of the cattle.
2. Define breed.
3. Name two important exotic breeds of cattle.
4. Give two sanitisers used in animal sheds.
5. What is culling?
6. What is weaning?
7. Name four vices of the dairy animal.
8. What is tattooing?
9. What is parturition?
10. What is lactogenesis?

SECTION – B

Note: i) Answer any 5 Questions

ii) Each Question Carries 6 marks **5x6=30 Marks**

1. **What are the common terms used in dairy animal management?**
2. **Write the breed characteristics of murra-buffalo.**
3. **Briefly write about cross breeding and cattle.**
4. **Describe in detail about the care and managemental practices of cough.**
5. **Describe in detail about the care and management of pregnant animal.**
6. Explain daily routine and periodical form operations in dairy form.
7. Explain different methods of identification of livestock.
8. Write the advantages and dis advantages of A.I.
9. Write short notes a) oestrus cycle
   b)heat symptoms

10. what are the steps in clean milk production?

LIVESTOCK MANAGEMENT AND DAIRY TECHNOLOGY
MODEL QUESTION PAPER
FIRST YEAR
PAPER-II: NON - RUMINANT ANIMAL PRODUCTION AND MANAGEMENT (THEORY)

Time: 3 Hours **Max.marks:50**

SECTION - A

Note: i) Answer all Questions.
ii) Each question carries 2 marks **2x10=20 Marks**

1. Name any two exotic swine breeds.
2. What is piglet anaemia?
3. What is gilt?
4. Define poultry.
5. What is broiler?
6. What is objective of debeaking in poultry?
7. What is incubation period of chicken?
8. Name any four external body parts of rabbit.
9. Name any four indian breeds of rabbit.
10. What is bitch?

SECTION – B

Note: i) Answer any 5 Questions
ii) Each Question Carries 6 marks 5x6=30 Marks

11. What are the advantages of pig farming?
12. Write about care and management of piglets.
13. Explain the routine activities in swine farm.
14. Write the characteristics of indian poultry breeds.
15. Write short notes on a) broiler
    b) layer
16. describe the daily routine activities in poultry farm.
17. explain about the ideal environment for rabbit rearing.
18. draw the diagram of fowl.
19. write the breed characteristics of german dog.
20. draw sketch diagram of cat and lable the parts.

LIVESTOCK MANAGEMENT AND DAIRY TECHNOLOGY
MODEL QUESTION PAPER
FIRST YEAR
PAPER III: FEEDS AND FEEDING OF LIVESTOCK (THEORY)

Time: 3 Hours **Max.marks:50 Marks**

SECTION - A

Note: i) Answer all Questions.
ii) Each question carries 2 marks **2x10=20 Marks**

1. What are the parts of small intestine?
2. Give the formula for crude protein estimation.
3. What is ration?
4. What is production ration?
5. What is piglet feeding?
6. Name any four feed ingredients in poultry feeding.
7. What is chaffing?
8. What are the common feed adultrants?
9. What is grinding?
10. Define crop rotation.

SECTION – B

Note: i) Answer any 5 Questions
ii) Each Question Carries 6 marks **5x6=30 Marks**

11. Draw and lable the parts of ruminents digestive system.
12. Briefly write about roughages.
13. Write the characteristics of good ration.
14. Explain in detail the feeding of calf up to one year.
15. Describe briefly feeding of rams and lambs.
16. Write about the feeding of sow and boar.
17. How do you procure and storage of feed ingrediants.
18. What are the advantages and dis advantages of pelleting process.
19. Briefly explain the importance green fodder for milk production.
20. Write the preparation method of silage.

LIVESTOCK MANAGEMENT AND DAIRY TECHNOLOGY
MODEL QUESTION PAPER
SECOND YEAR
PAPER-I: LIVESTOCK HEALTH MANAGEMENT (THEORY)

Time: 3 Hours **Max.marks:50**

SECTION - A

Note: i) Answer all Questions.
ii) Each question carries 2 marks **2x10=20**

1. What is health?
2. Define frature.
3. Mention any two viral diseases.
4. Expand R.P and FMD.
5. What is east coast fever?
6. Mention the causative organisms of Liver flukes.
7. Mention any two mycotic diseases.
8. What is milk fever?
9. Name any two new born diseases.
10. What is 'Anoestrum'?

SECTION – B

Note: i) Answer any 5 Questions
ii) Each Question Carries 6 marks **5x6=30**

11. What are the signs of health of animals ?
12. What are the contains of first aid box ? Mention its uses.
13. Describe in detail the disease "Black Quarter" .
14. Write about the FMD disease in cattle and buffalo.
15. Briefly write about Round Worms in calves.
16. Write about 'Ketosis'.
17. Write in detail about Dystocia.
18. Explain the vaccination schedule of dairy cattle.
19. Explain in detail about 'trypanosomiasis' disease.
20. Write about Tuberculosis diseases.

LIVESTOCK MANAGEMENT AND DAIRY TECHNOLOGY
MODEL QUESTION PAPER
SECOND YEAR
PAPER-II: MILK PROCESSING AND MILK PRODUCTS (THEORY)

Time: 3 Hours **Max.marks:50**

SECTION - A

Note: i) Answer all Questions.
ii) Each question carries 2 marks **2x10=20**

1. What is filtration of milk?
2. Define pasteurization.
3. Give two examples for acid detergents.
4. Mention different types of boilers.
5. Define Flavoured milk.
6. What is AGMARK?
7. Mention any four fermented milk products.
8. Define condensed milk.
9. Mention any four khoa based sweets.
10. What is Softy Ice Cream.

SECTION – B

Note: i) Answer any 5 Questions
ii) Each Question Carries 6 marks **5x6=30**

11. Explain different modes of milk transport.
12. Draw a sketch diagram cream separator.
13. What are the advantages and disadvantages of HTST system?
14. Mention the desirable characteristics of good detergents.
15. Briefly write about 'chocolate' flavoured milk.
16. Explain about 'desi method' of Ghee preparation.
17. Mention the manufacturing method of Ice cream.
18. Explain the preparation method of 'dahi'?
19. Write the preparation method of 'khoa'.
20. Explain in detail about Packing materials.

LIVESTOCK MANAGEMENT AND DAIRY TECHNOLOGY
MODEL QUESTION PAPER
SECOND YEAR
PAPER III: MILK QUALITY, EXTENSION AND ENTERPRENUERSHIP (THEORY)

Time: 3 Hours **Max.marks:50**

SECTION - A

Note: i) Answer all Questions.
ii) Each question carries 2 marks **2x10=20**

1. Define Milk.
2. Mention colour of skim milk and whey?
3. Mention the various adulterants used in milk.
4. Mention quality standards of 10 minutes RRT.
5. What is the function of NDDB.
6. Define Milk shed area.
7. What is AMUL?
8. Define market.
9. List various audio aids.
10. Define self employment.

SECTION – B

Note: i) Answer any 5 Questions
ii) Each Question Carries 6 marks **5x6=30**

11. What are factors affecting the composition of milk?
12. Briefly write about off flavours of milk.
13. List out various preservatives present in milk and detect any two.
14. Write about milk borne diseases.
15. Describe about MBRT.
16. Briefly write about Animal insurance.
17. How do you plan for milk collection during lean season?
18. Explain about Anand pattern.
19. Briefly explain about skills of Salesman.
20. Define dairy extension and give the importance of dairy extension.

LIST OF EQUIPMENT

S.NO	Name	Quantity
1.	Iron Branding set (Letters 0 to 9)	1
2.	Tattooing letter 0 to 9	
3.	Ear Tagging Machine	2
4.	Ear Tags – Plastic	20
	- Metal	20
5.	Tattooing forceps	1
6.	Liquid Nitrogen	3 ltrs
7.	Ice packs	2
8.	Burdizzon castrator	1
9.	Cotton ropes	2 bundles
10.	Ear (Nothcing) pincer (scissor)	1
11.	Bull Nose punch	1
12.	Bull Nose Ring	1
13.	Bull leader (or) Bull pole	1
14.	Cradles or beads	2 sets
15.	Drenching Bamboo	2
16.	First Aid Kit	1
17.	Enamel Tray	1
18.	Sterilizer	1
19.	Hair Clipper	1
20.	Trocar and Canula	1
21.	Electric Dehorner	1
22.	Forceps	Set-1
23.	Scissor	Set-1
24.	Syringes and Needles	Set-1
25.	Probang tube	1
26.	Irrigator	1
27.	Mouth Gag	1
28.	Trevis	1
29.	Milking cans 10 ltrs.	4
30.	Measurers (1 ltr. 500 ml, 100 ml)	3
31.	Buckets 16 ltrs.	2
32.	Milk feeding cup	2
33.	Strip cup	2
34.	Neck Chains	1
35.	Chaff Cutter	1
36.	Grinder	1
37.	Artificial Vagina Set	1
38.	Liner for A.V.	5
39.	Cones for A.V.	5
40.	Refrigerator – 175 ltrs	1
41.	Speculum	1
42.	Stiff brushes	2 No.s
43.	Floor brushes	2 No.s

44.	Insemination Kit	1
45.	Insemination Guns	2
46.	Haemocyto meter	2
47.	Hot plate	1
48.	Water distillation apparatus	1
49.	Pestle and Mortar	1
50.	Spirit lamps	3
51.	Insemination catheters	2
52.	Autoclave	1
53.	Hot Air oven	1
54.	PH Meter	1
55.	Microscope	1
56.	Waterbath	1
57.	Sediment Testing equipment	1
58.	Butter scoop	1
59.	Frying pan 2 ltrs	2
60.	Bottle capper	1
61.	Resazurin colour comparator	1
62.	Bottle crates	2
63.	Sachet sealing equipment	1
64.	Measuring Tape	1
65.	Knife	2
66.	Muffle furnace	1
67.	Miko Tester	1
68.	Milk cans 40 ltrs	2
69.	Gerbers centrifuge	1
70.	Butter Chum	1
71.	Butter worker	1
72.	Icecream Freezer	(Hand Operator)
73.	Cream separator	1
74.	Deep Fridge	1
75.	Bhagona 3 ltrs	5
76.	Hand Stirrer	3
77.	Karahi	5
78.	Blender/Mixer	1
79.	Gas stove with cylinder	1
80.	Brooder	1
81.	Chick Feeder	3
82	Chick waterer	3
83	Adult poultry Waterer	02
84	Adult poultry Feederer	02
85	Debeaker	01
86	Egg candler	01
87	Poultry cage(04 birds)	01
88	Rabbit cage	01
89	Rabbit waterer	01
90	Rabbit Feederer	01

LIST OF GLASSWARE		
1.	Butyrometer	100
2.	Lactometer	15
3.	Milk pipetles (10.75 ml)	15
4.	Pipetle (10 ml double bulb)	15
5.	Pipettes (10 ml)	15
6.	Pipette (1 ml) Single bulb	15
7	Pipettes (1 ml)	15
8.	Petridishes	15
9.	Test Tubes	100
10.	Clinical Thermometers	15
11.	Thermometers[F]	15
12.	Beakers (1000 ml)	5
13.	Beakers (500 ml)	5
14.	Beakers (250 ml)	5
15.	Beakers (100 ml)	5
16.	Conical flasks (250 ml)	5
17.	Ice cream cups	100
18.	Measuring Cylinders (100 ml, 500 ml, 1000 ml)	5 each
19.	Semen collection vials	10
20.	Syringe 2 ml	10
21.	Syringe 5 ml	10
22.	Syringe 10 ml	10
23.	Syringe 20 ml	10
24.	Automatic tilt measure for Acid	15
25.	Automatic tilt measure for Amyl Alcohol	15
26.	Milk Bottles 250 ml	50
27.	Kjeldhal flask 500 ml	10
28.	Round bottom flask 100 ml	10
29.	Conical flask 1000 ml	10
30.	Funnels 10 cm dia	10
31.	Volumetric flask 100 ml	10
32.	Wash bottles 500 ml	20
33.	Glass rods	10
34.	Glass tubing	10
35.	Slides and cover slips	40
36.	Indicator bottles	10
37.	Drop bottles	10
38.	Rubber bulbs for suction	20
39.	Gloves	20
40.	Brushes to clean glassware	10
41.	Glass marking pencil	10
42.	Filter paper 11 cm	100
43.	Glass Funnels	30
44.	Centrifuge graduated tubes	100
45.	Gumboots	3
46.	Glass beads	3

List of Chemical & Consumables		
1.	Washing Soda	2 Kg
2.	Liquid Soap	1 Lit
3.	Bleaching powder	2 Kg
4.	Sulphuric commercial	5 Lit
5.	Sulphuric Acid	5 Lit
6.	Oxalic Acid	2 Lit
7.	Sodium hydroxide	2 Lit
8.	Phenolpthalin indicator	3 Bottles
9.	Methylene blue tablets	500 Grams
10.	Nutrient Agar	1 Kg
11.	Macconkeys Agar	1 Kg
12.	Potato Dextrage Agar	1Kg
13.	Formaldehyde	2 Lit
14.	Boric Acid	2 Lit
15.	Benzoic Acid	2 Lit
16.	Salycilic Acid	2 Lit
17.	Starch	2 Lit
18.	Urea	2 Kgs
19.	Alcohol	1 Lit
20.	Petroleum Ether (40 to 60 deg)	2 Lit
21.	Resorcinol	2 bottles
22.	Isoamyl Alcohol	1 bottle
23.	Tattooing Ink	1 bottle
24.	Sodium Alginate	250 gms
25.	Resazin tablets	10
26.	Spirit 500 ml	2 bottles
27.	Tincture iodine 500 ml	2 bottles
28.	Sodium Carbonate	500 gms
29.	Litmus paper	3 packets
30.	Copper Sulphate	½ kg
31.	Sodium Sulphate	½ kg
32.	Potassium Dicromate	½ kg
33.	Eosin water soluble	½ kg
34.	Nigrosine water soluble	½ kg
35.	Petroleum Jelly/Liquid paraffine	1 bottle
36.	Sodium citrate	½ kg
37.	Distilled water	2 litres
38.	Glucose	1 kg
39.	Sodium Chloride	1 kg
40.	Colours and Flavours	1 bottle each
41.	RBC diluting fluid	1 bottle
42.	Ammonium Sulphate	1 bottle
43.	Tee pal	1 bottle
44.	Potassium iodide	1 bottle
45.	Iodine	1 bottle

46.	Bromothymal blue	1 bottle
47.	Quick lime	1 bottle
48.	Phenol	1 bottle
49.	Liquor Ammonia	1 bottle
50.	Turmeric papers	100
51.	Cultures (Bacterial)	10
52.	Citric Acid	1 bottle
53.	Super Phosphate	½ kg
54.	Rock Phosphate	½ kg
55.	Zinc Sulphate	½ kg
56.	Branding Ink	1 bottle
57.	Tattooing Ink	1 bottle
58.	Neem oil	1 bottle
59.	Castor oil	1 bottle
60.	Zinc oxide	½ kg
61.	Vanaspathi	1 bottle
62.	Sugar	½ kg
63.	Whole Milk Powder	½ kg
64.	Skin Milk Powder	½ kg
65.	Baking powder	½ kg

ADDRESSES OF THE EQUIPMENT, GLASSWARE, CHEMICALS EQUIPMENT:

1. Vet India Pharmaceuticals, Hanuman Tekkadi, Opp. Pragathi Mahavidyalaya, Koti, Hyderabad (Surgical & Medical)
2. Andhra Chemicals, Begum Bazar, Hyderabad (Chemicals & Surgicals)
3. Metters International, anjali, SECOND floor, 144 St. Johns Church Road, Bangalore-560005. (A1 Equipment)
4. Bharath Heavy Plates & Vessels Ltd. BHPV Visakapatnam-530012 (AP) (LN2 Contininem)
5. High glass Chemical, Near Tourist Hotel, Kachiguda, Hyderabad
6. Hardware Engineers Works Pvt. Ltd, Meghji Compound 5-3-325, Mahatma Gandhi Road, Secunderabad-500003. (Mixer, Grinders, Chalfculter)
7. Sri venkateswara Engineering works, 3-10-44, Reddy Colony, Hanmakonda, Dist., Warangal-506001. AP. (Chalf Culter & Grinder, Mixer)
8. Rajasthan Electronics and instrument ltd. 2, Kanakpura, Industrial Area, Sivaji Road, Jaipur-302012
9. Gupta and Sons, Abids near GPO (For dairy Chemicals cream separators and other dairy equipment)
10. M.C. Dalal and Co. No. 12, Pillayar, Koil Street Madras-3
11. Delaval, Durgabai Deshmukh Colony, Hyderabad (Milking Machine and Dairy equipment)
12. Unicorn machinery manufacturers Ltd, 13/1 Rasulpura, Secunderabad-3. (Milking machine and other equipments)
13. Southern Chemicals, 504, Meridian apts, Lekehill Road, Hyderabad-463(chemicals, flavor, colours etc)

X. COLLABORATION INSTITUTIONS & OJT SITES

a) List of Collaborating Institutions

1. College of veterinary science, R. Nagar, Hyderabad-500030.
2. College of veterinary science Korutla,Karimnagar,Dist
3. Dairy science college ,Kamareddy , Nizamabad ,Dist.
4. Department of Animal Husbandry, Government of Telangana, Livestock Assistants Training Center at , Karimnagar and Warangal.
5. Livestock Research station Mahboobnagar(PVNRTVU)
6. Livestock Research station Mamnoor Warangal(PVNRTVU)
7. Department of Animal Husbandry. All Regional A-1 centres, polyclinics, veterinary hospitals etc.
8. Project Directorate on Poultry Rajendranagar
9. Poultry Research station Rajendranagar

b) On The Job Training Sites

I. LIVESTOCK Farms:

A. ILFC, College of Veterinary Science, Rajendranagar, Hyderabad.
B.ILFC, College of Veterinary Science, Korutla, Karimnagar
C.Livestock Research station Mamnoor Warangal(PVNRTVU)
D. Livestock Research station Mahboobnagar(PVNRTVU

II. Veterinary Hospitals:

Any veterinary Hospitals/Veterinary Polyclinics, nearby college.

III.Milk Plant:

A. Milk Products Factory Lalapet, Hyderabad.
B. Mother Dairy, Hayathnagar, Hyderabad.
C. District Dairy at Karimnagar, Khammam, Nizamabad,Warangal etc.
D. Cream Line, Jersey Dairy products, IDA, Uppal, Hyderabad.
E. Heritage Milk Foods,IDA, Uppal, Hyderabad
F. Any Dairy plant or chilling center, Milk Products Factory nearby

IV. Cooperative Society and Milk Collection Centre:

Any Village milk cooperative society nearby

V. Cattle feed Factory

1. .Feed Plant College of veterinary Science, Rajendranagar, Hyderabad
2. Any feed plant organized by district cooperative milk union.

VI. Fodder Farm's:

1. Forage Research Centre College of Veterinary Science, R. Nagar, Hyderabad.
2. Any fodder farm organized by Government and Cooperative Milk Union.

VERTICAL MOBILITY

A. With Bridge Course:

i. Admission in B.Sc. Dairying/B.Sc. Dairy Science/B.Tech/B.Sc.(Dairy Technology)/B.Sc.(Animal Science) Dairying
ii. B.V.Sc. & A.H.
iii. B.Tech. Dairy Technology
(10% of the seats may be reserved for those who passed EAMCET on merit basis in PVNRTVU, R.Nagar, Hyderabad.
iv. B.Sc. Biotechnology
v. B.Sc. Microbiology
vi. B.Sc. (BZD, ANC)

B. Without Bridge Course

i. B.A
ii. B.Com.

REFERENCE BOOKS

1. Handbook of Animal Husbandry – I. C.A.R.
2. Farm Animal Management & Poultry Production – Sastr y, NSR Thomes, C.K.L.Singh
3. Textbook of Animal Husbandry – G.C. Banarjee
4. Characteristics of cattle & buffalo breeds of India – I.C.A.R. New Delhi.
5. Dairy India – year book 2004
6. Nutritive value of Indian cattle & feeding of Animals – K.C. Sen & S.N. Ray
7. Forage crops of India – T. R. Narayan & PM Dabadhao
8. Indian Dairy Products – R.C. Rangappa & K.T. Achaya
9. Outlines of Dairy Technology – Sukumar De.
10. Animal Nutrition & feeding practices – Rajan S.K.
11. Artificial insemination of Farm Animals – Perry J.E d.
12. Veterinary Medicine – D.C.Blood & J.A. Henderson, 4 th edn.
13. Milk hygiene in Milk Production, processions and distribution – FAO, WHO, 1962.
14. Anatomy & Physiology of Farms Animals - .Frandson R.D.
15. Dairy Cattle Principles, practice problems and profit – Bath Donald & others.
16. Dairy handbook – NDRI. Processing and production, K ARNAL
17. Biology of lactation-Schmidt
18. Book keeping & Accounts – R.S.Gupta
19. Dairy Microbiology – Robinson, Vol. I & Vol. II.
20. Principles & practices of Dairy Farm Management – J agdish Prasad
21. Textbook of clinical veterinary medicine – Amalendu Chakrabarti
22. Animal Reproduction & Artificial Insemination – NCE RT
23. Milk & Milk Products – NCERT
24. Milk & Milk Products – Eckles, comb and Massey
25. Livestock economy of India – I.S.A.E. Oxford & IBH Publication.
26. Dairy Cattle Management – R.N. Pal, HAU, Hissar.
27. Practical Animal Husbandry – Miller & Rabertson
28. Bovine economy of India, vidyanagar, Oxford.
29. Diseases of Cattle-blood, DC (ETAL) London
30. Indian Journal of Dairy science (periodical)
31. Dairy man (Periodical)
32. Indian journal of Animal Science
33. Dairy microbiology-Yadav.

30% DELETED CONTENT IN VIEW OF COVID-19 PANDEMIC

FIRST YEAR

PAPER –I: RUMINANT ANIMAL PRODUCTION AND MANAGEMENT

Sl. No.	Unit No. Name of the Unit	Topic/Sub Topic to be Deleted in Details Heads	Two Marks Questions Deleted	Six Marks Questions Deleted
1	UNIT – I : Introduction-Confirmation points of different Ruminants	1.1 Livestock Statistics	2. What is the sheep & goat population in India? 5. What is the total milk production in India? 7. What is freemartin?	1. Describe in detail about the role of livestock in Indian Rural Economy
2	UNIT – II : Breeds of dairy cattle, buffaloes, sheep and Goats	2.5 Classification of Sheep breeds and their Characteristics	6. What is the average milk production in of Murrah buffalo? 8.List out important exotic breed of the sheep and goat 9. Name the breeds of Indian Sheep and goat.	3.Explain various indigenous breeds of sheep 4.Explain various indigenous breeds of goat
3	UNIT – III : Housing ,Hygiene and sanitation of livestock farms	3.3 Housing for Sheep and Goat 3.5 Bio-gas Plant	3. What arrangement should be done to the roof of animal shed during summer? 7. What is Bio-gas?	5.Explain about housing of Sheep and Goat
4	UNIT – IV : Selection and Breeding of Ruminant Animals	4.1 Selection of Dairy Animals, Sheep and Goat.	1. Name two methods of Dairy cattle selection. 5. Name two mating system in sheep and goat.	1. Discuss in detail about various types of selection of dairy cattle. 2. Explain about mating systems in Sheep & Goat.
5	UNIT – V : Care and Management of Ruminant Animals	5.4 care and management of sheep and goat 5.6 Care and Management of Ram and Buck	4. What is the antiseptic applied to the naval after cutting? 6. How much milk should be feed to the calf first few days after birth?	4.Describe in detail about the care and management of Ram and Buck 5. Write about management of the different classes of sheep and goat.

6	UNIT – VI : Activities in Ruminant Livestock Farm	6.3 Dentition and ageing in Dairy animals 6.5 Records to be maintained in a dairy farm, sheep and goat farms 6.10 Deworming and vaccination program	2. How do you differentiate temporary teeth from the permanent teeth? 4. Name any four records to be maintained in a dairy farm? 7. Explain Burdizzo method of castration in bull. 8.What is the importance of deworming and vaccination in dairy animals	2. How do you determine the age of the cattle? 4.Write about various records to be maintained in dairy farm 6.Explain about deworming schedule in cattle ,sheep and goat 7.Explain about vaccination schedule in cattle ,sheep and goat
7	UNIT – VII : Reproductive system –A.I	7.1 Reproductive system of Cow ,Ewe and Doe 7.2 Reproductive system of Bull ,Ram and buck 7.8 Study of obstetrical equipment	6.Name four reproductive organs of Cow 7. Name four reproductive organs of Bull. 8. Write any four names of obstetrical equipment.	2.Describe in detail about reproductive system in Cow 3.describe in detail about reproductive system in Bull
8	UNIT – VIII : Lactation and milking methods	8.1 Mammary Gland , Structure and Development	4. Name different hormones concerned with lactation.	3.Explain the structure of udder with help of sketch diagram

LIVESTOCK MANAGEMENT & DAIRY TECHNOLOGY (LM&DT) - FIRST YEAR
PAPER – 2: FEEDS AND FEEDING OF LIVESTOCK

Sl. No.	Unit No. Name of the Unit	Topic/Sub Topic to be Deleted in Details Heads	Two Marks Questions Deleted	Six Marks Questions Deleted
1	UNIT – I : Digestive system	1.3 Digestive system of Poultry 1.4 Digestive system of pig/rabbit/dog.	6. What is the function of Crop in poultry digestive system? 7. What is chime?	3. Explain digestive system of pig/rabbit/dog?
2	UNIT – II : Common Feeds and Fodders	2.2 Classification of feeds	1. How to calculate NFE. 6. What are animal digestion trials?	2. Classify feeds with suitable examples? 4. Discuss in detail various types of concentrate feeds?
3	UNIT – III : Formulation of rations	3.5 Formulation of milk replacer and calf starter 3.6 Formulation of Concentrate feed	5. What is Milk replacer? 6. Define calf starter.	5. Formulate Milk replacer. 6. Formulate calf starter
4	UNIT – IV : Feeding of Dairy animals	4.4 Feeding of Pregnant and newly calved animal 4.5 Feeding of animals during drought and cyclones	2. How much whole milk should be fed to the young calves? 4. What is the DCP and TDN in good calf starter?	5. Give feeding schedules for working bullock? 6. Explain feeding of breeding bull.
5	UNIT – V : Feeding of sheep and goat	5.2 Creep Feeding 5.4 Feeding of Pregnant Ewe and Doe	2. What is creep feeding?	1. Describe briefly feeding of pregnant Ewe.
6	UNIT – VI : Feeding of pigs and rabbit	6.5 Feeding of Different age groups of Rabbit	1. Write the concentrate mixture composition of rabbit	1. Write about feeding of different age groups of Rabbit.

7	UNIT – VII Feeding of poultry	7.1 Feeding of Starters , growers and layers in poultry	1. What is Starter feeding?	1. Write about the feeding of starters and growers in poultry
8	UNIT – VIII : Feeding of dogs and cats	8.2 Feeding of different classes of cats	2. What is kitten hood feeding in cats?	2. Write about feeding of two classes of cats.
9	UNIT – IX Quality control of Feeds	9.2 Methods of detection of Feed adulterants 9.3 Quality control of Finished Feeds 9.8 Spoilage of Feed during storage	2. What are the physical tests in Quality controls methods? 3. What are the chemical tests in quality control methods?	2. Explain in detail about the methods of detection of feed adulterants.
10	UNIT – X Feed plant	10.5 Compounding of Feeds - Objectives - Advantages	5. What is compounding of feeds? 6. Mention the equipment used for compounding of feeds?	5. Give objectives and advantages of compounding of feeds?
11	UNIT – XI Fodder production	11.6 Cultivation Practices 11.7 Silivi Pasture- Horti Pastures	6. Which fertilizer is recommended for Napier grass? 7. Give the yield of Napier grass per acre?	4.a) Napier grass B) maize
12	UNIT – XII Fodder conservation	12.3 Aims of Fodder conservation - Advantages and disadvantages. 12.8 Preparation of vermi culture from compost	4. What are the aims of Fodder Conservation? 5. What is Vermi compost?	2. What are the principles of Fodder Conservation and mention the Advantages and the disadvantages? 5. How is Varmi Compost prepared?

LIVESTOCK MANAGEMENT & DAIRY TECHNOLOGY (LM&DT) - FIRST YEAR
PAPER -3: NON RUMINANT ANIMAL PRODUCTION AND MANAGEMENT

Sl. No.	Unit No. Name of the Unit	Topic/Sub Topic to be Deleted in Details Heads	Two Marks Questions Deleted	Six Marks Questions Deleted
1	UNIT-1 Swine Production	1.7)Systems of Breeding in Pigs 1.9)Reproductive system of sow and boar 1.11) Identification methods 1.14)Dentition and Ageing of Pigs 1.15)Restraining of pigs	3).Name any four parts of Reproductive system of Sow. 4) Name any four parts of Reproductive system of Boar. 6) What is Castration in pigs? 9) What is guard rails in pig housing?	1).Write briefly about restraining of pigs 4).Explain briefly about breeding of pigs 8. Write about identification methods of pigs.
2	UNIT-2 Poultry production	2.5)Deep litter and cage systems of poultry housing 2.8) Systems of breeding in Poultry 2.9)Care and management of different classes of layers 2.12)Reproductive system of Hen and Cock 2.15)Identification of poultry	5. What is anti – mortem and post mortem in poultry? 6).Name four reproductive organs in Fowl? 11. What is importance of handling and transportation of poultry? 15. Name any two important breeds of backyard poultry. 17).What are the systems of breeding in poultry.	3).Draw the sketch diagram of reproductive system in hen. 6).Explain about different poultry housing systems. 7).Write the care and management of transportation of chicks and adults. 9).what are the different identification methods in poultry 13).Write about systems of breeding in poultry.
3	UNIT-3 Rabbit Production	3.6)Systems of breeding in rabbits 3.7)Care and management of different classes of rabbit 3.8)Reproductive system of male and female rabbits 3.9)Production traits in rabbit	5) Write any four exotic rabbit breeds. 7) Name any four parts of reproductive organs of female rabbit.	1) Write the different breeding systems in rabbit. 6) Write about the reproductive system of male rabbit. 7) Explain about the breeding systems in rabbits.

4	UNIT-4 Pet Animal Management	4.5)Care and management of different classes of dogs 4.6)Care and management of different classes of cats 4.9)Vaccination schedule for dog and cat	5) What is Deticking? 7) Name any two vaccines used in dogs and cats	4) Write briefly about housing care management of dogs 5) Write briefly about housing care management of cats 6) Describe vaccination and deworming schedule in dogs

LIVESTOCK MANAGEMENT & DAIRY TECHNOLOGY (LM&DT) - SECOND YEAR

PAPER-I: LIVESTOCK HEALTH MANAGEMENT (THEORY)

Sl. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions Deleted	Six Marks Questions Deleted
1	UNIT-1 Health	1.3 Recording Body Temperature, Pulse and Respiratory Rates 1.4 Normal values of body temperature, pulse and respiration rates	3) What is the normal body temperature of cattle and pig? 5) What is the normal respiration rate in sheep and goat?	3) Mention the procedure of recording pulse and respiration of cattle?
2	UNIT-2 First Aid	2.4 Attending to obstetrical difficulties 2.5 First Aid to Burns and Scalds 2.8 First Aid during natural calamities	5) What are Burns and Scalds? 6) What are the common natural calamities?	4) Briefly write about obstetrical difficulties.
3	UNIT-3 Bacterial Diseases	3.8 Johne's Disease 3.19 Bacillary White Diarrhea 3.20 Fowl Cholera 3.21 Kennel Cough 3.22 Swine Erysipelas	6) What is Johne's disease? 7) Mention common bacterial diseases in poultry.	4) Write about Fowl Cholera. 6) Explain about Swine Erysipelas disease.
4	UNIT-4 Viral Diseases	4.3 Rabies 4.6 Ephemeral Fever 4.8 Peste des petits ruminants 4.13 Ranikhet disease in Poultry	1) What are the cardinal symptoms of Rabies? 6) What is Swine fever?	2) Explain about the PPR viral disease in goat and sheep 5) Write about Ranikhet disease in poultry.
5	UNIT-5 Protozoan Diseases	5.5 Leishmaniosis	5) What are the clinical signs of "leishmaniosis" disease	3) Briefly write about the Leishmaniasis disease.
6	UNIT-6	6.3 Liver Flukes and Stomach Flukes	3) What are the methods to control snails?	1) Explain about Liver Flukes and Stomach Flukes of Cattle.

	Helminthic & external parasitic diseases			
7	UNIT-7 Mycotic diseases	7.2 Aspergillosis	2) What is 'Aspergillosis'?	2) Explain about the Aspergillosis
8	UNIT-8 Production and Systemic diseases	8.3 Downer Cow Syndrome 8.7 Mastitis	4) What is Downer Cow Syndrome?	2) Write short notes on (a) Downer Cow Syndrome (b) Mastitis
9	UNIT-9 Diseases of New born	9.5 Joint ill and septic arthritis	3) What is Joint ill	----
10	UNIT-10 Reproductive disorders	10.4 Endometritis 10.6 Infertility -Causes and Prevention	4) What is Endometritis 5) What is infertility?	2) Write about the causes and treatment of repeat breeding syndrome in cattle? 4) What are the symptoms and treatment of Endometritis?
11	UNIT-11 Principles of Disease control and prevention	11.7 Regular Vaccination 11.8 Sterilization of equipment – hot/cold/Chemical Methods	4) Mention the vaccine for sheep and goat.	1) Explain the procedures of sterilization of equipment.

LIVESTOCK MANAGEMENT & DAIRY TECHNOLOGY - SECOND YEAR
PAPER-II: MILK PROCESSING AND MILK PRODUCTS

Sl No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions Deleted	Six Marks Questions Deleted
1	UNIT-1 Milk Reception	1.3 Milk reception Dock – Sampling 1.4 Milk Chilling Methods and Storage	2) What is sampling of milk? 5) Name the different parts of storage tank.	4) What are the objectives of Milk Storage and briefly write about type of milk storage tanks
2	UNIT-2 Filtration and cream separation	2.4 Factors Affecting Efficiency of Cream Separator 2.5 Milk Standardization for FAT and SNF Procedure	4) How the position of cream screw will change the fat % in cream. 6) What is the effect of temperature of milk in cream separation?	6) Briefly explain Pearson's square method of milk standardization. 7) How many kgs of 6.2% fat milk and 0.4% fat skim milk are required to prepare milk testing 3.5% fat.
3	UNIT-3 Heat treatment to milk	3.4 HTST Pasteurization 3.5 UHT Pasteurization 3.8 Packing of milk(Prepack) and storage	7) Name the official checking tests for checking efficiency or pasteurization and sterilization. 8) What is Prepack? 9) Define Aseptic packing	3) Explain Prepack process of milk packing. 4) Describe in detail about Aseptic packing of milk.
4	UNIT-4 Cleaning and Sanitization	4.2 Common detergents and sanitizers in dairy plant 4.4 Cleaning and Sanitization of Cans	4) Classify types of surfactants. 6) What are the inhibitors used in cleaning solution for aluminum and tinned surface vessels?	2) Briefly write about treatment of water for preparing cleaning solutions with appropriate reactions.
5	UNIT-5 Steam and Refrigeration	5.2 Steam Boilers 5.3 Direct and Indirect Refrigeration System 5.1 Properties of Steam	4) Define Convection 6) What is indirect Refrigeration System 8) What are the causes for high heat pressure in Refrigeration System	1) Write briefly about various types of steam.
6	UNIT-6 Liquid milks	6.2 Sterilized Milk 6.3 Standardized Milk	2) What are the advantages of Sterilized milk?	2) Explain the method of manufacturing process of sterilized milk 4) How do you prepare "Standardized" Milk.
7	UNIT-7 Fat rich milk products	7.1 Cream	2) What is plastic cream 3) Define "Stokes Law"	1) Explain the factors influencing fat percentage of cream.

8	UNIT-8 Ice cream	8.3 Method of manufacture of ice cream 8.4 Overrun in ice cream	2) What is overrun in icecream?	2) Explain the role of ingredients in ice-cream.
9	UNIT-9 Fermented milk products	9.4 Yoghurt 9.5 Cottage Cheese	3) Write the composition of Yoghurt.	3) Write the method of manufacture process of Yoghurt 5) How do you prepare Cottage cheese?
10	UNIT-10 Concentrated and deride milks	10.2 Preparation of spray dried powder.	4) Define Spray dried milk powder.	4) Explain the method of manufacture of spray dried milk powder.
11	UNIT-11 Indigenous milk products	11.2 Khoa and Khoa based sweets. 11.3 Channa and Channa based sweets. 11.4 Kulfi	4) Define Rasamalia. 5) What is Kulfi	2) Explain the method of preparation of Burfi. 5) Write the preparation method of Rasogulla.
12	UNIT-12 Packing and storage of milk products	12.2 Packing Materials 12.3 Packing of Milk Products	2) Mention any four packing materials.	2) Explain about different types of packing of milk products.

LIVESTOCK MANAGEMENT & DAIRY TECHNOLOGY - SECOND YEAR
PAPER-III: MILK QUALITY, EXTENSION AND ENTREPRENEURSHIP

Sl No	Unit No & Name	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions Deleted	Six Marks Questions Deleted
1	UNIT-1 Composition of Milk	1.1 Definition of Milk, PFA designated milks 1.3 Detailed composition of milk	3) Mention the FAT and SNF standards in recombined and standardized milk. 5) What are the various types of proteins present in milk?	2) Draw schematic diagram of detailed composition of milk.
2	UNIT-2 Physico Chemical properties of milk	2.3 Specific Gravity of Milk 2.5 Viscosity and Surface Tension	5) Mention the richmond's formulae for SNF and total solids estimation in milk. 7) What are the normal values of viscosity and surface tension of milk?	4) What is viscosity? However viscosity of milk is affected.
3	UNIT-3 Adulterants and preservatives	3.1 Common Adulterants in milk 3.2 Common Preservatives in Milk	3) What is starch test?	2) Explain the methods used to detect starch, sugar, skim milk powder in milk. 3) Explain briefly about detection of preservation in milk
4	UNIT-4 Microbiology of milk	4.1 Types of Micro-Organisms present in Milk 4.2 Milk Borne Diseases (Pathogens)	2) Give the varieties of organisms under Str-faecalis 7) Name the various toxins from staphylococcus organism	3) Explain briefly important yeast of dairy industry. 5) Briefly write about symptoms, prevention and control of salmonellosis food poisoning.
5	UNIT-5 Estimation of microbes in milk	5.3 Standard Plate Count	4) How you will interpret the SPC results?	4) Discuss in detail SPC method.
6	UNIT-6 Livestock Economics	6.2 Economic principles involved to Enhance benefits in Dairying 6.4 Project reports to be submitted for Financial institutions for 2,10,50 and 100 Animal Dairy 6.5 Project reports for 5000 Litres and 50,000 litres for Processing centres.	4) What is the optimum size of dairy farm with maximum benefit?	2) Prepare project reports for establishing the dairy farms of the following strengths. a) Two animal b) 10 animals 3) Prepare project report for establishing milk processing centres of capacity a) 5000 lit/day b) 50,000 lit/day.

7	UNIT-7 Milk procurements	7.2 Systems of Milk Pricing	3) What is two axis system of pricing? 5) Name the best method for pricing of milk.	2) Discuss in detail about various pricing policies of milk.
8	UNIT-8 Dairy sheep and goat Cooperatives	8.3 Milk cooperatives - Anand pattern 8.5.Structure and activities of District Milk Union 8.6 Role of state milk cooperative Federations 8.8 Coordination with other institutions concerned with dairy development	4) Define Anand pattern of milk cooperatives. 7) Give three departments concerned with dairy development to which milk society to be coordinated.	3) Write about structure, functions and activities of districts milk unions. 4) Briefly write about state cooperative milk Federation.
9	UNIT-9 Marketing	9.1 Principles of Marketing 9.3 Marketing plans for liquid milks. 9.5 Role of advertisement for market promotion	3) What is FCM? 4) Give formula for 4% FCM. 5) Give formula for 3.5% FCM. 6) What is coupon system?	3) What are the ways and means of advertising for promotion of sales?
10	UNIT-10 Livestock extension	10.2 Dairy Extensions – Methods, Role of audio visual in dairy development 10.6 Organization of training programs, cattle shows, exhibitions etc. 10.7 Evaluation of training programs	2) What are the groups of extension methods? 3) List various Individual contact methods of extension. 5) Mention various group contact methods.	7) Explain the criteria for selection of A.V. Aids and extension methods for effective transfer of technology. 9) How do you organize training programme? 10) How do you organize exhibits and shows?
11	UNIT-11 Livestock entrepreneurship	11.1 Entrepreneur – His behavior 11.2 Dairying as self-employment 11.3 Entrepreneur cycle for dairying	2) What is Entrepreneur behavior? 5) What are the three phases of entrepreneur cycle?	2) Briefly write about theory & practice of self-employment in dairying. 5) Draw sketch diagram & explain Entrepreneur cycle for dairying.

VOCATIONAL CURRICULUM-2020

(For the Academic year 2020-21)

[70% CONTENT IN VIEW OF COVID-19 PANDEMIC]

FISHERIES

(COURSE CODE: 111)

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

Dr. A.Ashok I.A.S
COMMISSIONER

INTERMEDIATE EDCATION
Government of Telangana
Nampally, Hyderabad- 500001
Phone: 040-24655915

Fore word

In any developing society with a booming population, Vocational Education occupies an important position for generating large scale employment opportunities. Viewed in this context the importance of Vocational Education for our country cannot be over emphasized. Vocationalization of Secondary Education was introduced in 1988 at the Intermediate level. Recently, the Government of India has developed a National Skills Qualification Framework for establishing a clear path for vocational education from the school level to the highest level. The Department of Intermediate Education has recently framed a new curriculum to bring greater value to the system of vocational education. The primary aim of this reform is to prepare the students with employable skills for absorption in organized sectors and in few cases, even for self-employment.

State Institute of vocational education and Board of Intermediate Education, Telangana have reviewed the curriculum of vocational courses of second year from the academic year 2019-20 in order to reorient them for their practical approach. Greater emphasis is now being placed on Laboratory work and on the job training.

Simultaneously, The State Institute of Vocational Education and the department of Intermediate Education are presently making efforts to upgrade the quality of infrastructure in the colleges to meet the challenges of the changed curriculum. I am confident that the revised curriculum of second year for Vocational Courses would prove to be beneficial to the students in the vocational stream and help them train in need based productive courses leading to gainful employment.

Sd/- Dr. A.Ashok
COMMISSIONER OF INTERMEDIATE EDUCATION

SCHEME OF INSTRUCTION AND EXAMINATION

ANNUAL SCHEME OF INSTRUCTION AND EXAMINATION

FISHERIES

FIRST YEAR

Part-A		Theory		Practicals		Total	
		Periods	Marks	Periods	Marks	Periods	Marks
1.	English	150	50	0	0	150	50
2.	General Foundation course	150	50	0	0	150	50
	Part-B						
3.	**Paper-I** Biology of Fishes and Limnology	135	50	135	50	270	100
4.	**Paper-II** Principles of Fisheries and Aquaculture	135	50	135	50	270	100
5.	**Paper-III** Seed Production Technology	135	50	135	50	270	100
Part-C							
6.	**OJT**	0	0	365	100	365	100
	Total	**705**	**250**	**770**	**250**	**1475**	**500**

SECOND YEAR

Part-A		Theory		Practicals		Total	
		Periods	Marks	Periods	Marks	Periods	Marks
1.	English	150	50	0	0	150	50
2.	General Foundation course	150	50	0	0	150	50
	Part-B						
3.	**Paper-I** Fish farms & Pond Management	110	50	115	50	225	100
4.	**Paper-II** Aquaculture	110	50	115	50	225	100
5.	**Paper-III** Reservoir Fisheries & Post Harvest Technology	110	50	115	50	225	100
Part-C							
6.	**OJT**	-	-	450	100	450	100
	Total	**630**	**250**	**795**	**250**	**1425**	**500**
TOTAL FIRST YEAR AND SECOND YEAR MARKS 1000							

EVALUATION OF ON THE JOB TRAINING:

The "On the Job Training" shall carry 100 marks. During on the job training the candidate shall put in a minimum of 90 % of attendance.
The evaluation shall be done in the last week of January.

Marks allotted for evaluation:

S.No	Name of the activity	Max. Marks allotted for each activity
1	Attendance and punctuality	30
2	Familiarity with technical terms	05
3	Familiarity with tools and material	05
4	Manual skills	05
5	Application of knowledge	10
6	Problem solving skills	10
7	Comprehension and observation	10
8	Human relations	05
9	Ability to communicate	10
10	Maintenance of dairy	10
	Total	100

NOTE: The On the Job Training mentioned is tentative. The spirit of On the Job training is to be maintained. The colleges are at liberty to conduct on the job training according to their local feasibility of institutions & industries. They may conduct the entire on the job training periods of (363) I year and (450) SECOND YEAR **either by conducting classes in morning session and send the students for OJT in afternoon session or two days in week or weekly or monthly or by any mode which is feasible for both the college and the institution**. However, the total assigned periods for on the job training should be completed. The institutions are at liberty to conduct On the Job training during summer also, however there will not be any financial commitment to the department.

SYLLABUS
FISHERIES
FIRST YEAR
PART B – VOCATIONAL SUBJECTS
PAPER – I: BIOLOGY OF FISHES AND LIMNOLOGY (THEORY)

S. No	NAME OF THE UNIT	No. of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
1.	Introduction to Biology of Fishes.	**10**	**4**	2	-
2.	~~General Characters and Classification of Fish~~ and Prawn,	**12**	**10**	2	1
3.	Morphology of fish and prawn - External parts and appendages, exoskeleton and integument. Structure and types of scales and fins; Identification of Fish, Meristic Characters and measurements, Meristic counts and morphometry.	**17**	**10**	2	1
4.	Digestive System of fish and prawn - Structure of elementary canal, Digestive glands, physiology of digestion.	**10**	**8**	1	1
5.	Respiratory and Circulatory system of fish and prawn - structure of gills, mechanism of respiration, accessory respiratory organs. Blood, Heart, Arterial and Venous Systems	**16**	**12**	2	1
6.	Excretory and Osmo-regulatory systems of fish and prawn - fish kidney, physiology of excretion, Osmo-regulation in fresh water and marine fishes.	**12**	**10**	2	1
7.	Nervous and Endocrine systems of fish and prawn. Structure and Function of Fish Brain, TS of Spinal cord, Endocrine glands of fish and Prawn. Pituitary gland	**16**	**10**	1	1
8.	Reproductive systems of fish and prawn, Male and Female reproductive organs, Development of gonads, Fecundity of fish.	**12**	**10**	2	1
9.	Limnology Introduction to ecosystem, types of fresh water ecosystems; Lentic and lotic ecosystem Pond ecosystem-abiotic and biotic factors. Energy flow in ecosystem, food chain and food web, tropic levels ,ecological pyramids, Role of phyto and zoo planktons in productivity of pond.	**16**	**14**	2	1
10.	Bio-geochemical cycles: gaseous and sedimentary cycles. Aquatic Pollution and its effect on fisheries. Eutrophication.	**14**	**12**	2	1
	Total	**135**			

FIRST YEAR
PART B – VOCATIONAL SUBJECTS
PAPER – II: PRINCIPLES OF FISHERIES AND AQUACULTURE [THEORY]

S. No.	Name of the Unit	No. of Periods	Weightage in marks	Short answer questions	Essay/ Problem question
1	Introduction of aquaculture - History, Scope, Present status of Fisheries in India and T.S. Export trends of aquatic products in India.	10	8	1	1
2	Types of aquaculture - Freshwater, Brackish water, Mariculture	5	4	2	-
3	Culture System a) Open systems (Reservoir and large tanks) b) Semi-closed systems (Cages, Pens) c) Closed Systems (Ponds) d) Recirculatory systems/RAS-Aquaponics	14	8	1	1
4	Cultivable fauna in aquaculture - Criteria for selection of fish, cultivable fishes, prawns, Lobsters, Crabs, Molluscs	15	10	2	1
5	Exotic species: Tilapia, Grass carp, Silver carp, Common carp, Pangas catfish and Vennamei prawn.	10	8	1	1
6	Biotechnology in Fisheries and Aquaculture.	13	10	2	1
7	Aquarium Management: Introduction Aquarium Types, Aquarium Fabrication, Accessories, Ornamental fishes and plants, Maintenance of aquarium and ornamental fish diseases and their control	13	10	2	1
8	Fishing craft and gear-mechanized and non-mechanized crafts, craft and gear material accessories, types of gear, fabrication of gear and preservation	20	16	2	2
9	Fishing methods – Trap fishing, Line fishing, cast netting, gill netting, Drag netting.	20	16	2	2
10	Fisheries Institutions – State & Central Government Institutions, Extension Services. HRD in fisheries, Organization of fisheries department administration in Telangana state.	15	10	2	1
	Total	**135**			

FISHERIES
FIRST YEAR
PART B – VOCATIONAL SUBJECTS
PAPER – III: SEED PRODUCTION TECHNOLOGY [THEORY]

S.No.	NAME OF THE UNIT	No. of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
1	Introduction – Importance of seed, present status of fish and prawn seed production.	10	10	2	1
2	Life cycle of fish and prawn	18	10	2	1
3	Seed resources in India – fish and prawn seed resources. Seed procurement from natural resources – seed collection, factors influencing seed availability, disadvantages of seed collection,	18	10	2	1
4	Major carp seed production and Murrel seed collection methods.	22	16	2	2
5	Induced breeding technology – Brood Stock Management, induced breeding with different inducing agents, stripping, influence of factors on breeding,	22	16	2	2
6	Breeding of Indian major carps, common carp and catfish	15	12	2	1
7	Hatchery Management – Types of carp hatcheries. Components and operation of Jar, D- variety and Chinese hatcheries.	20	16	2	2
8	Seed selection, packing, transportation acclamatization and releasing methods.	10	10	1	1
	Total	**135**			

FISHERIES
SECOND YEAR
PAPER – I: FISH FARMS & POND MANAGEMENT [THEORY]

S.No.	NAME OF THE UNIT	No. of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
1	Introduction to Fish farms and Pond Management.	5	2	1	-
2	Lay out design of Fish Farm Site selection criteria, topography, Soil type, water supply, designing, construction of fish farm.	10	8	1	1
3	Types of Ponds: Nursery, Rearing and stocking (grow-out) ponds.	13	10	1	1
4	Pond management: Pre-stocking management and post-stocking pond management.	13	10	2	1
5	Water Quality Management in ponds- physical factors, chemical factors and biological factors and their management, Water filtration and aeration.	17	16	1	1
6	Feed Management – Food and Feeding habits of fish and prawn, natural food organisms in pond, supplementary feeds and their application, feed additives; Feed conversion ratio (FCR). Significance of Plankton and their role in pond productivity .Plankton culture.	17	16	2	1
7	Health management- Common fish and prawn diseases and their control, diagnostic methods , therapeutic methods, good health management	22	16	1	2
8	Routine pond management- daily and monthly management, reasons for fish and prawn mortality.	13	10	1	1
	Total	**110**	**88**	**10**	**8**

FISHERIES
SECOND YEAR
PART B – VOCATIONAL SUBJECTS
PAPER – II: AQUACULTURE [THEORY]

S.No	NAME OF THE UNIT	No. of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
1	Introduction to Aquaculture	5	2	1	-
2	Composite fish culture – Advantages, management, superiority over monoculture	10	8	1	1
3	Polyculture – Advantages, management	10	8	1	1
4	Integrated Fish Farming a) Integrated fish cum agriculture – horticulture b) Integrated fish cum livestock farming- poultry, Dairy, Duckery, Piggary	15	14	1	1
5	Cage culture, Pen culture and RAS -Aquaponics	10	10	1	1
6	Crustacean and Molluscan fisheries - Scampi, Shrimp, Crab, Edible oyster, Pearls Sport and game fishes	20	16	2	1
7	Air breathing fish culture: Murrels and Pangas. Ornamental Fish culture: Live bearers and egg layers.	15	12	1	1
8	Equipment and chemicals used in aquaculture. Use of water testing and soil testing kits	15	10	1	1
9	Role of probiotics in aquaculture.	10	8	1	1
	Total	**110**	**88**	**10**	**8**

FISHERIES
SECOND YEAR
PART B – VOCATIONAL SUBJECTS
PAPER – III: RESERVOIR FISHERIES AND POST HARVEST TECHNOLOGY [THEORY]

S.No	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
1	Introduction for Reservoir Fisheries and Post-Harvest Technology	5	2	1	-
2	Reservoir Fisheries – Reservoir Ecology, Reservoirs in India and Telangana, Classification of Reservoirs , Management of Reservoir Fishery	15	10	1	1
3	Fisheries of koilsagar, Sriramsagar, Palair and LMD reservoirs.	5	4	1	-
4	Reservoir fishery development	5	4	1	-
5	Over fishing, closed season, effect of dams and barrages on fisheries and fish migration	5	4	1	-
6	Fish processing, preservation - Reasons for spoilage of fish and prawn, methods of fish preservation	15	14	1	1
7	By products of fish and prawn, value addition to fishery products	15	14	1	2
8	Marketing – Types of Markets – Marketing Intermediaries , flow channels and management of markets, price fluctuation	15	14	1	1
9	Fishery Economics – Principles, Role of Fisheries sector in India's Economic development, Socio-Economic status of the fisher folk and co-operative societies.	20	14	1	2
10	Export and Quality Control	10	8	1	1
	Total	**110**	**88**	**10**	**8**

MODEL QUESTION PAPER
FISHERIES – FIRST YEAR
PAPER I: BIOLOGY OF FISHES AND LIMNOLOGY (THEORY)

Time: 3 Hours **Max. Marks: 50**

SECTION – A

Note: i). Answer all the questions.
ii). Each question carries 2 marks. (2 X 10 = 20 marks)

1. Define Limnology.
2. What are the Vitamins present in Fishes?
3. Write unpaired fins found in Fish.
4. Name the digestive glands of fish.
5. Name the accessory respiratory organs found in Fishes.
6. What is Osmoregulation?
7. Write any two hormones secreted from pituitary gland in Fish.
8. Write main difference between male and female prawns.
9. Define Plankton. Give two types of Planktons.
10. Define "BOD" and "COD".

SECTION – B

Note: i). Answer any five questions.
ii). Each question carries 6 marks. (5 X 6 = 30 marks)

11. Describe the general characters of fishes.
12. Describe the various types of scales present in Fishes.
13. Describe the alimentary canal of fish and draw the well labeled diagram of digestive system of Fish.
14. Discuss the mechanism of respiration in Fishes.
15. Describe the excretory system of Fishes.
16. Describe the nervous system of prawn.
17. Describe the Pond Ecosystem.
18. Describe the male reproductive organs in prawn.
19. Discuss the energy flow in ecosystem.
20. Give an account on the effect of water pollution on fisheries.

MODEL QUESTION PAPER
FISHERIES – FIRST YEAR
PAPER II: PRINCIPLES OF FISHERIES AND AQUACULTURE (THEORY)

Time: 3 Hours **Max. Marks: 50**

SECTION – A

Note: i). Answer all the questions.
ii). Each question carries 2 marks. (2 X 10 = 20 marks)

1. What is Aquaculture?
2. Expand the M.P.E.D.A.
3. What is cage culture?
4. Write the scientific names of grass carp and silver carp.
5. Define Exotic carp.
6. Define hybridization of in Fish
7. Give any examples of aquarium plants.
8. What important chemicals are used in preservation of gear?
9. Draw the diagram of cast netting.
10. Write any two main functions of CMFRI.

SECTION – B

Note: i). Answer any five questions.
ii). Each question carries 6 marks. (5 X 6 = 30 marks)

11. Discuss the present status of fisheries in India and Telangana.
12. Describe the open culture system.
13. Describe the Indian major carps.
14. Explain the Vannamei prawn characters with neat diagram.
15. Explain about fabrication of aquarium.
16. Explain the characters of any three aquarium fishes.
17. Describe about non-mechanized boats.
18. Describe the gill netting methods applied in marine fishing.
19. Describe any six Central Government Fisheries Institutions.
20. Explain the important characters of any two fresh water prawns.

MODEL QUESTION PAPER
FISHERIES – FIRST YEAR
PAPER III: SEED PRODUCTION TECHNOLOGY (THEORY)

Time: 3 Hours **Max. Marks: 50**

SECTION – A

Note: i). Answer all the questions.
ii). Each question carries 2 marks. (2 X 10 = 20 marks)

1. Expand TASSPARC.
2. What is external fertilization?
3. Define spawn and fry.
4. What is gamcha?
5. Define fish seed.
6. Expand H.C.G. What its use?
7. What is stripping method?
8. Mention any two examples of Cat fish.
9. What is artemia?
10. What is transportation?

SECTION – B

Note: i). Answer any five questions.
ii). Each question carries 6 marks. (5 X 6 = 30 marks)

11. Describe the life cycle of fish with the help of neat labeled diagram.
12. Describe the major riverine system found in India.
13. Write an essay on fish seed collection from natural resources.
14. Write the characters of Indian major carp seed.
15. Explain the seed identification key characters of Indian Major Carps.
16. Explain the fish brood stock management.
17. Describe the Induced breeding with pituitary gland extraction.
18. Describe the breeding techniques of common carps.
19. Describe the different types of fish seed hatcheries.
20. Describe the packing methods of fish seed.

MODEL QUESTION PAPER
FISHERIES
SECOND YEAR
PAPER – I: FISH FARMS AND POND MANAGEMENT (THEORY)

Time: 3 Hours **Max. Marks: 50**

SECTION-A

Note: (i) Answer all the Questions

(ii) Each Question carries 2 marks **10X2=20**

1. Define monoculture.
2. What is liming? Write its uses.
3. Define topography.
4. Define fish farm.
5. Name two types of organic manures.
6. Define Alkalinity.
7. Write the source of dissolved oxygen.
8. What is Zooplankton? Give an example.
9. Write any two protozoan diseases of fish.
10. Give any two examples of predatory fish and fish predators.

SECTION – B

Note: i). Answer any five questions.
ii). Each question carries 6 marks. (5 X 6 = 30 marks)

11. Explain the important steps involved in nursery pond management.
12. Write an essay on pre-stock management of the pond.
13. Write about the eradication of the following:
    a. Aquatic weeds
    b. Predators
    c. Insects
14. Describe the any three important physical parameters of culture ponds.
15. Describe any three important chemical factors of culture ponds.
16. Explain the food and feeding habits of fishes.
17. Write an essay on natural food organism.
18. Describe the supplementary feeds and their applications.
19. Describe the common bacterial disease of fishes.
20. Describe the good health management of fishes.

MODEL QUESTION PAPER
FISHERIES
SECOND YEAR
PAPER – II: AQUACULTURE (THEORY)

Time: 3 Hours **Max. Marks: 50**

SECTION-A

Note: (i) Answer all the Questions

(ii) Each Question carries 2 marks **10X2=20**

1. Define Aquaculture.
2. What is the use of liming in culture pond?
3. Write the scientific names of silver carp and grass carp.
4. Define polyculture with example.
5. Define fish predators.
6. What is pokkali fish farming?
7. Define BOD and COD.
8. Write any two examples of shrimps.
9. Write the live feed of ornamental fishes.
10. Name any two chemicals used in Aquaculture.

SECTION-B

Note: (i) Answer any five Questions

(ii) Each Question carries 6 marks **5X6=30**

(iii) Draw the Diagram

11. Write an essay on composite fish culture.
12. Write about integrated fish farming.
13. Explain about fish cum poultry farming.
14. Write about cage fish farming.
15. Write about management in fresh water prawn culture.
16. Explain the crab culture.
17. Describe the selection and transportation of prawn brooders.
18. Describe the culture of air breathing fishes.
19. Explain chemicals used in Fish Health Management.
20. Explain the role of probiotics in aquaculture.

MODEL QUESTION PAPER
FISHERIES – SECOND YEAR
PAPER III: RESERVOIR FISHERIES & POST HARVEST TECHNOLOGY (THEORY)

Time: 3 Hours Max. Marks: 50

SECTION – A

Note: i). Answer all the questions.
ii). Each question carries 2 marks. (2 X 10 = 20 marks)

1. What is impact of dams on fishes?
2. Define lotic region.
3. Expand LMD. Where is it located?
4. Define reservoir fisheres.
5. Define Dam.
6. Define over fishing.
7. Define gutting.
8. Define Isin glass.
9. Expand FFC and CUM.
10. Define brine.

SECTION – B

Note: i). Answer any five questions.
ii). Each question carries 6 marks. (5 X 6 = 30 marks)

11. Explain an essay on reservoir fisheries in Telangana.
12. Give an account on management of reservoir fisheries/
13. Describe the fisheries of Sriramsagar reservoir.
14. Write about various methods of fish preservation.
15. Explain various types of byproducts of prawns.
16. What is market? How is it useful to sale the fishes?
17. Describe the factors affecting on the fish price in markets.
18. Give an account on socio economic status of fishermen.
19. Describe the role of co-operatives in fishing sector.
20. Describe the characteristics of fish trade.

IX. LIST OF EQUIPMENTS (Per each college)

1.	Dissection Microscope	2
2.	Compound Microscope	4
3.	Centrifuge (with 6 tubes)	1
4.	Refrigerator –165 ltrs	1
5.	Balances	2
6	Monopan Balance	2
7.	Calorimeter	1
8.	pH Meter	1
9.	Salinometer	1
10.	Sechi Disc	2
11.	Aquarium with all accessories	2
12.	Dissection Box	4
13.	Plastic Pools (6 ′ x 3 ′ , 4 ′ x 3 ′)	Each 1
14.	Oven	1
15.	Thermometers	4
16.	Air Compressor	1
17.	D-81 Model hatchery unit	1
18.	Chinese hatchery	1
19.	Binocular Microscope	2
20	Aquarium gel guns	2

ADDRESS:

Systronics India Ltd., 2-2-647/A/3, II Floor, Shivam Road, New Nallakunta, Hyderabad-13 Ph. 27423584, 27401547	**Elico Ltd,** **B-90, A.P.I.E, Sanathnagar** **Hyderabad 500 018,** **Tel: +91 9866005446/ +91 40 44451234** **Fax: +91 40 23771639** hyd@elicoltd.com

A. Collaborating Institutions for Curriculum transaction

1. KVKs.
2. FTC WARANGAL.
3. All Universities in the State.
4. College of Fisheries.

B. On the Job Training Centers.

1. O/o The Commissioner of Fisheries, Matsya Bhavan, Street No- 4,Shanti Nagar,
   Masab Tank, Hyderabad - 28.
2. State Institute of Fishery Technology (SIFT), Jagannaikpur, Kakinada.
3. Fisheries Training Institute, WARANGAL.
4. Assistant Director of Fisheries, Rajendra Nagar, Hyderabad.
5. Fish seed farm LMD, Karimnagar.
6. Fish seed farms in the private sector in Telangana districts.
7. Fish landing centers, Sriram sagar project/ Koil sagar/Nizam sagar
8. Research stations of fisheries.
9. MPEDA, Visakhapatnam and Vijayawada.
10. Primary Fishermen co-operative Societies.
11. CIFA Station, Vijayawada.

X. Qualification of Lecturers

1. M.Sc Zoology with Fisheries / Aquaculture as specialization/ M.Sc Marine Biology or Marine culture
2. M.F.Sc.

X. Vertical Mobility

A) With Bridge Course

1. B.Sc (BZC)/FZC;
2. B.F.Sc. (Biotechnology/Microbiology).

B) Without Bridge Course.

1. B.A;
2. B.Com.

XII. REFERENCE BOOKS

1. Fish and Fisheries - V.G. Jhingran, Hindustan Publishing Corporation.
2. Inland Fishes - Vol-1&2 - P.K.Talwar and A.G. Jhingran.
3. Aquaculture, principles and Practices - T.V.R. Pillay, Fishing News Books.
4. Prawn and Prawn Fisheries - Kurian. C.V and V.O.Sebastian - Hindustan Publishing House.
5. Marine Fisheries - D.V. Bal and K.V.Rao- Tata Mc Grawhill Publishing Company.
6. The Wealth of India - Vol-IV, Fish and Fisheries -CSIR.
7. The Fishes of India Vol-1&2- Francis Day.
8. Fisheries and Aquaculture - Ravi Shankar Piska- Lahari Publication,Hyderabad.
9. Concepts of Aquaculture- Ravi Shankar Piska , Lahari Publication,Hyderabad.
10. Fish Biology - IVC Ist year Book - Ravi Shankar Piska and Divakara Chary - Telugu Academy, Narayanaguda, Hyderabad.
11. Fish Ecology - IVC Ist year Book - Jithender Kumar Naik and Ravi Shankar Piska- Telugu Academy, Narayanaguda, Hyderabad.
12. Marine Fisheries - IVC IInd year Book- Jithender Kumar Naik and Ravi Shankar Piska- Telugu Academy, Narayanaguda, Hyderabad.
13. Fish Industry and Post harvest technology - Ravi Shankar Piska and Jithender Kumar Naik - Telugu Academy, Narayanaguda, Hyderabad.
14. Fresh water Aquaculture - R.K. Rath- Scientific Publications
15. Fish Biology and Indian Fisheries - R.P.Parihar- Central Publishing house.
16. Fisheries (Telugu) - Ravi Shankar Piska and Others- Telugu Academy, Narayanaguda, Hyderabad.
17. Hand book of Fisheries and Aquaculture- ICAR, New Delhi.
18. An Introduction to Fisheries- S.S.Khanna, Central Book Depot, Allahabad.
19. Ecology and Environment - P.D.Sharma, Rastogi Publications, Meerut.
20. Fish Breeding- NCRT Publications, New Delhi.
21. Fish Culture - NCRT Publication, New Delhi.
22. Prawn Culture- Ravi Shankar Piska, Telugu Academy, Hyderabad.
23. Chepalu Upaadi (Telugu)-Dr.B.Laxmappa, RytuNestam publications, Hyderabad.
24. Aquarium (Telugu)-Dr.B.Laxmappa, Dolphin publications, MahabubNagar.

FISHERIES
FIRST YEAR
QUESTION BANK
Paper I: Biology of Fishes and Limnology

Time: 3hrs **Max. Marks: 50**

SECTION-I (Major Experiment)

Note: (i) Answer any one Question.
(ii) Each Question carries 20 mark **1X20=20 Marks**

1) Estimate the D.O of the given water sample
(OR)
Estimate the total Alkalinity of the given water sample

2) Estimate the total hardness of the given water sample
(OR)
Determine the salinity of the given water sample

~~3) Determine the PH value of the given water sample~~
~~(OR)~~
~~Determine the Nitrates, Phosphates of the given sample~~

4) Identify the plankton in the given water sample
(OR)
Estimate the PH- Alkalinity-Nitrates, Phosphates of given Soil.

5) Identify the given scales of Fish. Draw neat labelled diagram.
(OR)
Identification of food materials in gut of Fish

SECTION-II (Minor Experiment)

Note: (i) Answer any One Question
(ii) Each Question carries 10 marks **1X10=10 Marks**

6. Dissect and display the Digestive system of the given Fish. Draw the neat labelled diagram.
7. Dissect and display the digestive system of the given prawn. Draw the neat labelled diagram.
~~8. Dissect and display the cranial nerves of the given fish. Draw the neat labelled diagram.~~
9. Dissect and display the Nervous system of given prawn. Draw neat labelled diagram.
10. Dissect and display the Reproductive system of given prawn. Draw the neat labelled diagram.

SECTION-III (Identification/ Spotting)

Note: (i) Answer any Five Questions.
(ii) Each Question carries 2 marks **5X2=10 Marks**

11. Hippocampus
12. Macrobrachium rosenbergii
~~13. Tarpedo~~
14. Wallago attu
15. Chanos
16. Scoliodon
17. Exocoetus
18. Penaeus monodon
19. Homocercal tail
20. Pleopods.

SECTION-IV

Record **5 marks**
Viva- Voice **5 Marks**

FISHERIES
FIRST YEAR
QUESTION BANK
Paper II: Principles of Fisheries and Aquaculture

Time: 3hrs **Max. Marks: 50**

SECTION-I (Major Experiment)

Note: (i) Answer any one Question.
(ii) Each Question carries 20 mark **1X20=20 Marks**

1. Preparation of Aquarium with a well labelled diagram.
2. Write a procedure about breeding of Egg Layers Aquarium fishes.
3. Write a procedure about the maintenance of Aquarium.
4. Write a procedure about Breeding of live bearers.
5. ~~Write a procedure about preservation of Aquarium fishes.~~

SECTION-II (Minor Experiment)

Note: (i) Answer any One Question
(ii) Each Question carries 10 marks **1X10=10 Marks**

6. Determination of Aquarium plants through charts.
7. Visiting reports of ornamental fish breeding unit.
8. Determine the Aquarium live fishes.
9. Visiting report and main characters of Indian major carps.
10. ~~Write a report of eradication of Aquatic plants.~~

SECTION-III (Identification/ Spotting)

Note: (i) Answer any Five Questions.
(ii) Each Question carries 2 marks **5X2=10 Marks**

11. Wallago attu
12. ~~Labeo rohita~~
13. Macrobracchium mancolmsoni
14. Silvercarp
15. Hydrilla plant
16. Azolla plant
17. Common carp
18. Typha plant
19. Gold fish
20. Clarius batrachus

SECTION-IV

Record **5 marks**
Viva- Voice **5 Marks**

FISHERIES
FIRST YEAR
QUESTION BANK
Paper III: Seed Production Technology

Time: 3hrs **Max. Marks: 50**

SECTION-I (Major Experiment)

Note: (i) Answer any one Question.
(ii) Each Question carries 20 mark **1X20=20 Marks**

1. ~~Demonstrate the seed collection methods of murrel from natural resources.~~
2. Preparation methods of fish developmental stages.
3. Visiting report of fish hatcheries.
4. Preparation methods of prawn developmental stages.
5. Write procedure about Acclimatization of seed before stocking.

SECTION-II (Minor Experiment)

Note: (i) Answer any One Question
(ii) Each Question carries 10 marks **1X10=10 Marks**

6. Demonstration methods of Induced breeding in fishes with pituitary extract.
7. Demonstrate the Induced breeding in fish with ovatide, ovaprim
8. Write about the packaging methods of fish seed.
9. Write field report of prawn seed farms.
10. ~~Write about the counting methods of fish seed.~~

SECTION-III (Identification/ Spotting)

Note: (i) Answer any Five Questions.
(ii) Each Question carries 2 marks **5X2=10 Marks**

11. ~~Fingerlings~~
12. Nauplius
13. Fertilized egg of fish
14. Cast net
15. Spawn
16. Dragnet
17. Gravid female prawn
18. Gill net
19. Fry
20. Mysis larva

SECTION-IV

Record **5 marks**
Viva- Voice **5 Marks**

FISHERIES
SECOND YEAR
QUESTION BANK
Paper I: Fish Farms & Pond Management

Time: 3hrs **Max. Marks: 50**

SECTION-I (Major Experiment)

Note: (i) Answer any one Question.
(ii) Each Question carries 20 mark **1X20=20 Marks**

1. Estimate the PH values of the given sample
2. Estimate the dissolved oxygen of the given sample.
3. Estimate the chlorides of the given sample
4. Estimate the nitrates of the sample
5. ~~Estimate the sulphates of the sample~~

SECTION-II (Minor Experiment)

Note: (i) Answer any One Question
(ii) Each Question carries 10 marks **1X10=10 Marks**

6. Estimate the sediment analysis of soil alkalinity
7. Estimate the sediment analysis of organic matter
8. ~~Estimate the sediment analysis of electric conductivity~~
9. Determination of the qualitative analysis of plankton
10. Demonstration of liming and manuring in a fish pond

SECTION-III (Identification/ Spotting)

Note: (i) Answer any Five Questions.
(ii) Each Question carries 2 marks **5X2=10 Marks**

Identification of given spots

11. Vallisneria
12. Hydrilla
13. Clarias
14. Ranatra
15. ~~Tail rot disease of prawn~~
16. Costia
17. Nostoc
18. Artemia
19. Ground nut oil cacke
20. Vibryosis

SECTION-IV

Record **5 marks**
Viva- Voice **5 Marks**

FISHERIES
SECOND YEAR
QUESTION BANK
Paper II: Aquaculture

Time: 3hrs **Max. Marks: 50**

SECTION-I (Major Experiment)

Note: (i) Answer any one Question.
(ii) Each Question carries 20 mark **1X20=20 Marks**

1. Estimate the total alkalinity of the sample
2. Estimate the nitrates of the given sample
3. Estimate the temperature of the given sample
4. Estimate the PH value of the given sample
5. ~~Estimate the chlorides of the given sample~~

SECTION-II (Minor Experiment)

Note: (i) Answer any One Question
(ii) Each Question carries 10 marks **1X10=10 Marks**

6. Field visiting report of fish seed production farm
7. Preparation method of integrated fish culture farm
8. Demonstrate the fabrication of cages
9. Demonstrate the preparation of artificial feed
10. ~~Demonstrate the use of soil testing kit~~

SECTION-III (Identification/ Spotting)

Note: (i) Answer any Five Questions.
(ii) Each Question carries 2 marks **5X2=10 Marks**

11. Dropsy
12. ~~Fry~~
13. Aerator
14. Yellow head and virus disease
15. Trail netting
16. Spawn
17. Macrobrachium resenbergii
18. Gold fish
19. Hatchiling
20. Argulus

SECTION-IV

Record **5 marks**
Viva- Voice **5 Marks**

FISHERIES
SECOND YEAR
QUESTION BANK
Paper III: Reservoir Fisheries & Post Harvest Technology

Time: 3hrs **Max. Marks: 50**

SECTION-I (Major Experiment)

Note: (i) Answer any one Question.
(ii) Each Question carries 20 mark **1X20=20 Marks**

1. Demonstrate the processing techniques of fish through charts.
2. Demonstrate the stages of packing methods through charts.
3. Analysis of profitability in different marketing in intermediaries.
4. Demonstrate the preservation methods of local fishes
5. ~~Demonstrate the types of marketing channels through charts~~

SECTION-II (Minor Experiment)

Note: (i) Answer any One Question
(ii) Each Question carries 10 marks **1X10=10 Marks**

6. Field visit report of the cold storage units
7. Visiting report of local reservoirs in Telangana
8. Demonstration methods of processing plants
9. Field report of district fisheries office
10. ~~Submit the field report of National fisheries development board (NFDB) Hyderabad~~

SECTION-III (Identification/ Spotting)

Note: (i) Answer any Five Questions.
(ii) Each Question carries 2 marks **5X2=10 Marks**

11. Catla catla
12. ~~Penaeus monodon~~
13. Oil sardine
14. Machrobrachium malcomsonii
15. Common carp
16. Isinglass
17. pomfret
18. fish meal
19. Indian mackeral
20. Shagreen

SECTION-IV

Record **5 marks**
Viva- Voice **5 Marks**

30% DELETED CONTENT IN VIEW OF COVID-19 PANDEMIC

FIRST YEAR

PAPER I- BIOLOGY OF FISHES AND LIMNOLOGY

S No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions Deleted	Six Marks Questions Deleted
1	**Unit-1** Introduction to Biology of Fishes	1.0 Introduction to Taxonomy Branches of Ecology	1. What is the need of classification 7.What is Pedology	NILL
2	**Unit-2** General Characters Classification of Fish and Prawn	2.2 General Characters of Fishes 2.2 Classification of Fishes	2.Define sexual Dimorphism in fishes Give one example 3. What are lung fishes Give example	4.What are the difference between Condrichthyes and Osteichthyes fishes
3	**Unit-3** Morphology of Fish and Prawn	Skeleton and Integumentary System in Fishes Cephalic appendages	4.Write the name of bones present in lower jaw of fish 6. how many bones are present in upper jaw of fish. Mention the names	4.Give an account on cephalic appendages in Prawns
4	**Unit-4** Digestive System of Fish and Prawn	4.3 Physiology of Digestion in Fish 4.5 Physiology of Digestion in Prawn Associated Glands	7. Write the function of gill rockers in Fish. 8. Which enzymes are help in digestion of Carbohydrates 12.Where the food absorption takes place in alimentary canal of prawn	2. Describe the digestive glands of fish 2. Describe the digestive glands of fish
5	**Unit-5** Respiratory and Circulatory System of Fish and Prawn	5.3 Circulatory System of Fish 5.5 Circulatory System of Prawn Accessory respiratory organs in Fish	2.Wich blood cells are helpful in clotting of the blood 3.Define hemoptysis 11.Write the any two names of arteries in prawn	4.A murrel survives our side the water –explain
6	**Unit-6** Excretory Osmo Regulatory System of Fish and Prawn	6.2 Excretory System of Fish Structure of the kidney 6.5 Excretory System of prawn	4. What are ammonotelic animals? Give an Example. 6.Draw the diagram of nephron of Fish kidney	4.Describe the excretory system of prawn
7	**Unit-7** Nervous, Endocrine	7.2 Nervous, systems of Prawn Thyroid gland in Fishes 7.4 Endocrine system in prawn	2. How the brain is formed in prawns.	6. Explain the thyroid gland in Fishes 7. Discuss the endocrine system in prawn

	systems of Fish and Prawn			
8	Unit-8 Reproductive System of Fish and Prawn	8.1 Reproductive System of Fish 8.2 Reproductive System of Prawn hatching and post-embryonic development	2.Define Sexual dimorphism 4. What is Claspers? Write the uses of Claspers 8. What is the life span of prawn in General?	2.Give an account on embryonic developments in fishes
9	**Unit-9** Limnology	9.2.2 Reservoir Ecosystem 9.5 Ecological Pyramids biotic components of the sea 9.5Trophic levels of ecological pyramids143,144,145,146	2. Write the names of Zones in pond Ecosystem 6. Define Estuary. 10.Draw the diagram of number pyramid	2. Write about the different Zones of Sea. . What are trophic levels? Write about the significance of ecological pyramids.
10	**Unit 10** Biogeochemical Cycles	10.2.3 Nitrogen Cycle 10.2.4 Oxygen Cycle 10.3 Aquatic Pollution and its effect on Fisheries 10.2.2 Carbon Cycle	4.Write the percentage of Nitrogen and Oxygen in Atmosphere 6. What is nitrification 8. In which forms the Nitrogen was utilized by plants. 13. Mention the names of cities polluted the river Ganga.	3.Give an account on carbon cycle

FISHERIES - FIRST YEAR
PAPER II: PRINCIPLES OF FISHERIES AND AQUACULTURE

Sl No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions Deleted	Six Marks Questions Deleted
1	**Unit-1** Introduction of Aquaculture	1.4 Exports Trends of Aquatic Products Major Export Market	3. Write Export Report of Aquatic Products during year 2010-11 5.Write any two major Export Aqua Product market in the world	NILL NILL
2	**Unit-2** Types of Aquaculture	2.3 Brackish water Aquaculture	2.3Brackish water Aquaculture	3.Explain the export trends of Aquatic Products 2.Explane role of various Organizations associated with Brackish water Aquaculture
3	**Unit-3** Culture Systems	3.4 Recirculated system 3.3Closed Culture system	3.What is water Recirculation system? Give an example Write the name of bones present in lower jaw of fish	4.Give an account on cephalic appendages in Prawns 2.Explain the closed culture system
4	**Unit-4** Cultivable fauna in Aquaculture	4.4 Cultivable lobsters 4.6 Cultivable molluscans 4.3 Cultivable prawns	4.Write any two Scientific names and common names 6.Give any two examples of Cultivable molluscans	5.Discuss about any Cultivable shrimps
5	**Unit-5** Exotic Species	5.6 Vannamei Prawn 5.5 Pangas cat fish 5.1 Tilapia	3.Write any two species of vannamei prawn 5.Write two characters of pangas cat fish	3.Draw the diagram of tilapia fish and write any three main characters of this fish
6	**Unit-6** Fish Biotechnology	6.1 Cryopreservation of gametes 6.2 Trangenesis fish	1.Define Cryopreservation of gametes	2.Explain the Trangenesis in fish
7	**Unit-7** Aquarium	7.6 ornamental fish diseases and their control	5.Write any two common diseases found in ornamental fishes	4.Deserybe the ornamental fish diseases and their control
8	**Unit-8** Fishing Craft and Gear	8.1 Mechanised craft 8.4 Fabrication and Preservation of Gears	4.What is Trolling vessel	4.Explain the different Preservation methods of Gears
9	**Unit-9** Fishing Methods	9.1 Trap Fishing 9.5 Drag Net Fishing	1.What is Trap fishing	2.Explain the Drag Netting method
10	**Unit-10** Fisheries institutions	10.3 HRD Fisheries		3.Write the Maine Characters of Fisheries

FISHERIES - FIRST YEAR

PAPER: III: SEED PRODUCTION TECHNOLOGY

Sl No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions Deleted	Six Marks Questions Deleted
1	**Unit-1** Introduction to Seed Production	1.3 Present Status of Prawn and shrimp seed production	2.Expand Ossparc	
2	**Unit-2** Life Cycles of Fish Prawn and Shrimp	2.4 Life cycles of Shrimp	NILL	3.Describe the life cycles of Shrimp with help of diagram
3	**Unit-3** Seed resources in India	3.3 Shrimp Seed resources	NILL	2. Explain the Deferent Shrimp Seed resources
4	**Unit-4** Major Carp and Murrel Seed Production	4.3 Murrel Seed Production	NILL	2.Discrib the Murrel Seed Method
5	**Unit-5** Induced Breeding Technology	5.5 Factors Effecting Induced Breeding	10.What Environmental Factors Control the Reproduction of Fish	3.Describe the factor Effecting Induced Breeding
6	**Unit-6** Breeding of Major Carps Common Carps and cat fish	6.4 Breeding of cat fish	NILL	2.Write an essay on Breeding of Cat Fish.
7	**Unit-7** Hatchery Management	7.4 Chinese Hatchery	5.Write Maine components of Chinese Hatchery	3. Describe Maine components and operation of the Chinese Hatchery
8	**Unit-8** Seed Selection, Packing and Transportation	8.1 Introduction	NILL	3.Discrib the Seed Selection Method

FISHERIES - SECOND YEAR
PAPER-I-FISH FARMS & POND MANAGEMENT

Sl. No.	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions Deleted	Six Marks Questions Deleted
1	UNIT-1 Introduction to Fish Farms and Pond Management	1.2 Cultural practices base on different aspects 1.3 Maintenance and Management of Fish Farm	3. Define intensive culture 4. Differentiate between complete farming and restricted farming 5. What is Bhasabadha culture? 10. What aspect should know and Aquaculturist to manage and maintain the Fish Farm	NILL
2	UNIT-2 Layout Design of Fish Farm	2.4 Design and Construction of Fish Farm	6. What is Free Boards ? 9. What is Prismodial Rules ? 10. In what ways lining of the Pond can be done?	2. Describe the Design and construction of the Fish Farm.
3	UNIT-3 Types of Ponds	3.2.3 Methods of fertilization 3.2.5 stocking 3.4 Stocking pond management	6. What is shirgur Method of manuring 10. Define stocking 13. What is stocking density ?	3.Describe the stocking pond management.
4	UNIT-4 Pond Management	4.4 Sanitizer 4.5 Eradication of aquatic weeds. Floating weeds 4.3. Post stocking management	5. What are sanitizer ? Give two examples. 6. mention two surface floating weeds 7. mention any two submerged rooted weeds.	4. Write an essay on post stock management of the pond.
5	UNIT-5 Water Quality Management in Ponds	5.2 Physical Factors Oxygen depletion may be controlled by the following methods 5.5 Water Filtration and Aeration	3. Write the effect of temperature on aquatic organism. 9. Write any two control methods or Oxygen depletion.	5. Write the role of aeration in water quality management. 6. Write importance of filtration in water quality management

		5.5.1 Role in Filter in the water quality management		
6	UNIT-6 Feed Management	Rotifera 6.8 Bio-Enriched feeds How are protein and FCR	4. What are Rotifers ? Write any two examples. 10. What are Bioenriched feeds? 11. Expand FCR	6. write short note on a) Bio Enriched Feed b) Feed attractants
7	UNIT-7 Health Management	7.4 Common shrimp diseases 7.4.6 Environmental disease 7.4.3 Fun gal disease	10. Expand SEMBV. 12. How the gas bubble disease cause in shrimp farming 13. what is acidosis and alkalosis?	1. explain any three viral disease of fish 5. Describe the common fungal disease found in shrimp.
8	UNIT-8 Routine Pond Management	8.4 Reasons for fish and prawn mortality	5. Define Eutrophication. Write its adverse effect on fish culture	2. Explain the reason for fish and prawn mortality.

FISHERIES - SECOND YEAR
PAPER II- AQUACULTURE

Sl. No.	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions Deleted	Six Marks Questions Deleted
1	UNIT-1 Introduction to Aquaculture	1.4.2 Coastal Aquaculture 1.5 Hazards for Aquaculture	5. What is coastal aquaculture 7. Indicate the main Hazards of aquaculture	NILL
2	UNIT-2 Composite Fish Culture	b) Application of manure 2.3 Superiority over the monoculture 2.4 Management of composite Fish Farm	7. What are the uses of manure application in culture ponds? 8. Define monoculture	3. Explain the management Techniques of composite Fish culture.
3	UNIT-3 Poly Culture	3.1 Introduction Advantages of Poly Culture		2. Explain the Advantage of Poly Culture
4	UNIT-4 Integrated Fish Farming	4.2.2 Advantages of paddy cum – fish culture 4.3.7 Integrated fish cum duckery farming Integrated fish cum piggery farming	2. What is called paddy cum fish farming?	5. Write a short note on (i) Benefits of Fish cum duck farming (ii) Benefits of Fish cum piggery.

5	UNIT-5 Cage Culture, Pen Culture and RAS Aquaponics	5.3 Pen Culture 5.4 RAS – Aquaponics	8. What is meant by pen fish culture? 9. which state is suitable for pen fish culture	2. Write about fish culture in pens 4. Describe about RAS Aquaponics.
6	UNIT-6 Crustacean and Molluscan Fisheries sport and game fishes	6.7 Pearls 6.7.1 Introduction	9. Mention any two names of Pearls Oysters 10. Who is the father of pearl Industry?	1. Write about the essential for the establishment of pearl hatchery. 4. Write an essay on sport fishery
7	UNIT-7 Air Breathing and Ornamental Fish Culture	7.2 Ornamental fish Culture 7.2.1 Introduction 7.2.5 Breeding	4. What are ornamental fishes? Give an example.	2. Describe the breeding and culture of ornamental fish.
8	UNIT-8 Equipment and Chemicals used in Aquaculture	8.03 Uses of water testing and soil testing kits soil testing	5. How do you test soil quality	3. Write the uses of Soil testing kits.
9.	UNIT – 9 Role of Probiotics in Aquaculture	9.2 Role of probiotics Play immense role in aquaculture they do	NILL	3. Discuss the probiotics immense role in aquaculture

FISHERIES - SECOND YEAR

PAPER-III RESERVOIR FISHERIES & POST HARVEST TECHNOLOGY

Sl. No.	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions Deleted	Six Marks Questions Deleted
1	UNIT-1 Introduction	1.1 Introduction to Reservoir Fisheries 1.2 Post-Harvest Technology of Fisheries	1. Define Reservoir. 9. Define Post Harvestation fishers	2. Explain the post-harvest technology of fishery.
2	UNIT-2 Reservoir Fisheries	2.3 Reservoir of India and United A.P 2.3.1 Reservoir of India 2.2 Reservoir Ecology	9. Gives names of any four Major reservoir in India	3. Write about reservoir ecology.
3	UNIT-3 Fisheries of Koilsagar, Sriramsagar, Palair and LMD Reservoirs	3.2 Koilsagar	3. Write the uses of koilsagar reservoir.	1.write an essay about koilsagar reservoir

4	UNIT-4 Reservoir Fishery Development	4.7 Financial Assistance for stacking 4.8 Training of beneficiaries.	NILL	Describe the Socio – Economics Reservoir Fisheries.
5	UNIT-5 Over Fishing and Effect of Dams on Fish Migration	5.2 Over Fishing 5.4 Effects of dams on fish migration and fisheries	5. Expand EEZ	1. Give a detailed account on dams and barrages and fish migration.
6	UNIT-6 Fish Processing and Preservation	6.3.12 Demerits of Fish preservation	6. write two demerits of fish preservation	3. What are the demerits of fish preservation?
7	UNIT-7 By Products of Fish and Prawn, Value Addition to Fishery Products	7.3 Value addition fishery products	NILL	3. Describe value added products from fish
8	UNIT-8 Marketing and Marketing Intermediaries	8.4 Marketing system flow channel	7. Which type of market channel is useful to the consumer?	3. Discuss various fish marketing channels.
9.	UNIT – 9 Fishery Economics and Co-Operatives	9.1 Role of Fisheries sector in India's Economic Development	NILL	1. Explain the role fisheries sector in Indian Economic development.
10	UNIT Export and Quality Control	10.1 Export promotion Measures	NILL	1. Give an account on export of aqua – products.

VOCATIONAL CURRICULUM-2020

(For the Academic year 2020-21)

[70% CONTENT IN VIEW OF COVID-19 PANDEMIC]

SERICULTURE

(COURSE CODE: 112)

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

Dr. A. Ashok I.A.S
COMMISSIONER

INTERMEDIATE EDCATION
Government of Telangana
Nampally, Hyderabad- 500001
Phone: 040-24655915

Fore word

In any developing society with a booming population, Vocational Education occupies an important position for generating large scale employment opportunities. Viewed in this context the importance of Vocational Education for our country cannot be over emphasized. Vocationalization of Secondary Education was introduced in 1988 at the Intermediate level. Recently, the Government of India has developed a National Skills Qualification Framework for establishing a clear path for vocational education from the school level to the highest level. The Department of Intermediate Education has recently framed a new curriculum to bring greater value to the system of vocational education. The primary aim of this reform is to prepare the students with employable skills for absorption in organized sectors and in few cases, even for self-employment.

State Institute of vocational education and Board of Intermediate Education, Telangana have reviewed the curriculum of vocational courses of second year from the academic year 2019-20 in order to reorient them for their practical approach. Greater emphasis is now being placed on Laboratory work and on the job training.

Simultaneously, The State Institute of Vocational Education and the department of Intermediate Education are presently making efforts to upgrade the quality of infrastructure in the colleges to meet the challenges of the changed curriculum. I am confident that the revised curriculum of second year for Vocational Courses would prove to be beneficial to the students in the vocational stream and help them train in need based productive courses leading to gainful employment.

Sd/- Dr. A.Ashok
COMMISSIONER OF INTERMEDIATE EDUCATION

SCHEME OF INSTRUCTION AND EXAMINATION
ANNUAL SCHEME OF INSTRUCTION AND EXAMINATION
SERICULTURE
FIRST YEAR

Part-A		Theory		Practicals		Total	
		Periods	**Marks**	**Periods**	**Marks**	**Periods**	**Marks**
1.	English	150	50	0	0	150	50
2.	General Foundation course	150	50	0	0	150	50
	Part-B						
3.	**Paper-I** Moriculture	135	50	135	50	270	100
4.	**Paper-II** Mulberry Farm Management	135	50	135	50	270	100
5.	**Paper-III** Silkworm Seed Technology	135	50	135	50	270	100
Part-C							
6.	**OJT**	0	0	365	100	365	100
	Total	**705**	**250**	**770**	**250**	**1475**	**500**

*on the Job Training for 1st year from 1st November to 31st December

SECOND YEAR

Part-A		Theory		Practicals		Total	
		Periods	**Marks**	**Periods**	**Marks**	**Periods**	**Marks**
1.	English	150	50	0	0	150	50
2.	General Foundation course	150	50	0	0	150	50
	Part-B						
3.	**Paper-I** Sericulture Extension & Silkworm Pathology	110	50	115	50	225	100
4.	**Paper-II** Silkworm Rearing Technology	110	50	115	50	225	100
5.	**Paper-III** Post Cocoon Technology	110	50	115	50	225	100
Part-C							
6.	**OJT**	-	-	450	100	450	100
	Total	**630**	**250**	**795**	**250**	**1425**	**500**
TOTAL FIRST YEAR AND SECOND YEAR MARKS 1000							

*OJT Programme for 2nd year students from 1st August to 31st October.

EVALUATION OF ON THE JOB TRAINING:

The "On the Job Training" shall carry 100 marks. During on the job training the candidate shall put in a minimum of 90 % of attendance.
The evaluation shall be done in the last week of January.

Marks allotted for evaluation:

S.No	Name of the activity	Max. Marks allotted for each activity
1	Attendance and punctuality	30
2	Familiarity with technical terms	05
3	Familiarity with tools and material	05
4	Manual skills	05
5	Application of knowledge	10
6	Problem solving skills	10
7	Comprehension and observation	10
8	Human relations	05
9	Ability to communicate	10
10	Maintenance of dairy	10
	Total	100

NOTE: The On the Job Training mentioned is tentative. The spirit of On the Job training is to be maintained. The colleges are at liberty to conduct on the job training according to their local feasibility of institutions & industries. They may conduct the entire on the job training periods of (363) I year and (450) SECOND YEAR **either by conducting classes in morning session and send the students for OJT in afternoon session or two days in week or weekly or monthly or by any mode which is feasible for both the college and the institution**. However, the total assigned periods for on the job training should be completed. The institutions are at liberty to conduct On the Job training during summer also, however there will not be any financial commitment to the department.

SERICULTURE
I YEAR
PART B – VOCATIONAL SUBJECTS
PAPER – I: MORICULTURE (THEORY)

S.No	NAME OF THE UNIT	No. of Periods	Weightage in marks	Short Answer Questions	Essay questions
1.	**History of Sericulture** – Introduction, History, Silk Road, ~~status of silk industry~~	5	2	1	-
2.	**Morphology of Mulberry**- Introduction, Distribution of Mulberry , morphology of ~~mulberry,~~ Mulberry varieties: wild, cultivated, and hybrids	20	8	1	1
3.	**Taxonomy of Mulberry**- Introduction, mulberry, taxonomy, conditions required for mulberry growth	20	8	1	1
4.	**Soils and Preparation of Land**- Introduction, types of soils, soils in India & Telangana, ~~Soil properties~~, soil P^H , Soils suitable for mulberry cultivation, reclamation of problematic soils Selection of land, land preparation, soil erosion and conservation.	20	8	1	1
5.	**Propagation of Mulberry**- Introduction, sexual propagation, asexual propagation, (Cuttings, grafting & Layering)	10	8	1	1
6.	~~Kisan Nursery Raising~~, Preparation of nursery bed, Preparation of cuttings, Plantation, Fertilizer application and plant protection, Uprooting of nursery and economic of nursery raising.	10	8	1	1
7.	**Cultivation and Cultural Practices**- Introduction, garden implements, selection of mulberry varieties, mulberry plant spacing, paired row system, row system & pit system , weeds and inter-cultural operations, pruning , methods of irrigation and moisture conservation	20	8	1	1
8.	**Manures & Fertilizers** – Introduction, Manures, types of fertilizers, Organic & Inorganic Vermi- compost, Bio fertilizers, Types of plant nutrients application methods and schedules.	20	10	2	1
9.	**Mulberry Harvesting**- Introduction , methods of harvesting , Transportation and ~~preservation of mulberry leaves,~~	10	8	**1**	**1**
	Total	**135**	**68**	**10**	**8**

SERICULTURE
I YEAR
PART B – VOCATIONAL SUBJECTS
PAPER – II: MULBERRY FARM MANAGEMENT [THEORY]

S. No.	Name of the unit	No. of Periods	Weightage in marks	Short answer questions	Essay Questions
1	**Farm Management**- Introduction, mulberry Farming, ~~labour management~~, farm records.	5	8	1	1
2	**Estimation of Leaf Yield** – Introduction, Methods of estimation.	20	6	0	1
3	**Mulberry Waste Management** – Introduction Composting of waste leaf	20	8	1	1
4	**Economics of Mulberry cultivation** – Introduction, ~~Nursery~~, Rain-fed cultivation, irrigation cultivation, Economics of 1 acre of Mulberry	20	8	1	1
5	**Mechanization in Mulberry cultivation :** Introduction, ~~Mechanization and its importance, Scope for mechanization in mulberry cultivation~~ Tools equipment and machines for mulberry cultivation.	20	8	1	1
6	**Mulberry Diseases** – Introduction, fungal diseases, ~~bacterial diseases~~, viral diseases, and their management	20	8	2	1
7	**Mulberry pests** – Introduction of insect pests, different pests viz, infesting mulberry and their Management		8	2	1
8	**Nutritional deficiency symptoms in Mulberry –**Symptoms for identification of different nutritional deficiencies and their Management	20	8	1	1
9	**Equipments for application of chemicals-** Introduction,- to sprayers dusters and other devices used for application of chemicals	10	8	1	1
	Total	**135**	**68**	**10**	**8**

SERICULTURE
I YEAR
PART – B – VOCATIONAL STUDIES
PAPER – III: SILKWORM SEED TECHNOLOGY [THEORY]

S. No.	NAME OF THE CHAPTER	No. of Periods	Weightage in marks	Short answer questions	Essay Questions
1	**Systematic position of Bombyx mori: –** Introduction: Classification of Silkworms, ~~Types of silkworms.~~	5	8	1	1
2	**Morphology and Life History of Bombyx mori :** Introduction, Morphology of Life stages, ~~Metamorphosis.~~	20	10	2	1
3	**Parental Races:** Introduction, Global distribution, Seed Organization, Races, ~~Voltinism~~ and Moultinism.	20	8	1	1
4	**Grainage Building:** Introduction, Pre-requisites for Grainage operations, Grainage Building.	20	8	1	1
5	**Grainage Equipments:** Grainage Equipments and their uses.	20	8	1	1
6	**Grainage Operations :** Introduction, Selection of Seed Races, Procurement of Seed, Sex Separation, Synchronization of Moths, Mother emergence, Coupling, De-coupling, De-pairing, Oviposition, Grainage Registers.	20	8	1	1
7	**Seed Production :** Introduction, Preparation of Layings, Mother moth examination, Surface sterilization, Assessment of Layings, ~~Incubation~~ of Silkworm eggs.		2	1	0
8	**Acid Treatment and Cold Storage :** Introduction, Types of eggs, Physical and chemical stimulants, Acid Treatment, ~~Cold storage of eggs~~, Transportation of eggs.	20	10	2	1
9	**Seed Economics** – Introduction, Estimate the economics of grainage.	10	6	-	1
	Total	**135**	**68**	**10**	**8**

SERICULTURE
SECOND YEAR
PAPER I : SERICULTURE EXTENSION & SILKWORM PATHOLOGY [THEORY]

S.No	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay Questions
1	**Non-Mulberry Silkworms :** Introduction to non-mulberry, distribution, salient features of non- mulberry silkworms	10	8	1	1
2	**Life Cycles of Non- Mulberry Silkworms** Introduction, life cycles of Tasar, Eri & Muga silkworms, ~~Non Mulberry Silkworms Rearing~~.	15	10	2	1
3	**Silkworm Diseases** Introduction, Protozoan, ~~bacterial,~~ viral and fungal diseases.	15	8	1	1
4	**Silkworm Pests** Introduction, silkworm major and minor pests	10	2	1	-
5	**By-Products** Introduction, silkworm rearing and reeling by-products and their Utilization.	10	8	1	1
6	**Extension** Introduction, Objectives of Sericulture Extension Education, ~~Teaching methods of Extension~~, Audio Visual Aids.	10	8	1	1
7	**Role of Women in Sericulture:** Introduction, Role of women in Sericulture	10	8	1	1
8	**Scope for development of Sericulture:** Introduction, Scope for self-employment in Sericulture, Government Schemes, ~~Schemes for Financial Assistance.~~	15	8	1	1
9	**Entrepreneurship:** Introduction, EDP in Mulberry nursery, ~~EDP in Chawki rearing.~~	15	8	1	1
	Total	**110**	**68**	**10**	**8**

SERICULTURE
SECOND YEAR
PAPER II: SILKWORM REARING TECHNOLOGY [THEORY]

S. No.	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay questions
1	**Rearing House** – Introduction, Selection of Building site- CSB model Rearing house, ~~Types of rearing houses.~~	10	8	1	1
2	**Rearing Equipments –** Introduction, **E**quipment and Uses, Chemicals used in Rearing House.	15	10	2	1
3	**Preparation for Rearing** – Introduction, Cleaning, Disinfection Methods, ~~Preparation of disinfectants~~, maintenance of hygienic conditions.	10	8	1	1
4	**Environmental Conditions** – Introduction, Temperature, Humidity, Air, Light - ~~Regulation of Environmental Conditions.~~	10	8	1	1
5	**Hatching and brushing –** Introduction, ~~incubation~~, ~~Handling of Eggs~~, Blackboxing, hatching and hatching percentage, brushing and Methods of brushing.	10	8	1	1
6	**Chawkie Rearing –** Introduction, quality of leaf, leaf selection, feeding schedules, bed cleaning, spacing, moulting, Chawkie Rearing Methods, ~~Chawkie rearing centres (CRC's)~~	25	8	1	1
7	**Late age Rearing –** Introduction, quality of leaf, leaf selection, feeding schedules, bed cleaning, spacing, moulting.	10	8	1	1
8	**Spinning, mounting** – Introduction, Ripening of worms, Process of spinning, Mounting, Type of Mountages, Environmental Conditions, care during mounting, cocoon harvesting, transport.	10	8	1	1
9	**Bivotine Rearing-** Introduction, Bivoltine races, Rearing aspects, ~~Advantages of bivoltine rearing~~	10	2	1	-
	Total	**110**	**68**	**10**	**8**

SERICULTURE
SECOND YEAR
PAPER III: POST COCOON TECHNOLOGY [THEORY]

S.No	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay questions
1	**Silk Reeling Industry** – Introduction, Importance of reeling industry, scope and limitations, ~~properties of silk~~	8	8	1	1
2	**Cocoon Quality** – Introduction, physical characters, commercial characters, ~~principles for assessment~~, model problems.	15	10	2	1
3	**Cocoon Sorting** – Introduction, Selection of Raw Material, Tactile and Numerical Tests, Good cocoons, defective cocoons, and model problems.	10	8	1	1
4	**Cocoon Marketing** – Introduction, Types of Cocoon Markets, Importance of Cocoon Markets, Rules and Acts, ~~Price Fixation, model problems,~~ Markets in Karnataka, Andhra Pradesh and Telangana State.	7	6	-	1
5	**Cocoon Stifling** – Introduction, Stifling methods, storage of cocoons, sorting of cocoons, de flossing, Riddling, mixing.	15	8	1	1
6	**Cocoon cooking and Brushing** – Introduction, cooking and methods of cooking, Brushing and methods of Brushing	15	14	1	2
7	**Reeling –** Introduction, Reeling Apparatus, Reeling operations, ~~Reeling machines,~~ Re-reeling , Silk Examination, Lacing and skeining, Book making and Baling, Introduction to Non-mulberry cocoon reeling.	15	10	2	1
8	**Raw Silk Testing and Economics** – Introduction, ~~Testing Methods, Parameters~~, Standard Testing appliances, ~~classification of Raw silk, Economics,~~ Waste Cocoons.	15	2	1	-
9	**Silk Dyeing** – Introduction, ~~Dyes, Types~~ of Dyes, Degumming, Methods of dyeing.	10	2	1	-
	Total	**110**	**68**	**10**	**8**

MODEL QUESTION PAPERS

SERICULTURE
FIRST YEAR
PAPER – I: MORICULTURE.

Time: 3 Hours. **Section- A.** **Max.Marks: 50.**

Note: Answer ALL questions.
Each question carries TWO Marks. 10x2= 20 Marks.

1. What is Silk Road?
2. Draw the structure of Mulberry Seed?
3. Write the classification of Mulberry Plant?
4. What is PH of soil? What is the suitable PH for Mulberry?
5. What is Layering?
6. What is Kisan Nursery?
7. What is pruning?
8. Expand FYM: NPK?
9. What is Vermi-compost?
10. How do you transport Mulberry leaves?

Section- B.

Note: Answer any FIVE questions. 5x6=30 Marks.
Each question carries SIX Marks.
Draw diagrams where-ever necessary.

11. Explain about Hybrid varieties of Mulberry?
12. Write notes on climatic conditions required for Mulberry cultivation?
13. Write about the soil of India and Telangana?
14. Explain about Sexual propagation of Mulberry?
15. Discuss in detail about Kisan Nursery?
16. Explain about Weed control methods?
17. Write brief note on irrigation methods?
18. Write about Bulky Organic Manures?
19. Describe the methods of harvesting of Mulberry leaves? What are the advantages and disadvantages in each method.
20. Write short notes on:
    a) Mulberry cutting.
    b) Compost.
    c) Name some micro-nutrients.

SERICULTURE
FIRST YEAR
PAPER II: MULBERRY FARM MANAGEMENT

Time: 3 Hours. **Section- A.**

Max.Marks: 50.

Note: Answer ALL questions.
Each question carries TWO Marks. 10x2= 20 Marks.

1. Mention different types of farms?
2. When do you estimate the leaf?
3. What is re-cycling?
4. Mention some farm implements?
5. What is Mechanization?
6. What are symptoms of Leaf Blight?
7. What is the causative organism of Tukra?
8. What are the control measures of Nitrogen deficiency?
9. Write the function of duster?
10. Name some Mulberry pests?

Section- B.

Note: Answer any FIVE questions. 5x6=30 Marks.
Each question carries SIX Marks.
Draw diagrams where-ever necessary.

11. Write about Mulberry farm records?
12. "Leaf estimate improve crop yields" Comment?
13. Explain in detail about composting of Mulberry Leaf?
14. Write about the economics of irrigated Muberry?
15. Discuss about Tools and Equipments for Mulberry Cultivation?
16. Write detail account on "Root Knot Disease" with diagrams?
17. Describe about Mealy Bug in detail?
18. Explain about deficiency symptoms of Macro-nutrients?
19. Write about the importance of equipments for application of chemicals in mulberry garden?
20. Write short notes on:
    d) Leaf Rust.
    e) Mites.
    f) Ranching.

SERICULTURE
FIRST YEAR
PAPER III: SILKWORM SEED TECHNOLOGY

Time: 3 Hours. **Section- A.**

Max.Marks: 50.

Note: Answer ALL questions.
Each question carries TWO Marks. 10x2= 20 Marks.

1. Name some of the Non-Mulberry Silkworms?
2. How do you Identify Male and female pupae?
3. Mention the parental races of silkworms?
4. Define Grainage?
5. What is the use of Ant well?
6. Mention some Bad Cocoons?
7. What are the advantages of Loose eggs?
8. Define Acid Treatment?
9. Mention the different types of eggs?
10. Define Surface Sterilization?

Section- B.

Note: Answer any FIVE questions. 5x6=30 Marks.
Each question carries SIX Marks.
Draw diagrams where-ever necessary.

11. Write a brief note on classification of Bombyx mori?
12. Write about the Morphology of Silkworm Larva?
13. Write about the Parental races based on place of origin?
14. Discuss about the Components of the Grainage Building?
15. List out the Grainage equipments and its uses?
16. Write in detail about preservation of Seed cocoons?
17. Describe about Loose egg preparation of silkworm eggs?
18. Explain the process of Hot Acid Treatment?
19. Define the process of Mother Moth Examination?
20. Write short notes on:
    g) Transport of Eggs.
    h) Good Laying.
    i) Ovi-position.

SECOND YEAR
SERICULTURE

PAPER – I: SERICULTURE EXTENSION & SILKWORM PATHOLOGY

Time: 3 Hours **Max. Marks: 50**

SECTION-A

Note: (i) Answer all the Questions
(ii) Each Question carries 2 mark **10X2=20 Marks**

1. What is Polyphagous?
2. What is Chalooni?
3. What are the Items made of Muga Silk?
4. Name the casual organism of Muscardine & Aspergillus?
5. What is Uzicide?
6. What are the uses of Silk Gland?
7. What is Sericulture Extension Education?
8. Mention any four women activities in Silk Reeling?
9. Define SHG?
10. Who is an Entrepreneur?

Section- B.

Note: Answer any FIVE questions. 5x6=30 Marks.
Each question carries SIX Marks.
Draw diagrams where-ever necessary.

11. Describe the Salient features of Non-Mulberry Silkworms?
12. Explain the Life cycle of Tassar Silk worm?
13. Explain the symptoms of Pebrine in Silk worm life stages?
14. Explain the Life Cycle of Uzi fly?
15. Brief about By-products of rearing and their uses?
16. Explain about various Audio visual aids in Sericulture?
17. Explain the activities performed by women in sericulture Industry in detail?
18. Explain various Government schemes for development of Sericulture?
19. Explain the characteristics of an Entrepreneur?
20. Write short notes on:
    j) Pebrine Spore.
    k) Minor Pests.
    l) RMG's.

SECOND YEAR
SERICULTURE

PAPER II: SILKWORM REARING TECHNOLOGY

Time: 3 Hours. **Section- A.**

Max.Marks: 50.

Note: Answer ALL questions.
Each question carries TWO Marks. 10x2= 20 Marks.

1. Which is the best orientation for Rearing House?
2. What is the purpose of Paraffin paper in silkworm rearing?
3. Define Disinfection?
4. List out the toxic gases produced in the Rearing Room?
5. Define Brushing?
6. What is Spacing?
7. Define Late Age Rearing?
8. Define Spinning?
9. What is C.R.C.?
10. What is Glossy Leaf?

Section- B.

Note: Answer any FIVE questions. 5x6=30 Marks.
Each question carries SIX Marks.
Draw diagrams where-ever necessary.

11. Describe and draw the Ground Plan of the CSB Model Rearing House?
12. Describe Six Rearing Equipments with neat diagrams?
13. How the process of Dis-infection of Rearing House is done?
14. Discuss in detail about the influence of Temperature and Humidity in Silkworm growth?
15. Discuss methods of Brushing from Egg cards?
16. Describe different methods of Bed Cleaning?
17. Write about the Methods of Late Age Rearing?
18. Explain about types of Mountages?
19. Write note on Bi-voltine rearing?
20. Write short notes on:
    m) Fumigation.
    n) Blue Egg Stage.
    o) Moulting.

SERICULTURE
SECOND YEAR

PAPER III: POST COCOON TECHNOLOGY

Time: 3 Hours. **Section- A.**

Max.Marks: 50.

Note: Answer ALL questions.
Each question carries TWO Marks. 10x2= 20 Marks.

1. What are Silk Properties?
2. Define Shell Ratio?
3. Write about denier?
4. Write some good characters of Cocoons?
5. Define Riddling?
6. Define Brushing?
7. What is the importance of Jettebout?
8. Define Lacing?
9. Define Skein?
10. What is Degumming?

Section- B.

Note: Answer any FIVE questions. 5x6=30 Marks.
Each question carries SIX Marks.
Draw diagrams where-ever necessary.

11. Write an Essay on Importance of Silk Industry?
12. Write about Physical Characters of Cocoons?
13. Write about Defective Cocoons?
14. Write an Essay on Rules of the Cocoon Markets?
15. What is the importance of stifling? Explain the methods of Basket steam stifling?
16. Describe about Open pan system of Cooking?
17. Explain the process of Three Pan Cooking?
18. Write in detail about Country Charakha Reeling?
19. Write in detail about Reeling records?
20. Write short notes on:
    p) Uses of Pupa.
    q) Dupion Silk.
    r) Re-Reeling.

LIST OF EQUIPMENTS

S.NO	Name	No. Required
1.	Ant wells	8
2.	Rearing stands	2
3.	Feeding stand	1
4.	Leaf Chamber	1
5.	Plastic trays	16
6.	Bill Hook	2
7.	Budding knife	4
8.	Grafting cum budding knife	4
9.	Digging fork	2
10.	Garden Shear	2
11.	Garden rake	2
12.	Hand fork	4
13.	Hand cultivator	4
14.	Iron pans	4
15.	Axe	4
16.	Pick-axe	4
17.	Pruning knife	4
18.	Brush cutters	4
19.	Secateurs	4
20.	Shovel	2
21.	Spade	4
22.	Tree Pruner	2
23.	Crow bars	2
24.	Sprayer	1
25.	Face mask	1
26.	Gloves	2 pairs
27.	Chandrikas & plastic mountages	6+20
28.	Leaf baskets	4
29.	Metal door mats	4
30.	Metal basin stand	1
31.	Hydrometer	1
32.	Wet and Dry blub Thermometer	1
33.	Hygrometer	1
34.	Foam rubber strips	1 kg
35.	Paraffin wax paper	2 rolls every year
36.	Cleaning nets each size (2mm, 10mm & 20mm)	20
37.	Chopping board and knife	1 each
38.	Acid treatment bath	1
39.	Electronic balance	1
40.	Cellules	100
41.	Compound microscope	4
42.	Moth crushing sets	10
43.	Slide box, slides	5 packets

45.	Wire mesh (uzy proof)	25 feet
46.	Water cans	4
47.	Measuring cylinders (1000ml, 500ml, 250ml, 50ml, 25ml)	1 each size
48.	Electric Stove	1
49.	Specimens Mulberry/Silkworm diseases, pests Soils (different types) Fertilizers, Manures Cocoons (Mulberry, non-mulberry) Weeds (laminated) Varieties of mulberry leaves (Kanva$_2$, Mysore local, S_{36}, S_{54} V_1, G_2 & G_4)	
50	Chemicals – Bleaching powder, Slaked lime, R.K.O. Sanitech, Vijetha etc. (Supplied by SERIFED, Hyderabad)	
51	An amount of Rs. 15,000/- (Rupees fifteen thousand) grant For consumable expenditure for mulberry, rearing and reeling operations	

STANDARD EQUIPMENTS REQUIRED	**MAKE & SUPPLIER'S ADDRESS**
Secateurs	Silktex, Dharmaraja Workshop, South Road, Opposite to Yellamma, Dasappa Kalyana, Mandapa,MG Road, Kanakapura, Bangalore-562117.
Humidifier	
Acid Treatment bath	
Epprovettes	
Hot air cocoon drier	
Portable sprayer	ANY STANDARD SCIENTIFIC COMPANY
P ^{H} Meter (Electrode type)	
Tissue Culture – Laminar Flow (Mini)	
Dissection Microscope	
Electronic Weighing Machine	
Illuminated Microscope	
Moth Crushing Set or Mixer/Grinder	

RAW MATERIAL

a) Consumable		
1.	Fertilizers	
2.	HCL	
3.	KOH	
4.	Cocoons	
5.	Grafting wax	
6.	Plant hormones	
7.	Egg cards	
8.	Starch/Maranta Starch / Gum	
9.	Uzicide	
10.	China clay	
11.	Dithane M45	
b). Non-consumable		
1.	All garden implements	
2.	Specimens (Mulberry plant material, silkworm stages, cocoons, weeds)	

Collaborating Institutions for Curriculum transaction

1. Professor Jayshankar Telangana State Agricultural University, Hyderabad.
2. CIVE, Agricultural Division, Bhopal.
3. Central Silk Board, Bangalore.
4. State Sericultural Department.
5. Universities offering Sericulture (Kakatiya, Padmavathi Mahila, Sri Krishnadevaraya).
6. CTR & TI, Ranchi.
7. CSRTI, Bangalore.
8. CSRTI, Mysore.
9. Regional Tassar Research Station, Warangal.
10. A.P. State Sericultural Reasearch & Development Institute, Kerikere, Hindupur.

On - the Job Training Centers:

1. Central Sericultural Research and Training Institute, Mysore,
2. Central Silk Board, Coonoor, Nilgiris Districts
3. Central Silk Technological Research Institute, Bangalore
4. Central Tasar Research and Training Institute, Ranchi
5. State Govt. Institutions
6. Universities offering Sericulture at PG level, Kakatiya, Osmania, Padmavathi, SKD Universities
7. Department of Sericulture, Govt. of Andhra Pradesh.
8. A.P. State Sericultural Reasearch & Development Institute, Kerikere, Hindupur.
9. Bivoltine Training School, Hindupur, Anathapur.

REFERENCE BOOKS

1. Pattu Parishrama (Inter Vocational Course Telugu Edition) by Dr. P. Srinivas, Telugu Academy, Hyderabad, 1996.
2. Text Book on Mulberry Cultivation, BIE, Hyderabad by Jaya Rao and Ramaswamy, 1994.
3. Text Book on Farm Maintenance and Seed Technology, BIE, Hyderabad by Adithya Kumar and Somi Reddy, 1994.
4. Text Book on Silkworm Rearing, BIE, Hyderabad by Dr. P. Srinivas and Y. Ramaswamy, 1994.
5. Text Book on Silkworm Diseases, Pests and Silk Reeling, BIE, Hyderabad by Dr. P. Srinivas, Y. Ramaswamy, 1994.
6. Instructional cum practical Manual, NCERT, New Delhi.
7. Pattu Parishrama (B.Sc. Elective) Telugu Edition by Dr. P. Srinivas, M. Madan Mohan, Smt. Laxmi, Telugu Academy, Hyderabad, 2001.
8. Pattu Parishrama Practical Manual (Telugu Edition) by Dr. Maruthi Ram and Dr. P. Srinivas, Telugu Academy, Hyderabad in press.
9. Mulberry Agronomy by P. Srinivas and M. Madan Mohan, SIVE, DIE, Hyderabad 2001.
10. Mulberry Cultivation by P. Srinivas and M. Madan Mohan, SIVE, DIE, Hyderabad 2001.
11. Farm Maintenance and Mulberry Pathology by P. Srinivas and Ramadevi, SIVE, DIE, Hyderabad 2001.
12. Silkworm Morphology and Seed Technology by P. Srinivas and Ramadevi, SIVE, DIE, Hyderabad 2001.
13. Non-Mulberry Silkworms and Mulberry Rearing Requirements by Dr. P. Srinivas and Ramadevi, SIVE, DIE, Hyderabad 2003.
14. Silkworm Rearing Technology by Dr. P. Srinivas and Ramadevi, SIVE, DIE, Hyderabad 2003.
15. Silkworm Pathology and Cocoon Marketing by Dr. P. Srinivas and Ramadevi, SIVE, DIE, Hyderabad 2003.
16. Post Cocoon Technology by Dr. P. Srinivas and Ramadevi, SIVE, DIE, Hyderabad 2003.
17. Manuals on Sericulture, FAO Agricultural Service Bulletins of United Nations.
18. Hand book of Silkworm Rearing by Tazima Fuji Publishing Co. Ltd., Tokyo, Japan.
19. Hand book of Practical Sericultural by Ullal and M.N. Narsimhanna, CSB, Bangalore.
20. Manual on Silkworm Seed Production by M.N. Narsimhanna, CSB, Bangalore.
21. Appropriate Techniques on Sericulture by Jolly S. Manjeet, CSB, Bangalore.
22. Text book on Tropical Sericulture by Japan Cooperative Volunteers, Tokyo.
23. CSR & TI Bulletins, CSB, Bangalore.
24. Principles of Agronomy by V.T. Subbaiah Mudaliar.
25. Irrigation – Theory and Practice by A.M. Michael.
26. Hand book on Agriculture, ICAR, New Delhi.
27. Land and Soil by Rayachaudhri.
28. Imms text book of Entomology.
29. Economic Entomology of South India by Ramakrishna Iyyar.
30. Sericulture (B.Sc. I, II, III year Elective) Telugu & English Medium, Theory & Practicals by Dr. P. Srinivas, Dr. G. Shamitha, Dr. K. Sujatha. Dr. B.R. Ambedkar Open University, Hyderabad, 2003.

31. Cell Biology and Molecular Biology – Lea and Febger int Edision, Hongkong.
32. Plant Propagation – Principles and Practices by Eng lewoodCliffs, N.J. Prentice Hall.
33. Fundamentals of Bio-Technology by Dr. S.S. Purohit, Dr. S.K. Mathur – Agro Botanical Publishers.
34. Text Book of Bio-Technology by H.D. Kumar, Affiliated East West Press Pvt. Ltd.
35. Silkworm Rearing on Artificial diet by Yasuji Hamamura, Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.
36. An Introduction to Sericulture by G. Ganga, J. Sulochana Chetty, Oxford Publications.
37. Comprehensive Sericulture Manual by M. Madan Mohan Rao, B.S. Publications, Hyderabad
38. Cytology and Cell Physiology by G.H. Boume., Academic Press.
39. Soil and Water conservation - Semi-Arid Areas by Noman, W. Hudson, Oxford IBH Publication Co. Pvt. Ltd.
40. Laboratory Manual of Plant Pathology by V.N. Patnaik, Oxford IBH Publication Co. Pvt. Ltd.
41. Insect – Pest Management by David Dent, CAB Interna tional.
42. A Text Book of Sericulture, by M. Madan Mohan Rao, B.S. Publications, Hyderabad.
43. Principles of Sericulture by HisaoAruga, Oxford IBH Publication Co. Pvt. Ltd.
44. Sericulture & Rural Development by Sandhya Rani, Discovery publishing house, New Delhi
45. An Introduction to Sericulture by Ganga and Sulochana Shetty, 3rd Edt. Oxford IBH Publication Co. Pvt. Ltd.
46. A text book on Mulberry cultivation & Physiology by L. Rajanna, P.K.Das, S.Ravindran, N.R.Bogesh and R.S Jayaram. Central Silk Board
47. Principles of Temperate Sericulture by Afifa Kambli, Amin Masoodi, Central Silk Board
48. Hand Book on Sericulture Technologies 4th Edt. By S.B.Dandian and P.Giridhar
49. Practcal manual on Silkworm rearing by D.Manjunath, M.D.Himantharaj, M.Balavenkata subbaiah and V.Rahamathullah.
50. Silk Culture: A biochemical approach by P.N.Pandey, S.K.Sharan & P.K.Mishra, Central Silk Board
51. Silkworm Egg Science: Principles & Protocols by Tribhuvan Singh, Madan Mohan Bhat & Mohammad Ashrot Khan, Daya Publishing house.
52. Hand Book of silk technology by N. Thammanna Sonwalkar, New age international pvt limited publishers, New Delhi.

Journals

1. Indian Silk, CSB, Bangalore.
2. Indian Journal of Sericulture, CSB, Bangalore.
3. Indian Academy of Sericulture
4. Sericolgia CSB, Bangalore
5. Annadata, Eenadu Publications, Hyderabad.
6. Padipantalu, ASTI, Dept. of Agriculture, Hyderabad.

30% DELETED CONTENT IN VIEW OF COVID-19 PANDEMIC

COURSE CODE: 112 FIRST YEAR

PAPER I: MORICULTURE

Sl . No	Unit No & Name Of the Unit.	Topic/Sub-topic to be delated in detailed	Two marks questions deleted.	Six marks questions delated
1.	Unit-1. History of Sericulture.	1.4 Status of Silk Industry.	4. Mention the status of Silk Industry in India.	2. Discuss in detail about Status of silk industry in India.
2.	Unit-2. Morphology of Mulberry.	2.4 Systematic position of Mulberry.	4. Write classification of Mulberry.	1. Write notes on systematic position of mulberry. 3. Describe the systematic position of mulberry.
3.	Unit-3. Taxonomy of Mulberry.	3.1 Moraceae.	Nil.	3(a) Temperature. (b)Rainfall (c) Sunlight.(d)Economic importance of Morus and Soam plant.
4.	Unit-4. Soils and preparation of Land.	4.4 Properties of soil. 4.8 Soil erosion and control methods.	7. Define soil moisture. 8. What is Leaching? 12. Define soil erosion. 14. What are control methods of erosion?	3. Write about soil properties. 5. Write about water erosion. 6. Write about wind erosion. 8. Soil erosion is a threat to cultitvation. Comment.
5.	Unit-5. Propagation of Mulberry.	5.3.2 Grafting methods. 2.4 Shoot Grafting. 2.5 Root Grafting.	4. What is Grafting?	2. Write about Root Grafting. 3. Explain about shoot Grafting.
6.	Unit-6. Kisan Nursery.	6.2 Kisan Nursery Raising.	4. Write about Economic Importance of Nursery.	2. Explain the Economics of raising Kisan Nurseries.
7.	Unit-7. Cultivation and cultural practices.	7.2 Selection of Mulberry varieties. 7.3 Mulberry plant spacing.	1. What is the recommended spacing in Mulberry cultivation under rainfed and irrigated condition?	1. Write notes on irrigated mulberry planting methods. 2. Write notes on Rainfed mulberry plant methods.
8.	Unit-8. Manures and Fertilizers.	8.2.2 Concentrated Organic manures. 8.2.3 Green manures.	4. What is Green Manuring? 7. Name some concentrated organic manures. 8. What are the soil cakes used as manures?	2. Write about concentrated organic manures. 3. Write about green manures.
9.	Unit-9. Mulberry Harvesting.	9.3 Preservation of Leaves.	1. How do you maintain the quality of mulberry leaves during summer and rainy season?	2. Explain about the preservation of Mulberry leaves.

SERICULTURE - FIRST YEAR
PAPER- II: MULBERRY FARM MANAGEMENT

Sl. No	Unit No & Name Of the Unit.	Topic/Sub-topic to be deleted in detailed heads.	Two marks questions deleted.	Six marks questions deleted.
1.	Unit-1. Mulberry Farm Management.	1.3 Labour Management.	3. Define Labour Management. 4. What are the classes in labor? 7. What is free labour and hired labour? 8. Differentiate permanent and contract labour. 9. What are the characters of Indian labor? 10. How do you improve labour efficiency?	1. Write about labour management in Mulberry farm. 3. Write about the measures in Labour Management. 5. Write short notes on (a) Labour wages. 6. Write short notes on; (a)Labour Management. (b)Classification of Labour. (c) Labour efficiency.
2.	Unit-2. Estimation of Leaf Yield.	2.2.1 Model Problem.	Nil.	2. Estimate the Leaf yield on the following values: plot size 0.6 acres, s pacing 3'x3', actual plants=135, weight of leaf in 3 plants=0.410kg. 3. Estimate the leaf yield in the following values: plot size=1 acre, spacing 2'x2', actual plants=165, Weight of leaf in 3 plants=0.45 kg. 4. Estimate leaf yield on the following values: plot size=1.25 acre, spacing=1.6'x1.6, actual plants-150, wt of leaf in 3 plants=0.575 kg.
3.	Unit-3. Mulberry waste management.	Nil	Nil	Nil
4.	Unit-4. Economics of Mulberry Cultivation.	4.2 Nurseries.	Nil.	2. Write about Economics of Nurseries.
5.	Unit-5. Mechanization in Mulberry Cultivation.	5.2 Mechanization and its importance. 5.3 Scope for mechanization in	2. What are the uses of Mechanization?	1. Explain about Importance of Mechanization. 3. Explain about the scope of mechanization in sericulture.

		Mulberry cultivation.		
6.	Unit-6. Mulberry Diseases.	6.2 Bacterial Diseases.	5. What are the symptoms of Leaf Blight?	5. Explain about Leaf Blight Disease.
7.	Unit-7. Mulberry pests.	7.8 Beetles.	14. How do you control Stem Girdler? 15. What are the symptoms of damage caused by weevil?	6.Write short notes on: (b)Grass Hopper. 7.Write short notes on: (b) Weevils.
8.	Unit-8. Nutritional Deficiency symptoms in Mulberry.	8.6.1 Prevention and Control measures.	Nil	1. Prevention and control measures of Nutritional deficiency symptoms in mulberry.
9.	Unit-9. Equipments for application of chemicals.	Nil.	-	-

SERICULTURE - FIRST YEAR
PAPER- III: SILKWORM SEED TECHNOLOGY

Sl. No	Unit No & Name Of the Unit.	Topic/Sub-topic to be deleted in detailed heads.	Two marks questions deleted.	Six marks questions deleted.
1.	Unit-1. Systematic position of Bombyx mori.	1.3 Types of Silkworms.	9. Name some of the chief food plants of silkworms.	3. Explain the different types of silkworms.
2.	Unit-2. Morphology and Life History of Bombyx Mori.	2.3 Metamorphosis.	17. Define Metamorphosis.	Nil
3.	Unit-3. Parental Races.	3.5 Voltinism.	2. What are the types of moultinism? 3. Mention the types of races based on voltinism. 4. Define Voltinism. 5. Define Moultinism. 6. How many generations does uni,bi,multivoltine produces in a year.	2. Add a note on Voltinism and Moultinism.
4.	Unit-4. Grainage Building.	4.3.2 Technical staff.	5. How many Technical staff are required in 15 Lakh capacity Grainage?	Nil.
5.	Unit-5. Grainage Equipment.	5.1.20 Other equipments.	16. Mention some disinfectants used in grainage. 17. What are the disinfectants used in Grainage?	4. Write short notes on (a) Disinfectants.
6.	Unit-6. Grainage Operations.	6.3.2 Price fixation. 6.3.2 Process of price fixation model problems I & II.	10. What are the stages of price fixation? 11. Write the principle to calculate cost of 1 kg cocoons.	4. Calculate the cost of 75 kg bivoltine numbering 700 per kg and standard rate being Rs.125 calculate the total amounts. 5. Calculate the cost of 55 kg multivoltine numbering 800 per kg and standard rate being Rs. 110, calculate the total amount.

				6. Calculate the cost of 30 kg bivoltine and 40 kg multivoltine cocoons weighing 540(bivoltine), 1000 multivoltine standard cost being 125/- and Rs.110/- respectively. Find out the total amount.
7.	Unit-7. Seed Production.	7.6 Incubation. 7.6.1 Methods of incubation.	22. Define Incubation of eggs. 23. Mention methods of Incubation. 24. What is the optimum humidity and temperature to be maintained for incubation? 25. Define blue eggs.	9. Detail explain about Incubation of Silkworm eggs.
8.	Unit-8. Acid Treatment and Cold Storage.	8.5 Cold storage of eggs.	15. Mention the methods of Acid treatment after chilling.	8(b) Write short notes on Short term chilling. 10(a) Long term chilling.
9.	Unit-9. Seed Economics.	Nil	-	-

SERICULTURE - SECOND YEAR
PAPER- I: SERICULTURE EXTENSION AND SILKWORM PATHOLOGY

Sl. No	Unit No & Name Of the Unit.	Topic/Sub-topic to be deleted in detailed heads.	Two marks questions deleted.	Six marks questions deleted.
1.	Unit-1. Non-Mulberry Silkworms.	1.2 Distribution of Non Mulberry silkworms.	3. Name the places which are producing Tassar silk in india.	1. Discuss the distribution of Non mulberry silkworms.
2.	Unit-2. Life Cycles of Non-Mulberry Silkworms.	1. Rearing of Non mulberry silkworms.	6. What is Ocellus?	Nil.
3.	Unit-3. Silkworm Diseases.	3.3 Bacterial diseases.	5. How Sotto disease is identified. 6. Name causative organism of Sotto disease. 9.What is another name of Gattine. 10.Mention the pests of Silkworm.	2. Write briefly the symptoms of Bacterial diseases.
4.	Unit-4. Silkworm Pests.	4. Dermested Beetles. 2. Integrated Diesease and pest management.	5. What is the Damage caused by Dermested Beetles. 7.Write scientific name of beetles.	2. Write about the integrated pest management in uzi fly. 3. Describe the Life History of beetles.
5.	Unit-5. By-products.	5.1 Economics of Rearing.	1.Mention the factors that influence the Economics of Rearing.	1. Detail about the Economics of Silkworm rearing.
6.	Unit-6. Sericulture Extension.	6.4 Extension teaching methods.	3. How are the Extension methods classified.	3. What are exhibitioner, how are they useful to disseminate knowledge to rural people.
7.	Unit-7. Role of Women in Sericulture.	e. Twisting and Dyeing activities. f. Silk weaving activities.	5. Write the activities by the women in silk weaving sector. 6. Write activities of women in twisting & Dyeing.	2. Write on Essay on Role of Women in Sericulture.

8.	Unit-8. Scope for Development of Sericulture.	8.3 Schemes for Financial Assistance.	4. What is PRA.	3. Explain the Schemes for Financial Assistance in Sericulture.
9.	Unit-9. Entrepreneurship.	9.2 Entrepreneurship in Mulberry. 9.3 EDP in Rearing.	Nil.	4. Explain EDP in Mulberry. 5. Explain EDP in CRCs.

SERICULTURE - SECOND YEAR
PAPER- II: SILKWORM REARING TECHNOLOGY

Sl. No	Unit No & Name Of the Unit.	Topic/Sub-topic to be deleted in detailed heads.	Two marks questions deleted.	Six marks questions deleted.
1.	Unit-1. Rearing House.	1.4 Types of Rearing Houses.	2. Mention different types of Rearing Houses. 3. Which types of Rearing house is ideal for tropical conditions.	Nil
2.	Unit-2. Rearing Equipments.	2.3 Chemicals used in Rearing House.	8. What are the chemicals used in disinfection.	3. Write about disinfection and chemicals used in rearing.
3.	Unit-3. Preparation for Rearing.	3.4 Preparation of disinfection.	6. Write the principle to calculate the required strength of formalin.	Nil.
4.	Unit-4. Environmental conditions.	4.6 Regulation of environmental conditions.	3. How do you regulate high temperature during summer? 4. How do you regulate low temperature during winter days?	4. Explain the Regulation of Temperature and humidity during Silkworm rearing.
5.	Unit-5. Hatching and Brushing.	5.2 Incubation. 5.3 Handling of eggs.	1. Define Incubation. 5. What is handling of eggs?	1. Define Incubation process of Silkworm eggs. 2. What is the importance of Handling of eggs?
6.	Unit-6. Chawkie Rearing.	6.9 Chawking Rearing Centres(CRCs).	Nil	3. Describe feeding aspects of chawkie worms.
7.	Unit-7. Late Age Rearing.	7.9 Calculation of ERR by weight.	9. What is ERR.	5. Write about principles of ERR.
8.	Unit-8. Spinning and Mounting.	8.2 Silk Gland, structure of Silk gland.	Nil	1. Write notes on structure of silk gland with neat labelled diagram.
9.	Unit-9. Bivoltine Rearing.	9.4 Advantages of Bivoltine Rearing.	Nil	7. How to defloss the Bivoltine cocoons.

SERICULTURE - SECOND YEAR
PAPER-III: POST COCOON TECHNOLOGY

Sl. No	Unit No & Name Of the Unit.	Topic/Sub-topic to be delated in detailed head.	Two marks questions deleted.	Six marks questions delated
1.	Unit-1. Silk Reeling Industry.	1.4 Properties of Silk.	Nil	3. Write properties of silk.
2.	Unit-2. Cocoon quality.	2.5 Principles for cocoon assessment.	16. How do you calculate Raw silk percentage. 17.Calculate shell rotatio where cocoon and pupal weights are 1.9 and 0.9 respectively. 18. Calculate filament length with eprovetta revolution of 440.	3. Find out the shell ratio of filament length and denier using the values given. 4.Calculate the filament length of 10 observations using the epprovetta revolutions 640, 520, 400, 475 etc. 5. Calculate the shell ratio of the following cocoon shell weights and pupal weights. 6. Calculate the Raw silk percentage using the values given.
3.	Unit-3. Cocoon sorting.	3.6 Model problems.	Nil	Determine and percentage of good and defective cocoons from the given lot by using formula.
4.	Unit-4. Cocoon Marketing.	4.5 Price fixation. 4.6 Model problems.	4. What is the floor price of the cocoon market.	3. Write price fixation and Markets available in Karnataka and AP. 4. Calculate the cocoon price by given values.
5.	Unit-5. Cocoon Stifiling.	5.2.20 Hot Air drying (Steam stifiling).	6. What is the objective of Hot air drying.	2. Explain about Hot Air Drying.
6.	Unit-6. Cocoon cooking and Brushing.	6.2.2 Sunken System.	7. Write the difference between Top Reeling and Sunken system.	4. Write about conveyor cooking machine. 5. a) Circular type pressurized cooking.
7.	Unit-7. Silk Reeling.	7.3.5 Automatic reeling Machine. 7.4 Reeling Machines. 7.8 Reeling of Non Mulberry cocoons.	2. What is direct and indirect Reeling. 15. What is the purpose of traverse.	5. Discuss about Automatic Reeling machine. 6. Discuss about reeling water. 11. Write about Tassar Cocoon Reeling. 12. Write about Eri cocoon Reeling. 13. Write about Muga cocoon Reeling.

8.	Unit-8. Raw Silk Testing and Economics.	8.2 Testing methods and parameters. 8.4 Classification of Raw Silk. 8.5 Economics,	5. What are the defects encountered in visual tests. 6. Mention some mechanical tests. 7. What is the purpose of winding test? 8. What is size test? 12. Mention the classes and grades of Raw Silk? 13. Mention methods of Raw Silk Classification? 14. What is the production and utilization capacity of Charakha Reeling in a day.	1.Detailed about the parameters concerned about silk quality. 2. Write about visual tests of Raw Silk. 3. Mention mechanical tests and write detail about size test. 4. Write about evenness, Cleanness and neatness test. 6. Write about classification of Raw silk. 9. Write about the Economics of Reeling Industry.
9.	Unit-9. Silk Dyeing.	9.3 Dye types and Classification of Dyes.	3. What are Natural dyes. 4. What is Synthetic dye. 5. Write the structure of Anthraquinine dye. 6. Write structure of Azo-benzene dye. 7. Write structure of Triphenyl methane derivated dye. 10. What is an Acid dye.	1. Write about different types of dyes. 4. Explain classification of dyes.

VOCATIONAL CURRICULUM-2020

(For the Academic year 2020-21)

[70% CONTENT IN VIEW OF COVID-19 PANDEMIC]

Accounting & Taxation

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

Dr. A.Ashok I.A.S
COMMISSIONER

INTERMEDIATE EDCATION
Government of Telangana
Nampally, Hyderabad- 500001
Phone: 040-24655915

Fore word

In any developing society with a booming population, Vocational Education occupies an important position for generating large scale employment opportunities. Viewed in this context the importance of Vocational Education for our country cannot be over emphasized. Vocationalization of Secondary Education was introduced in 1988 at the Intermediate level. Recently, the Government of India has developed a National Skills Qualification Framework for establishing a clear path for vocational education from the school level to the highest level. The Department of Intermediate Education has recently framed a new curriculum to bring greater value to the system of vocational education. The primary aim of this reform is to prepare the students with employable skills for absorption in organized sectors and in few cases, even for self-employment.

State Institute of vocational education and Board of Intermediate Education, Telangana have reviewed the curriculum of vocational courses in order to reorient them for their practical approach. Greater emphasis is now being placed on Laboratory work and on the job training.

Simultaneously, The State Institute of Vocational Education and the department of Intermediate Education are presently making efforts to upgrade the quality of infrastructure in the colleges to meet the challenges of the changed curriculum. I am confident that the revised curriculum and the new text books would prove to be beneficial to the students in the vocational stream and help them train in need based productive courses leading to gainful employment.

Commissioner of Intermediate Education
Government of Telangana

S No.	Contents	Page No.
I	**Introduction**	**4**
II	**Objectives of the Course**	**5**
III	**Skills to be provided**	**5**
IV	**Job Opportunities** a) Wage Employment b) Self-Employment	**5**
V	**Scheme of Instruction and Examination**	**6**
	SYLLABUS	
VI	**First year** **Theory** Paper I : Business Organization Paper II : Accountancy & Computers- I Paper III: Taxation - I **Practicals** Paper I : Business Organization Paper II : Accountancy & Computers- I Paper III: Taxation - I	**9**
VII	**Second Year** **Theory** Paper I: Auditing Paper II: Accountancy & Tally - II Paper III: Taxation - II **Practicals** PaperI : Auditing PaperII :Accountancy & Tally - II Paper III:Taxation - II	**15**
VIII	**Model Question Papers**	**21**
IX	**List of Equipment** a) Collaborating Institutions for curriculum transaction b) On – the – Job Training Sites	**34**
X	**Teaching staff and their Qualification**	**34**
XI	**Vertical Mobility**	**34**
XII	**Equivalency of Papers**	**34**
XIII	**List of Participants**	**35**

INTRODUCTION

The objectives of Vocational Education System in the context of fulfilment of national goal are to train the students for employment in the growing sectors of economy, both organized and unorganized, to provide an alternative channel for higher education and to prepare students for self – reliance and gainful employment. Accounting & Taxation industry has grown by leaps and bounds and the diversification of activities has led to exponential increase in the availability of job opportunities in the Financial Market related service industry. To cater to the requirements of the Accounts and Taxation industries, this Accounting & Taxation course syllabus has been drafted.

At present 29 Vocational Courses are offered at Intermediate Level in Telangana State. As per the guidelines given in the National policy on Education, all the Vocational Courses are terminable in nature. The present curriculum is so framed to meet the challenges on one side and the requirements of such sector on the other.

It is therefore felt necessary to convert the Vocational Courses as Job oriented courses and to refine the syllabus for the existing Vocational courses. Accordingly to accomplish this task it is decided to conduct the curriculum development work shops with expert committees. The members entrusted with the task of preparation of syllabi hail from various reputed organizations and institutions of varied nature i.e. academicians, professionals and stakeholders. They felt more emphasis is to be given for practical training, hence more importance has been given to On the Job Training in the present syllabi.

II. COURSE OBJECTIVES :

- To understand the basic concepts of Accountancy and Taxation
- To impart skills to the students on the services provided by the Accounts and Taxation industry
- To impart skills in various non-banking and allied financial service areas
- To acquire computer operational skills with knowledge of accounting packages.
- To prepare the students for taking up wage and self-employment

III. SKILLS:

- Skills in Accounting & Taxation services.
- Skills in Mutual Funds, stock markets, Chit funds, Micro Finance, etc.
- Skills in computer profession i.e. MS Office, MIS, Accounting packages, Data base etc.
- Skills in banking related services.
- Awareness about banking activities and banking to customers.

DURATION OF COURSE :

- Duration of the Course will be 2 academic years.

IV. JOB OPPORTUNITIES :

(a) Wage Employment

- Super bazaars / Malls / Hotels
- Direct selling agency
- Recovery agencies
- Mutual fund companies
- Micro financial institutions.

(b) Self Employment

Consultant for filing Income Tax Returns

- Preparing Service Tax Returns
- Postal saving Agents
- Banks Direct Selling Agents
- Verification Agents
- Recovery Agents
- Establishment of Micro Finance
- Door step Banking
- Establishment of chit funds
- Money lending / Pawn brokers

V. ANNUAL SCHEME OF INSTRUCTION AND EXAMINATION FOR ACCOUNTING & TAXATION

FIRST YEAR

Part-A		Theory		Practicals		Total	
		Periods	**Marks**	**Periods**	**Marks**	**Periods**	**Marks**
1.	English	150	50	0	0	150	50
2.	General Foundation course	150	50	0	0	150	50
	Part-B						
3.	**Paper-1** Business Organization	135	50	135	50	270	100
4.	**Paper-II** Accountancy & Computers- I	135	50	135	50	270	100
5.	**Paper-III** Taxation -I	135	50	135	50	270	100
6.	**Part-C OJT**	0	0	365	100	365	100
	Total	**705**	**250**	**770**	**250**	**1475**	**500**

*on the Job Training for First year from 1st November to 31st December

SECOND YEAR

Part-A		Theory		Practicals		Total	
		Periods	**Marks**	**Periods**	**Marks**	**Periods**	**Marks**
1.	English	150	50	0	0	150	50
2.	General Foundation course	150	50	0	0	150	50
	Part-B						
3.	**Paper-1** Auditing	110	50	115	50	225	100
4.	**Paper-II** Accountancy & Tally - II	65	50	160	50	225	100
5.	**Paper-III** Taxation -II	85	50	140	50	225	100
6.	**Part-C OJT**	-	-	450	100	450	100
7.	**Total**	**630**	**250**	**795**	**250**	**1425**	**500**
TOTAL FIRST YEAR AND SECOND YEAR MARKS 1000							

*OJT Programme for Second year students from 1st August to31st October.

EVALUATION OF ON THE JOB TRAINING:

The "On the Job Training" shall carry 100 marks for each year and pass marks is 50. During on the job training the candidate shall put in a minimum of 90 % of attendance.
The evaluation shall be done in the last week of January.

Marks allotted for evaluation:

S.No	Name of the activity	Max. Marks allotted for each activity
1	Attendance and punctuality	30
2	Familiarity with technical terms	05
3	Familiarity with tools and material	05
4	Manual skills	05
5	Application of knowledge	10
6	Problem solving skills	10
7	Comprehension and observation	10
8	Human relations	05
9	Ability to communicate	10
10	Maintenance of diary	10
	Total	100

NOTE: The On the Job Training mentioned is tentative. The spirit of On the Job training is to be maintained. The colleges are at liberty to conduct on the job training according to their local feasibility of institutions & industries. They may conduct the entire on the job training periods of (365) I year and (450) II year **either by conducting classes in morning session and send the students for OJT in afternoon session or two days in week or weekly or monthly or by any mode which is feasible for both the college and the institution**. However, the total assigned periods for on the job training should be completed. The institutions are at liberty to conduct On the Job training during summer also, however there will not be any financial commitment to the department.

.SCHEME OF INSTRUCTION PER WEEK

	Part-A	**Theory**	**Practicals**	**Total**
1.	English	4	-	4
2.	General Foundation Course	4	-	4
	Part-B			
3.	Paper –I	4	4	8
4.	Paper-II	4	4	8
5.	Paper-III	4	4	8
	Total	**20**	**12**	**32**

SYLLABUS
OFFICE ASSISTANTSHIP
FIRST YEAR
PART B – VOCATIONAL SUBJECTS
PAPER – I: BUSINESS ORGANISATION (THEORY& PRACTICALS)
TIME SCHEDULE, WEIGHTAGE & BLUE PRINT

S.No	NAME OF THE UNIT	No. Of Periods		Weightage in marks	Short answer questions	Essay/ Problem questions
		Theory	Practical			
01	Basic Concepts	15	15	10	2	1
02	Sole proprietorship, Joint Hindu family	20	20	8	1	1
03	Partnership	15	15	8	1	1
04	Joint stock company	20	20	10	2	1
05	Incorporation of Joint stock company	20	15	8	1	1
06	Co-operative societies	15	15	8	1	1
07	Aids to Trade - Banking & Insurance services	10	15	8	1	1
08	Aids to Trade - Transport, Warehousing & Advertisement	20	20	8	1	1
	Total	135	135	68	10	08

Note: The question paper contains two sections.

Section – A of question paper contains 10 questions carries 2 marks each. The student has to answer all questions.

Section – B of question paper contains 8 questions carries 6 marks each. The student has to answer five questions.

COURSE CONTENTS:

1. **Basic Concepts** – Business organization and its scope – Business, Profession, Industry, Trade, types and ~~aids to trade~~, Classification of Industries, Forms of Business organization.
2. **(a). Sole trader** – Characteristics - merits and demerits of sole trader – **Joint Hindu Family** – Karta – ~~merits and Demerits~~ – Schools of Joint Hindu Family.
   (b). Self -Employment, Entrepreneurship, Small Business, Private sector, Government Sector, CRM Practices
3. **Partnership** – Characteristics – merits and demerits – ~~Partnership deed~~ – Types of partners – ~~Rights and duties of partners~~.
4. **Joint Stock Company**– Characteristics, merits – demerits, ~~kinds of companies~~, Promoter.
5. **Incorporation of Joint Stock Company** – Procedure of promotion and incorporation of Joint stock Company – Memorandum of Association – Articles of association – ~~Prospectus~~ – Golden rule of framing prospectus.
6. **Co-operative societies –** Characteristics – ~~Types of co-operative societies~~ – merits and demerits
7. **Aids to Trade -** Banking and Insurance Services **–** Definition of bank and insurance – ~~Different types of banks~~ – Functions of commercial banks – Advantages of insurance – Principles of insurance – ~~Types of insurance~~ – RBI and its Functions
8. **Aids to Trade -** Transport, Warehousing & Advertisement **–** Advantages of transport – Types of transport – ~~Importance of warehousing~~ – ~~types of warehousing~~ – Need and importance of advertisement – Print media – outdoor media – Importance of Advertising to different types of companies

References:

1. Jones & Mathew: Organization Theory, designed change – Vikas Publishers
2. P.N.Reddy – Principles of Business Organizations – S. Chand Publications
3. Nathan S.Collier - A Different types of Business Organizations – Wiley Publications

FIRST YEAR
PART B – VOCATIONAL SUBJECTS
PAPER – II: ACCOUNTANCY & COMPUTERS – I (THEORY& PRACTICALS)
TIME SCHEDULE, WEIGHTAGE & BLUE PRINT

S.No	NAME OF THE UNIT	No. Of Periods		Weightage in marks	Short answer questions	Essay /Problem questions
		Theory	Practical			
01	INTRODUCTION TO ACCOUNTANCY	15	05	10	2	1
02	JOURNAL	15	10	8	1	1
03	SUBSIDIARY BOOKS	10	10	8	1	1
04	LEDGER	25	10	8	1	1
05	CASH BOOK	10	15	8	1	1
06	RECTIFICATION OF ERRORS &TRIAL BALANCE	15	10	8	1	1
07	FINAL ACCOUNTS	20	20	8	1	1
08	Basic fundamentals of computer	25	55	10	2	1
		135	135	68	10	08

Note: The question paper contains two sections.
Section – A of question paper contains 10 questions carries 2 marks each. The student has to answer all questions. **Section – B** of question paper contains 8 questions carries 6 marks each. The student has to answer five questions.

COURSE CONTENTS:

1. **Introduction to Accountancy** – Definition of Accountancy and Book keeping – Objectives- Merits and demerits – Accounting concepts – ~~Conventions~~ – Single entry system – Double entry system – Advantages – Accounting Cycle – Accounting Standards – IFRS – Concept & Need.
2. **Journal** –Types of Accounts – Rules of Debit and Credit – Journal – Journal entries (including Problems) – Functions of Debit and Credit
3. **Subsidiary books** – Types of subsidiary books – Purchase book – purchase returns book – Sales book – Sales returns book – Bills receivable book – Bills payable book- Journal proper (including Problems)
4. **Ledger** – Meaning Classification of Ledger – posting the transactions into Accounts – Balancing the Accounts (including Problems)
5. **Cash Book** – Types of cash book – Simple or single column cash book – Two column cash book – ~~Three column cash book – Petty cash book~~ - (including Problems)
6. **Rectification of errors &Trial balance** – Rectification of Errors – one side & two side Importance of trial balance – Preparation of trial balance – (including Problems)
7. **Final Accounts** – Preparation of Trading account, Profit & Loss account and Balance sheet with adjustments (including Problems)
8. **Basic Fundamentals of computers** – Fundamentals of Computers - Types of Computers - Generation of computers – Block Diagram – Memory – CPU - Advantages of computers - Input, output devices – Operating system – MS.WORD – MS EXCEL - MS POWERPOINT.

References:-

1. P.C.Tulsian – Financial Accounting & Analysis – Tata Mcgraw Hill Publications
2. S.N.Maheswari – Financial Accounting & Analysis – Vikas Publications
3. V.K.Goyal – Financial Accounting – EXCEL Books
4. E.Balaguruswamy- Fundamentals of Computers Tata C Graw Hill Education Pvt, Ltd.,
5. E.Balaguruswamy- Fundamentals of Computers Tata C Graw Hill Education Pvt, Ltd.,

FIRST YEAR
PART B – VOCATIONAL SUBJECTS
PAPER – III: TAXATION – I (THEORY & PRACTICALS)

TIME SCHEDULE, WEIGHTAGE & BLUE PRINT

S.No	NAME OF THE UNIT	No. Of Periods		Weightage in marks	Short answer questions	Essay/ Problem questions
		Theory	Practical			
01	INTRODUCTION	25	--	8	1	1
02	BASIC CONCEPTS	20	20	10	2	1
03	AGRICULTURAL INCOME	10	10	8	1	1
04	CAPITAL AND REVENUE	15	15	8	1	1
05	RESIDENTIAL STATUS & INCIDENCE OF TAX	20	15	10	2	1
06	EXEMPTED INCOMES	10	10	8	1	1
07	INCOME FROM SALARY	15	35	8	1	1
08	INCOME FROM HOUSE PROPERTY	20	30	8	1	1
		135	135	68	10	08

Note: The question paper contains two sections.

Section – A of question paper contains 10 questions carries 2 marks each. The student has to answer all questions.

Section – B of question paper contains 8 questions carries 6 marks each. Thestudent has to answer five questions.

COURSE CONTENTS:

1. **Introduction** – Concept of Tax – Direct and Indirect taxes – Introduction of Income Tax Act, 1961 - History of Income tax – Tax rates – Slab rate – Flat rate
2. **Basic concepts** – Assesse – Person – Assessment year – previous year – Permanent Account Number – Income – Indian company – Foreign company – Domestic company
3. **Agricultural Income** – Agricultural income - Nonagricultural income – Integration of agricultural income with nonagricultural income
4. **Capital and Revenue** – Capital and Revenue receipts – Capital and Revenue Expenditure
5. **Residential Status & Incidence of Tax** – Resident - Resident but not ordinarily resident – Non Resident ~~– Incidence of tax~~ – Indian incomes – Foreign Incomes
6. **Exempted Incomes** - Exempted incomes relating to individuals only, Income tax Deductions, Computations , Deductions of Gross Total Income, Rebates and Reliefs, Computation of Taxable Income and Tax payable
7. **INCOME FROM SALARY** : BASIS OF CHARGE OF SALARY INCOME – ALLOWANCES (Problems on calculating exempted amount of i) Entertainment allowance ii) House Rent Allowance & Children education and Hostel allowance only) – PERQUISITIES (valuation of rent free accommodation, motor car, interest free loans, medical facilities, credit card only) – PROFIT IN LIEU OF SALARY (Provisions relating to Gratuity only) – Deductions U/s 16
8. **Income from House Property** – Annual value – Deduction u/s 24 – Computation of Income from let out house – Income / Loss from self-occupied house – Income from partly let out and partly self-occupied house

References:-

1. R.G.Saha & Usha Devi .N – Income Tax – Himalaya Publishing House
2. R.G.Saha & Sanjay Chabra – Income Tax laws and Practice – Himalaya Publishing House
3. Balachandra V & Thotadri. S – Taxation Law & Practice Vol –I , Prentice Hall of India

SECOND YEAR
PART B – VOCATIONAL SUBJECTS
PAPER – I: AUDITING (THEORY & PRACTICALS)

PERIODS/WEEK PERIODS/YEAR: 225

TIME SCHEDULE, WEIGHTAGE & BLUE PRINT

S.No	NAME OF THE UNIT	No. Of Periods		Weightage in marks	Short answer questions	Essay/ Problem questions
		Theory	Practicals			
01	Introduction of Auditing	15	10	8	1	1
02	Objects of Audit	15	10	8	1	1
03	Types of Audit	15	5	10	2	1
04	Qualification and disqualification of Auditor	15	10	8	1	1
05	Appointment and removal of Auditor	20	10	8	1	1
06	Remuneration, Rights & Duties of auditor	20	10	8	1	1
07	Vouching, Errors and Frauds	25	15	10	2	1
08	Auditing and Investigation	20	10	8	1	1
		145	80	68	10	08

Note: The question paper contains two sections.
Section – A of question paper contains 10 questions carries 2 marks each. The student has to answer all questions. **Section – B** of question paper contains 8 questions carries 6 marks each. The student has to answer five questions.

COURSE CONTENTS:

1. **Introduction of Auditing** – Meaning of Auditing – Importance of auditing – Advantages of auditing – Difference between auditing and accountancy
2. **Objects of Auditing** – Main objects – subsidiary objects – Detection of Errors and Frauds – Prevention of errors and frauds
3. **Types of Audit** – Types of audit ~~– conduct of audit~~ – methods of audit – Audit programme – Advantages and disadvantages of audit programme
4. **Qualification and Disqualification of Auditor** – Provisions of The Companies Act, 1956 relating to qualification and ~~disqualification of auditor~~.
5. **Appointment and removal of auditor** – Various methods of appointment of auditor - Provisions of The Companies Act, 1956 relating to appointment and removal of auditor
6. **Remuneration, Rights and Duties of auditor**
7. **Vouching , Errors and Frauds –** Meaning of vouching – ~~Objects and importance of vouching~~ – Measures to be taken for vouching – Meaning of Error and Fraud – Types of Errors and frauds.
8. **Investigation –** Meaning of investigation – Difference between auditing and investigation – ~~Circumstances investigation conducted~~

References:-

1. CA Vikas Oswal – Simpified Approach to Auditing and Assurance – Vikas Publications (CCH Learning Curve Series)
2. B.N.Tandon – A Handbook of Practical Auditing – S.Chand Publications & Co.
3. Dinakar Pagare – principles and Practice of Auditing – Sultan Chand & Sons

SECOND YEAR
PAPER –II: ACCOUNTANCY– II (THEORY & PRACTICALS)

TIME SCHEDULE, WEIGHTAGE & BLUE PRINT

S.No	NAME OF THE UNIT	No. Of Periods		Weightage in marks	Short answer questions	Essay/ Problem questions
		Theory	Practical			
01	DEPRECIATION	05	10	8	1	1
02	ACCOUNTS OF NON-TRADING CONCERNS	15	20	10	2	1
03	PARTNERSHIP ACCOUNTS – I	15	20	10	2	1
04	PARTNER SHIP ACCOUNTS - II	15	15	8	1	1
05	HIRE PURCHASE AND INSTALMENT PURCHASE SYSTEM	10	15	8	1	1
06	COMPANY ACCOUNTS – I (Tally)	10	15	8	1	1
07	COMPANY ACCOUNTS – II (Tally)	10	15	8	1	1
08	COMPANY ACCOUNTS – III (Tally)	15	20	8	1	1
		95	130	68	10	08

Note: The question paper contains two sections.

Section – A of question paper contains 10 questions carries 2 marks each. The student has to answer all questions.

Section – B of question paper contains 8 questions carries 6 marks each. The student has to answer five questions.

COURSE CONTENTS:

1. **DEPRECIATION** – Meaning and need of depreciation – Causes of depreciation – Methods of depreciation – Simple problems on depreciation (Straight line and ~~diminishing balance method)~~
2. **ACCOUNTS OF NONTRADING CONCERNS –** Distinction between capital and revenue expenditure – Receipts and payments account – Income and expenditure account
3. **PARTNERSHIP ACCOUNTS –** I – Problems on Profit and Loss appropriation account – Admission of partner
4. **PARTNER SHIP ACCOUNTS –** II – Problems on retirement of partner
5. **HIRE PURCHASE AND INSTALMENT PURCHASE SYSTEM –** Features of Hire purchase and Instalment purchase system - Difference between Hire purchase and instalment purchase system – Simple problems in Hire purchase system (only ledger accounts)
6. **Company Accounts – I –** Meaning of company – Meaning of Share capital – Classification of share capital – Types of shares – Issue of shares at par, premium, discount
7. **Company Account – II –** Company final accounts – Trading account, Profit and Loss account & Profit and Loss appropriation account with simple adjustments
8. **Company Account – III –** Company final accounts – Simple problems on Balance sheet contents without adjustments

References:-

1. M.C.Sukla and S.C Gupta – Advanced Accounts – S.Chand& Co.
2. S.N.Maheswari – Introduction to Accountacy – Vikas Publishing House
3. Jagadish. R. Raiyani – Financial Ratios and Financial Statement Analysis – New Century Publications

SECOND YEAR
PART B – VOCATIONAL SUBJECTS
PAPER –III: TAXATION -II (THEORY & PRACTICALS)

PERIODS/WEEK PERIODS/YEAR: 225

TIME SCHEDULE, WEIGHTAGE & BLUE PRINT

S.No	NAME OF THE UNIT	No. Of Periods		Weightage in marks	Short answer questions	Essay/ Problem questions
		Theory	Practical			
01	INCOME FROM BUSINESS	15	30	8	1	1
02	INCOME FROM PROFESSION	15	20	8	1	1
03	INCOME FROM CAPITAL GAINS	05	15	8	1	1
04	INCOME FROM OTHER SOURCES	05	15	10	2	1
05	DEDUCTIONS FROM GROSS TOTAL INCOME	10	15	8	1	1
06	ASSESSMENT OF INDIVIDUAL	15	20	8	1	1
07	GST – I	10	15	8	1	1
08	GST - II	10	10	10	2	1
		85	140	68	10	08

Note: The question paper contains two sections.

Section – A of question paper contains 10 questions carries 2 marks each. The student has to answer all questions.

Section – B of question paper contains 8 questions carries 6 marks each. The student has to answer five questions.

COURSE CONTENTS:

1. **Income from Business**– Depreciation – Meaning – Rate- Block of Assets – (Excluding Unabsorbed Depreciation) – Simple Problems on Depreciation – Income from Business – Chargeability – Deductions Expressly allowed and Disallowed – General Deductions – Simple problems in Computing income from Business
2. **Income from Profession** – Computing Income from profession of i) Chartered Accountant ii)Doctor - Professional Income – Professional Expenses
3. **Income from Capital Gains** – Capital assets – Long Term Capital Asset – Short Capital Asset – Computation of Income from Capital Gains (excluding exemptions u/s 54 & 54 b etc)
4. **Income from Other Sources –** : Income from Interest on Securities - Computation of Income from Casual Incomes
5. **Deductions from Gross Total Income**: 80c , 80 CCD, 80 CCF, 80 d, 80 e, 80g, 80 GGA
6. **Assessment of Individual** – problems on gross total income – Total Income from various heads after deductions
7. **GST**-I: Definition- Benefits of GST – Silent Features of GST – Tax Structure in India after Implementation of GST
8. **GST- II:** Applicability of GST Law – Rates of Taxes under GST – Registration Under GST – Procedure of Registration – Nature of Supply – Time of Supply (ToS) – Tax Collection at Source – Payment of Tax – GST Audit – The Procedure of Charging GST

MODEL QUESTION PAPERS

ACCOUNTING & TAXATION
I YEAR

MODEL QUESTION PAPERS

PAPER – I: BUSINESS ORGANISATION (THEORY)

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**

ii) Each question carries two marks

1. Define Trade.
2. What is an Industry?
3. What is Joint Hindu Family firm?
4. Define Partnership.
5. Define joint stock company.
6. Who is a promoter?
7. Define Articles of Association.
8. Define co-operative society.
9. Define a Bank.
10. What is print media?

SECTION –B

Note: i) Answer all questions **5 x 6 = 30**

ii) Each question carries six marks

11. What are the different types of trades.Explain briefly?
12. State the merits of sole trading business.
13. What are the demerits of partnership firm of organization?
14. What are the characteristics of a joint stock company?
15. What do you understand by “Memorandum of Association”? Describe it’s contents?
16. What are the important characteristics of a co-operative society?
17. Write the important functions of commercial banks?
18. What are the advantages of insurance?
19. Write briefly about different types of transport?
20. Write briefly about the need and importance of advertisement.

I YEAR

PAPER – I I: ACCOUNTANCY & COMPUTERS – I (THEORY)

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**

ii)Each question carries two marks

1. Define Accountancy ?
2. Who is Debtor?
3. What is Journal ?
4. Define Ledger?
5. What is Purchase Book?
6. What is Drawings?
7. What is cash book?
8. What is Debit Note?
9. What is a Computer?
10. What is a Scanner?

SECTION –B

Note: i) Answer all questions **5 x 6 = 30**

ii)Each question carries six marks

11. What are the Accounting Concepts ? Explain some of them?
12. List out any five input and output devices in detail.
13. Prepare the Single column cash book from the following transactions

2019		Rs
March 1	Cash Balace	15000
March 5	Cash Purchases	25000
March 15	Cash Sales	35000
March 20	Cash Deposited into Bank	12000
March 28	Cash Withdrawn from Bank	5000
March 30	Drawings	2000

14. Explain different types of Accounts.
15. Explain the different types of cash book.
16. Explain the importence of Cash Book.
17. Give proforma of an account. Explain how entries are made into it?
18. Explain the characteristics of computer.
19. Enter the following transactions in the sales book and post them in ledger account.

2020		Rs.
January 1	Sold goods to naveen	6000
January 5	Sales to gopal	12000
January 8	Sold goods to Ajay	2800
January 15	Goods sold to Vasu	15000
January 20	Sales to Krishna	6000
January 25	Sales to Ramesh	5000
January 26	Sold goods to Manish	8000

20. Prepare the Final Accounts from the following balances:

Opening Stock	Rs. 15000
Purchases	Rs. 9000
Wasges	Rs. 6000
Carriage Inward	Rs. 5000
Factory Rent	Rs. 1000
Sales	Rs. 45000
Closing Stock	Rs. 70000

ACCOUNTING & TAXATION
I YEAR
PAPER – III: TAXATION – I (THEORY)

Time: 3 hrs Marks: 50

SECTION – A

Note: i) Answer all questions 10 x 2 =20
ii)Each question carries two marks

1. Define Income
2. Define Assessee
3. What is Previous year
4. What is partly agricultural income
5. Write any four examples of revenue expenditure
6. Who is Non-Resident
7. Define foreign income
8. Write any two types of Provident fund
9. What is Gross annual value
10. What is Perquisite

SECTION – B

Note: i) Answer any five questions 5 x 6 = 30
ii) Each question carries Six marks

11. Explain the merits of direct taxes
12. Define person as per Income Tax Act, 1961
13. Explain the features of Agricultural income
14. Write the differences between capital and revenue receipts
15. Describe the Residential status of an individual
16. Write any ten exempted incomes from tax
17. Mr. Mahender is working in Income Tax Department in Hyderabad. His salary particulars are as follows:

Basic pay	Rs. 18,000 p.m
Dearness Allowance	Rs. 5,000 p.m
City compensatory allowance	Rs. 800 p.m
Bonus	Rs. 20,000
House Rent Allowance	Rs. 8,000 p.m
Rent paid	Rs. 10,000 p.m
Profession tax paid	Rs. 1,200

Compute Income from Salary

18. Smt Sai Aruna owns a house at Guntur. It has been letout on a montly rent of Rs.10,000.
Municipal Rental Value Rs. 7,500 per month
Rent of similar House Rs. 9,000 per month
She paid municipal taxes Rs. 5,000, Repairs to house Rs.4,000, Interest on loan paid for purchase of house Rs.13,000 and fire insurance Rs.6,000. Compute Income from House property.

ACCOUNTING & TAXATION
SECONDYEAR
PAPER – I: AUDITING – I (THEORY)

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**
ii)Each question carries two marks

1 . What is an Audit.
2 . Define fraud.
3 . What is meant by Audit programme.
4 . Define periodical Audit.
5 . What is meant by Interim Audit.
6 . Who appoints an Auditor.
7 . What are the Qualifications of an Auditor.
8 . What is Audit Report.
9. Define Window Dressing.
10 . What is an Investigation.

SECTION – B

Note: i) Answer any five questions **5 x 6 = 30**

ii) Each question carries Six marks

. Explain the Importance of Auditing.
12 . Explain the Importance features of Audit.
13 . Mention the Qualifications of an Auditor.
14 . Explain the various methods of appointment of an Auditor.
15 . Explain the rights and power of an Auditor.
16 . Explain different types of Errors.
17. Explain briefly various types of Audit.
18 . What are the duties of an Auditor.
19. What are the measures to be taken for vouching.
20 . Explain the difference between Auditing and Investigation.

ACCOUNTING & TAXATION
SECOND YEAR
PAPER – II: ACCOUNTANCY - II (Theory)

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**
ii)Each question carries two marks

1. Define Depreciation.
2. What is Receipts and Payments account?
3. What is Equity Shares?
4. What is Balance Sheet?
5. What is Divident?
6. What is Closing Stock?
7. What is Capital Expenditure?
8. What is Income and Expenditure account?
9. What is Hire Purchase System?
10. What is Prliminary expenses?

SECTION – B

Note: i)Answer any five questions **5 x 6 = 30**

ii) Each question carries Six marks

11. Furniture is purchased for Rs. 35000/-. It is decided to depreciate the asset on staright line method at 10% per annum. Show the Furniture account for 5 years.
12. Prepare the Receipts and Payments account from the following particulars.

	Rs
Cash in hand	5000
Cash at bank	12000
Subscription Received	40000
Donations Received	32000
Investment purchased	12000
Sundry expenses	2000
Rent Paid	500

13. A and B are carrying business in a partnership sharing profit & Losses in the ratio of 2:3. Their Balance sheet as at 31.12.2020.

Balance Sheet

Liabilities	Amount Rs.	Assets	Amount Rs
Sundry Creditors	50,000	Cash in Hand	30,000
Capital Accounts:		Cash at Bank	20,000
A 280000		Sundry Debtors	1,00,000
B 420000	7,00,000	Stock	2,00,000
		Furniture	50,000
		Buildings	3,50,000
	7,50,000		7,50,000

On that date they admit "C" on to partnership and given him 1/4th share in the future profit on the following terms.

(a) "C" is to bring in Rs. 3,00,000 as his capital and Rs. 1,00,000 as good will which sum is to remain in the business.
(b) Stock and furniture are to be reduced in value by 10%
(c) Buildings are to be appreciated by Rs. 50,000
(d) A provision of 5% to be created on sundry Debtors for doubtful debts.

Prepare the ledger accounts and show the opening Balance Sheet of the new firm.

14. On 1st January 2020 the Directors of Wipro Limited has issued 1,00,000 shares at Rs. 10 per share. The share amount payable is as follows Rs. 2.50 on applications, Rs. 3.00 on allotment, Rs. 2.50 on first call and final call. Applications were received for 90,000 shares. Write journal entries.
15. How is the depreciation calculated in the fixed installment method.
16. Discuss the difference between receipts and payments account and income and expenditure account.
17. Mythil, Mayuri and Mounica are partners sharing profits and losses equally. Their Balance Sheet on 31st march 2019 is given below.

Liabilities	Amount Rs.	Assets	Amount Rs
Sundry Creditors	20,000	Cash at Bank	18,000
Reserve Fund	18,000	Debtors	30,000
Capital accounts		Stock	24,000
Mythili 50,000		Machinery	40,000
Mayuri 40,000		Buildings	46,000
Mounica 30,000	1,20,000		
	1,58,000		1,58,000

On the above date, Mounica decided to retired from the firm on the following conditions.

(a) Goodwill of the firm be valued at Rs. 24,000
(b) Depreciate stock & Machinery by 10%
(c) Buildings will be appreciated to Rs. 56,000
(d) Provide 5% on the debtors towards reserve for doubtful debts.

Prepare Revaluation Account, Capital Account and New Balance Sheet

18. What is opening Balance Sheet? With purpose it is prepared.
19. The following Trial Balance of Wipro Ltd was extracted from their books on 31st december 2020.

Particulars	Rs.	Particulars	Rs.
Purchases	3,04,000	Share Capital	1,44,000
Plant and Machinery	28,800	Return Outwards	14,400
Stock in trade on 1.1.2020	25,600	Sales	4,00,200
Salaries	14,400	Discount	4,480
Carriage outwards	2,000	P&L A/c (Credit balance)	25,000
Carriage inwards	8,000		
Discount allowed	5,600		
Return inwards	12,800		
Insurance	4,000		
Dividends	20,000		
Interim dividends	22,400		
Rate & Taxes	6,400		

You are required to prepare the Trading and P&L Appropriation account for the year ended 31.12.2020, in doing so take the following adjustments into account.

(a) Plant and machinery is to be depreciated by 10%

(b) Stock in trade on 31st Dec 2020 is Rs. 28,800.

20. From the following particulars prepare Balance Sheet 31.12.2020

Particulars	Rs.
Share Capital	4,00,000
Building and Machinery	8,60,000
General Reserve	50,000
Loans	5,50,000
Sundry Debtors	1,00,000
Debentures	25,000
Bank balance	1,10,000
Bills Payable	1,50,000
Bills receivable	80,000
Sundry creditors	50,000
Goodwill	25,000
Preliminary expenses	50,000

ACCOUNTING & TAXATION
SECOND YEAR
PAPER – III: TAXATION –II (THEORY)

Time: 3 hrs **SECTION – A** **Marks: 50**

Note: i) Answer all questions **10 x 2 =20**
ii) Each question carries two marks

1. Define business.
2. Define profession.
3. What is meant by capital gain?
4. Define security.
5. Mention any four incomes under the head of income from other sources.
6. What is gross total income?
7. Mention any four heads of incomes.
8. What is GST?
9. What is Input Tax Credit?
10. Expand GSTIN.

SECTION – B

Note: i)Answer any five questions **5 x 6 = 30**
ii) Each question carries Six marks

11. The profit and loss account of Sri. Girija for the year ended 31.3.2019 showed the Following particulars:

	Rs.
(a) Profit as per P&L A/c	2,40,000
(b) Salary to Proprietor	60,000
(c) Advertisement expenses	14,000
(d) Household expenses	16,000
(e) Donation to an approved institution	20,000
(f) Life insurance premium (On proprietors' Life)	8,000
(g) Provision for bad debts	12,000
(h) Interest on loan	14,000
(i) General expenses	18,000
(j) Depreciation (Allowable, 42,000)	38,000
(k) Staff welfare fund	12,000

Compute business income.

12. Given below is the Profit & Loss A/c. of Mr. kishan singh for the year ending 31.3.2019. Compute his business income.

particulars	Amount	particulars	Amount

To Staff salaries	86,000	By Gross profit	4,40,000
To Rent, rates and taxes	68,000	By Rent received	60,000
To Discount	34,000	By Interest on bank deposit	20,000
To Advertisement	43,000	By Refund of sales tax	
To Fire insurance premium	12,000		30,000
To Life insurance premium	6,000		
To Interest on capital	8,000		
To Interest on bank loan	14,000		
To Gifts and presents	12,500		
To Donation to PM national relief fund	10,000		
To Wealth tax	14,000		
To Staff welfare fund	10,000		
To Net Profit	2,22,500		
	550000		550000

Dr Profit and Loss Account Cr

Additional information

1. Allowable depreciation Rs 40.000.
2. Gifts were given to relatives

13.Mr. Vinod is a Medical practitioner. The following is the receipts and Payment account for the year ending 31-3-2020. Compute his professional income.

Dr Receipts and Payments Account Cr

Receipts	R/S	payments	R/S
To Opening balance	82,000	By Dispensary expenses	42,000
To Consultancy fees	88,000	By Staff salaries	40,000
To Visiting fees	42,000	By Cost of medicines	20,000
To Interest on bank deposits	28,000	By Surgical equipments	30,000
To Dividends	20,000	By Shares purchased	60,000
To Examiner fees	40,000	By Printing & Stationery	6,000
To Gifts from patients	30,000	By Telephone expenses	2,000
To Race winnings	12,000	By Life Insurance	4,000
		By Income Tax	6,000
		By Motor car expenses	12,000
		By Car driver salary	10,000
		By Bal c/d	1,10,000
	3,42,000		3,42,000

Other information

1.Gifts include A 12,000 received from his father in-law.
2. Stock of medicines on 31-3-2013 A 6,000.
3.25% of motor car use is for domestic purpose.
4. Depn.On Surgical equipment @ 15

14. Marshal, a practicing chartered accountant submits you the following income and expenditure account for the year ended 31st march 2019. Compute his professional income.

Dr Income and Expenditure Account Cr

Expenditure	R.s	Income	R.s
To Office rent	40,000	By Audit fees	90,000
To Office expenses	20,000	By Accountancy works	40,000
To Staff salaries	30,000	By Rent from house property	20,000
To Books and journals	6,000	By Dividends	
To Insurance (let out house)	40,000	By Interest on bank Deposits	10,000
To General expenses	10,000	By Financial consultancy	22,000
To Travelling expenses	8,000	By Examiners fees	
To Municipal taxes	4,000	By lottery winnings	28,000
To House hold expenses	10,000	By Gifts from clients	30,000
To Donations	5,000		15,000
To Stationery, printing	15,000		10,000
To Depreciation on office equipment	8,000		
To Surplus	69,000		
	265000		265000

Additional information

1. Gifts worth Rs.6,000 received from relatives.
2. Closing stock of stationery Rs. 2,000.
3. Salaries include Rs.10,000 paid to domestic servant.

15. Distinguish between short term capital gain and long term capital gain.

16. Surekha held the following investments.

(a) Rs.81,340 – 10 % (Tax free) Debentures of Limited Company.
(b) Rs.70,000 -12% (Tax-free) Rajasthan Development Loan
(c) Collection charges Rs. 2,000

Compute his income from interest on securities for the year ending 31-3-2019

17. Mention any six items in qualifying savings u/s 80 C.

18. Compute the total Income of Mr. Shoban for the current Assessment year

(a) Income from Salary - 3.00.000

(b) Income from other sources - 1,50,000

(c) Income from House property - 2,50,000

(d) Income from Business - 3,30,000

(e) He paid to LIC Premium - 50,000

(f) Medical Insurance paid by him - 30,000

19. Write about Tax structure in India.

20. What is the procedure of registration under GST?

IX	**List of equipment**	a)	Income Tax returns
		b)	Dummy Cheques / Vouchers/ Pass book
		c)	Computer (10 Nos) Printer, Software
		d)	Dummy Model Stationery shop suitable for training with Records, Registers, forms, etc.
	List of on the Job Training sites	a)	Practicing Chartered Accountant Office./ All nationalized and Private Banks including Co-Op Banks, LIC & GIC(NBFC, UTI) etc.
		b)	Registered Chit Fund Offices
		c)	Private Finance Companies
		d)	Primary Agriculture Co-Op Credit Societies, Micro Finance Organizations
		e)	Stock Brokers
		f)	Stock Exchanges
		g)	Mutual fund companies.

X **Qualifications for Teaching staff:**

Must possess a Second class Post Graduation in M.Com with specialization in Taxation or an equivalent qualification of a university in India established or incorporated by or under Central Act, or State Act, or a Provincial Act or an Institution recognized by the University Grants Commission

(GoMs.No.12, Higher Education (Intermediate Education.2) Department, dated 15.02.2001)

XI **VERTICAL MOBILITY**

B.Com or BBA
Or
B.Com – Taxation
Or
B.Com – any Vocational Course like Insurance / Sales Management/ Tourism Management
Or
BA or CA
Or ICWA, etc.

XII **Equivalency**:

In the refined curriculum 2017 there is no equivalency paper to any paper. Hence the old syllabi students will be given two chances to clear their backlogs (i.e. March & ASE 2018) for I year and (March & ASE 2019) for II year.

LIST OF PARTICIPANTS

1.	**Prof. Prashanta Athma**, Professor in Commerce, Principal, University College for Women, Koti, Hyderabad-500 095.
2.	**N.L.V.N. Raja Sekhar**, Junior Lecturer in Accountancy & Taxation, Government Junior College, Chanchalguda, Hyderabad.
3.	**Verified & Corrected By** Dr. D.Raghunatha Reddy Professor,School of Management Studies Jawaharlal Nehru Technological University Hyderabad (JNTUH) Hyderabad.
4.	**Co-ordinator:** Sri.K.Vishweshwar, Lecturer, S.I.V.E O/o The Commissioner of Intermediate Education Telangana, Hyderabad.

Sd/- Dr A. Ashok
COMMISSIONER OF INTERMEDIATE EDUCATION

30% DELETED CONTENT IN VIEW OF COVID-19 PANDEMIC
ACCOUNTING & TAXATION

COURSE CODE: 212 **FIRST YEAR**

PAPER-I BUSINESS 0RGANISATION

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 Basic concepts	1.2 Characteristics of Business 1.7 Aids to Trade	1. Define the term Business.	2. What are the different aids to trade? Explain briefly?
2	UNIT-2 Forms of business organization	2.6 Merits of Joint Hindu family 2.7 Demerits of Joint Hindu family	NILL	4. State the merits of 'Joint Hindu Family Firm'? 5. State the demerits of 'Joint Hindu Family Firm
3	UNIT-3 Partnership	3.4 Partnership Deed 3.6 Rights of partners 3.7 Duties of partners	2. What is partnership deed?	4. What are the duties of partners? 5. What are the rights of partners?
4	UNIT-4 Joint stock company	4.4 Kinds of companies	2. Define a private company? 3. Define a public company? 4. What is a government company?	4. Discuss various kinds of companies briefly?
5	UNIT-5 Incorporation of Joint Stock Company	5.4Prospectus – objects-contents	3. Prospectus.	4. Define company "prospectus"? State its contents briefly.
6	UNIT-6 Co-Operative societies	6.2 Types of Co-operative societies	2. What is a consumer cooperative society? 3. What is producer cooperative society? 4. What is a cooperative farming society? 5. What is a cooperative housing society?	4. Explain the various types of cooperative societies.
7	UNIT-7 Aids to Trade-I Banking and Insurance Services	7.3 Different Types of Banks 7.7 Types of Insurance	3. What is a commercial bank? 4. What is an exchange bank? 5. Expand NABARD, ADB.	4. Write the important principles of insurance? 5. What are three main types of insurance? Explain briefly about them.
8	UNIT-8 Aids to Trade-II Transport, Warehousing and Advertisement	8.3 Importance of Warehousing 8.4 Types of ware housing	1. What is a public warehouse? 2. What is a bonded warehouse?	3. Explain the importance of warehousing. 4. Write briefly about different types of warehousing?

ACCOUNTING & TAXATION - FIRST YEAR

PAPER-II: ACCOUNTANCY & COMPUTERS

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Exercise Questions deleted
1	UNIT-1 Introduction to Accountancy	• Accountancy conventions	2. What are the important accounting conventions? Discuss some of them
2	UNIT-2 JOURNALS		**Long Answer Questions** 1. Journalise the following Transactions 2018 Jan. 2018 1 Started business with ..... 20,000 ,, ,, Deposited into Bank ..... 3,000 ,, ,, Purchase of furniture ..... 3,000 ,, 5 Payment of rent ..... 500 ,, ,, Purchases of goods ..... 1,200 ,, ,, Purchase from Ram ..... 4,000 ,, ,, Purchases from Mohan ..... 3,000 ,, ,, Received from Bank ..... 8,000 ,, ,, Payment to Mohan ..... 3,000 ,, ,, Sale of goods ..... 8,000 ,, ,, Purchases ..... 300 ,, ,, Sales ..... 800 Jan. 10 Sales to Satish ..... 800 ,, ,, Sales to Rajesh ..... 300 ,, ,, Received commission ..... 100 ,, ,, Interest Paid ..... 120 ,, ,, Advertisement Expenses ..... 40 ,, 12 Sales to Satish ..... 800 ,, ,, Payment of Salary ..... 304 ,, ,, Wages Paid ..... 200 ,, 12 Received from Satish ..... 800 ,, ,, Paid to ram ..... 1000 ,, ,, Cash Sales ..... 2000 9. Enter the following transactions in the journal of Hanuman Rs 1. Purchases Return to hari ..... 2,000 2. Sales ..... 50 3. Paid wages to Ashok ..... 50 4. Paid rent to Kamal ..... 500 5. Received Interest ..... 150 6. Advertisement ..... 300 7. Insurance ..... 120 8. Received from Satish ..... 500 9. Paid to Ram ..... 200 10. Paid for interest ..... 250 11. Paid for Commission 50

12. Received Commission 40

10.For the following write journal entries in the book of Karunaker:

(a) Deposited with bank Rs 6,000/- on six months fixed deposit and Rs.18,000/- on current account.
(b) Draw from Bank for office use Rs. 2,000/-.
(c) Received from Singh a treasury order for Rs. 1,000/-.
(d) Paid salaries by Cheque Rs. 1,500/-.
(e) Received from Khan a postal order for Rs. 20/- and paid the same into Bank.
(f) Received from Lal in cash Rs. 980/- after deduction of 2% cash discount.
(g) Received cash from Chanadar Rs. 1,480/- and allowed him discount Rs. 20/-.
(h) Sold goods for cash Rs. 950/- and out of that paid Rs. 800/- into Bank.

3 UNIT-3 LEDGER

10. Enter the following transactions in Journal and post them in ledger accounts.

March 16	1	Sales to Ram		Rs
,,	2	Sales to Ratan	.....	1,100
,,	3	Purchases returned to Ram	.....	300
,,	4	Received from Ratan	.....	100
,,	5	Purchases from Ratan	.....	800
,,	6	Advertisement	.....	210
,,	7	Paid rent	.....	100
,,	8	Sales	.....	1,200
,,	9	Purchases from Satish	.....	400
,,	10	Purchases of Machinery	.....	1,000
,,	11	Received from Ram	.....	500
,,	12	Received from Ratan	.....	400
,,	13	Deposited into Bank	.....	800
,,	14	Sales	.....	300
,,	15	Drawn from bank	.....	400
,,	16	Paid salary	.....	800
,,	17	Paid wages	.....	400
,,	18	Deposited into bank	.....	300
,,	19	Sales	.....	500
,,	20	Advertisement	.....	100

11. Journalise the following transactions and post them in ledger accounts.

Oct	1	Sale of goods		Rs
,,	2	Purchases from Ram	.....	8,100
,,	3	Purchases of Machine	.....	3,000
,,	4	Cash purchases from Ram	.....	300
,,	5	Cash purchases from Mohan	.....	400
,,	6	Received from Ram	.....	800
,,	7	Advertisement Expenses	.....	1,300
,,	8	Rent paid	.....	150
,,	9	Paid Insurance	.....	120
,,	10	Sales	.....	50
,,	11	Paid interest to Ram	.....	300
,,	12	Paid rent to Sham	.....	200
,,	13	Payment to Mohan	.....	100
,,	14	Paid wages	.....	200
,,	15	Received Commission	.....	100

12. Enter the following transactions in journal and prepare Cash and Bank accounts.

Aug.	1	Ahmed brought as	.....	25,000

			capital ,, 2 Deposed in Bank ..... 20,000 ,, 3 Paid Rent ..... 200 ,, 4 Paid wages ..... 100 ,, 5 Purchases from Ganesh ..... 5,000 ,, 6 Purchases from Rakesh ..... 8,000 ,, 7 Brought from Bank ..... 12,000 ,, 8 Cash Purchases ..... 8,000 ,, 9 Travelling expenses ..... 200 ,, 10 Sales ..... 800 ,, 11 Goods returned to Ganesh ..... 1,000 ,, 12 Goods returned to Rakesh ..... 200 ,, 13 Goods sold to Madan ..... 800 ,, 14 Received from Madan ..... 800 ,, 15 Brought from Bank ..... 500 ,, 16 Paid rent ..... 100 ,, 17 Paid into Bank ..... 40 ,, 18 Post and Telegraph expenses ..... 400 13. From the following particulars prepare Madan's account and find out the balance. Oct 1 Sales to Madan ..... 100 ,, 2 Sales return from Madan ..... 20 ,, 3 Sales to Madan ..... 300 ,, 4 Payment to Madan ..... 200 ,, 5 Sales to Madan ..... 20 ,, 6 Purchases from Madan ..... 300 ,, 7 Purchases return to Madan ..... 10 ,, 8 Sales return from Madan ..... 25 ,, 9 Interest paid to Madan ..... 47 ,, 10 Cash sale to Madan 30
4	UNIT-4 SUBSIDARY BOOKS	Problems deleted	2. What transactions are entered in Sales and Sales Return Books? How are they posted? 8. Enter the following transactions in proper subsidiary books and post them in ledger accounts. Find the balances in Madan's and Hari's account and state what they reveal. Jan 1 Sales to Madan Rs ,, 1 Sales to Hari ..... 1,000 ,, 2 Hari returned Goods ..... 2,000 ,, 3 Madan returned Goods ..... 100 ,, 4 Purchases from Madan ..... 3,000 ,, 8 Goods returned to Madan ..... 200 ,, 19 Sales to Madan ..... 1,500 ,, 28 Sales to Hari ..... 2,500 ,, 29 Purchases from Hari ..... 3,000 ,, 30 Goods returned to Hari ..... 200 9. Enter the following transactions in proper subsidiary books and post them into ledger accounts. Jan 1 Purchases from bharath .... 2000 " 2 Sales to Ramesh . 1000 " 3 Returned goods to Bharath . 500

			” 4 Ramesh returned goods . 200 ” 5 Purchases from Raju . 1500 ” 6 Sales to kamal . 1300 ” 7 Purchases from Rashed . 500 ” 8 Goods Returned to Raju . 300 ” 9 Goods Retunred to Kamal . 100 ” 10 Sales to Asif . 2000
5	UNIT-5 CASH BOOK	• Three column Cash Book, • Petty cash Book	Short Answer Questions 4. What is petty cash book? 5. What is Contra Entry? Long Answer Questions 4. Enter the transactions given in question 13 in three column cash book and bring out cash and bank balance. (Ans: Cash Balance Rs 4,481 Bank Balance Cr. Rs. 1,900) 5. Enter the following transactions in cash and discount column cash book and prepare a separate bank account. Jan 1 Capital broght in business ..... 20,000 ,, 2 Deposited in bank ..... 15,000 ,, 3 Rent paid ..... 500 ,, 4 Advertisement paid ..... 200 ,, 5 Purchases paid by cheque ..... 1,200 ,, 6 Received from Ram ..... 300 ,, 6 Discount given to him ..... 10 ,, 7 Paid to sham by cheque ..... 190 ,, 7 Discount received ..... 10 ,, 8 Paid salary by cheque ..... 800 ,, 9 Sales ..... 1,200 ,, 10 Purchases cheque given ..... 1,000 ,, 11 Received from Sham ..... 780 ,, 11 Discount given to him ..... 20 ,, 12 Deposited into Bank ..... 300 ,, 13 Received from Sham ..... 250 ,, 13 Discount given to him ..... 20 6. Enter the following transactions given in question 16 in three columns cash book and bring out the balances. 8. Enter the following transactions in Analytical Petty Cash book and post them in ledger account. Jan 1 Received cash from petty payments ..... 200.00 ,, 2 Paid wages ..... 30.50 ,, 3 Postage ..... 12.25 ,, 4 Bus charges ..... 3.20 ,, 5 Travelling expenses ..... 15.40 ,, 6 Wages ..... 13.15 ,, 6 Purchases of Stationery ..... 4.20 ,, 7 Bus Charges 5.40

,,	7	Tea expenses	..... 10.30
,,	17	Travelling expenses	..... 30.00
,,	18	Tea expenses	..... 12.00
,,	20	Telegram	..... 5.00
,,	25	Tea expenses	..... 12.00
,,	29	Sundry expenses	..... 12.00
,,	30	Rishaw charges	..... 8.00
,,	31	Stationery	..... 2.50
	31	Sundry expenses	5.00

9. Record the following transactions in Analytical Petty Cash Book and post them in ledger accounts.

				Rs.
2018 Jan	1	Received a cheque for petty payment	.....	500.00
,,	2	Paid wages	.....	20.00
,,	3	Paid for advertisement	.....	50.50
,,	4	Paid for Postage	.....	3.20
,,	5	Paid wages	.....	100.00
,,	6	Bus charges	.....	3.50
,,	7	Stationery	.....	12.00
,,	8	Printing Charges	.....	20.80
,,	9	Travelling expenses	.....	80.00
,,	10	Stationery	.....	30.00
,,	11	Wages	.....	10.00
,,	12	Postage	.....	11.40
,,	13	Travelling expenses	.....	12.50
,,	14	Tea Expenses	.....	3.00
,,	15	Auto rickshaw Charges	.....	5.00
,,	15	Sundry expenses	.....	3.00

10. Enter the following transactions in Cash book with Cash, Bank and dicount columns in the books of Govind and bring out the balances as at May 31-2018.

2018

				Rs.
May	1	Balance in cash Rs. 2000 and at bank	.....	1,450
,,	2	Cash sale investment deposited in bank	.....	8,000
,,	3	Issue cheque of Rs. 2,500 to Balkishan and received discount.	.....	30
,,		Paid as Wages	.....	
,,	4	Received cash Rs. 300 and cheque of Rs. 850 from Gopinath and we allowed him discount	.....	400
,,	8	Deposited in bank	.....	
,,		Drawn from Bank for office use	.....	
,,		Cash sales	.....	50
,,	10	Issued cheque for salary	.....	1,000
,,	21	Balance in cash Rs. 2000 and at bank	.....	150
,,	24	Cash sale investment deposited in bank	.....	750
,,	31	Issue cheque of Rs. 2,500 to Balkishan and received discount.	.....	200

			11. Prepare three column Cash book and enter the following transaction. Rs. a) Cash in hand Rs. 300 and cash at bank ..... 7,600 (b) Issued cheque for Purchase ..... 2,000 (c) Cash received for sales ..... 3,000 (d) Paid into Bank ..... 2,500 (e) Paid for Stationery in cash ..... 50 (f) Cash withdrawn from bank for office use ..... 500 (g) Paid salary in cash ..... 500 (h) Cash withdrawn from bank for personal use ..... 400 (i) Paid rent by Cheque ..... 200 (j) Paid Rao & Sons by cheque Rs. 675 in settlement of an account of ..... Received a cheque for cash sales of ..... 700 (k) Cash in hand Rs. 300 and cash at bank 450
6	UNIT-6 TRIAL BALANCE		2. How is a trial balance prepared? Explain with example? 4. What do you mean by agreement of trial balance? What does it is show? 6. From the following ledger balances in Madan's book, prepare the Trial balance. Madan's capital Rs. 20,000, Drawings Rs. 2,000, Sunday debtors Rs. 6,000, Sunday creditors Rs. 8,700, Bills payable Rs. 4,000, Bills receivable Rs. 8,000, Furniture &Fitting Rs. 300, Opening Stock Rs. 8,000, Cash Rs. 300, Cash at bank Rs. 1,200, Rent Rs. 200, Sales Rs. 25,000, Purchases Rs. 15,000, Salary Rs. 8,000, Sales return Rs. 200, Purchases return Rs. 3,000, Machines Rs, 5,000, Loose tools Rs. 4,800, Travelling expenses Rs. 1,500, Discount given Rs. 300, Discount received Rs. 100 7. Taking following ledger balances, prepares the trial balances. Capital Rs. 1,24,000, Drawings Rs. 6,000, Sunday creditors Rs. 43,000, Bills payable Rs. 4,000, Sunday debtors Rs. 51,000, Bills receivable Rs. 5,000, Loan advance to Mohan Rs. 10,000, Fixture and Fittings Rs, 4,500, Opening stock Rs. 47,000, Cash Rs. 900, Cash at State Bank of India Rs. 12,500, Overdraft with Andhra Bank Rs. 6,000, Purchases Rs. 50,000, Duty and Clearing charges Rs. 3,500, Sales Rs. 28,000, Salary Rs. 9,500, Return from customers Rs. 1,000, Return to creditors Rs. 1,100, Commission and travelling expenses Rs. 4,700, Rent Rs. 2,000, Discount received Rs. 4,000, Trade expense Rs. 2,500.
7	UNIT-7 FINAL ACCOUNTS		Short Answer Questions 3. What are fixed and floating assets Long Answer Questions 3. What are usual items debited and credited to trading account 6. Following balances are taken from the books of Mohan. Prepare Tradingand Profit & Loss Account and Balance sheet for the year ended on Dec - 31 - 2018. Building 42,800 Sales 3,00,000 Machinery 18,000 Capital 2,00,000 Purchases 1,51,000 Creditor 80,100 Opening stock 1,00,050 Bills Payable 21,000 Salary 18,000 Wages 40,000 Drawing 50,000 Import Duty 15,000 Carriage Inward 4,500 Insurance 2,800 Advertisement 8,000 Interest 6,800 Debtors 1,10, 000 Discount 12,800

			Sales return	3,000	
			Post and Telegraphs	4,200	
			Commission	3,700	
			Bank Balance	9,200	
			Cash in Hand	1,250	
				6,01,100	6,01,100

The Closing stock is of Rs. 2,00,500

2. The following balances are taken from the books of Shashibhushan for the year ended on December, 31-2018. Prepare the final accounts.

Cash in Hand	1,000	Machinery & Plant	60,000
Capital	1,00,000	Sales	2,00,000
Purchases	12,000	Furniture and Fitting	15,000
Bills Payable	22,000	R.D.D.	1,000
Opening Stock	35,000	Bills Receivables	20,000
Debtors	50,000	Rent & Taxes	10,000
Creditors	24,000	Salary	20,000
Wages	16,000	Machinery & Plant	60,000

The following adjustments are necessary :

(a). Rs. 200 for rent and takes, Rs. 300 for wages and Rs. 4,000 for salary are outstanding (b) Closing stock is of Rs. 40,000. (c) Depreciate Plant and MAchinery at 5 percent, (d) Calculate 10 percent depreciation on furniture and fittings. (e) The reserve for Doubtful debts should be 2.5 percent on debtors.

3. Prepare Trading and Profit & Loss Account and Balance sheet from the following particulars. Journal entries are not necessary for adjustments.

TRIAL BALANCE AS ON 31st December, 2018

Particulars	**Debit Amt. Rs.**	**Credit Amt. Rs.**
Purchases	16,000	-
Discount	1,300	-
Wages	6,500	-
Salaries	2,000	-
Travelling expenses	500	-
Carriage Inwards	275	-
Insurance	150	-

8	UNIT-8 BASIC FUNDAMENTALS OF COMPUTERS	• History of Computer, • Milestones in Computer History • Classification of computers • Operating system concepts • Features of windows	<u>Short Answer Questions</u> 2. What are the types computers based on purpose? 3. What are the types computers based on operation? <u>Long Answer Questions</u> 3. What is operating system? List different types of operating system.

ACCOUNTING & TAXATION - FIRST YEAR
PAPER-III TAXATION -I

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 Introduction	Rounding off of income under each head Rounding off Refund of Tax	Nil	Nil
2	UNIT-2 Basic Concepts	Person liable to obtain PAN	Nil	Nil
3	UNIT-3 Agricultural Income	Treatment of Agricultural income	Nil	Nil
4	UNIT-4 Capital and Revenue	Gross total income- Nature of receipt in the Hands of Receipt	Nil	IV. Why is it necessary to distinguish between capital receipt and revenue receipt?
5	UNIT-5 Residential Status& Incidence of Tax	Incidence of Tax	Nil	2. Explain the term "Accrual of income and explain the provisions relating to scope of the "Income from salary" and income from business for determining total income. **Problems:-** **1.** Mr. Anand Kishore had the following incomes during the previous year ended 31st March, 2017 you are required to compute his total income if his residential status is (a) Ordinarily resident (b) Not ordinarily resident and (c) Non- resident. 1. Salary received in India Rs. 3,20,000 (for 10 months) 2. Rs. 1,50,000 is the profit of a business in Burma, the business is controlled from India. 3. Income accured in South Africa but received in India Rs. 1,80,000 4. Interest on savings in Save More Bank Ltd., Rs. 40,000 5. Rs. 1,00,000 earned in India but received in London. 6. Income from House property in India Rs. 1,00,000. 7. Income from House property in Bangladesh Rs. 60,000. **2.** Mr. Bharat Ratnam furnished the following particulars of his income for the previous year 31st March, 2018. You are required to calculate his total income. If he is ordinarily resident, not ordinarily resident and non-resident. (a) Salary received from the Government of India Rs. 5,40,000. (b) Salary received in Paris for the services rendered in Indian Embassy Rs. 2,00,000. (c) Income from property situated in Srikakulam Rs. 1,40,000. (d) Income from cultivation of land situated in Sri Lanka Rs. 3,00,000. (e) Dividends received on the shares of a Limited Company Incorporated in New York and having the branches in India Rs. 1,60,000. (f) Interest received Rs. 50,000 on the debentures of V.S.T. Co. Ltd., Hyd. (g) Salary received in India for the services rendered in Iran Rs.1,00,000. (h) Rs. 80,000 Dividends received on the shares of a foreign company, which is controlled from India.

6	UNIT-6 Exempted Incomes	• Exempted income to Non-Resident-income which are to be included in the total.	Nil	2. List out the exempted incomes to a non-resident.
7	UNIT-7 Income from Salaries		Nil	**Problems:-** 5. Mr. Sreenivas is working in a limited company at Tirupati. His salary details are as follows: Monthly basic pay Rs. 6,000 DA Rs. 800 Bonus Two months salary Commission Rs. 12,000 Rent free accommodation provided by the company Paid professional tax Rs. 900 Compute Income from salary 7. Compute Income from salary of Mr. Rajasekhar (Government employee) Basic pay Rs. 18,500 per month DA Rs. 9,000 per month Bonus Rs. 25,000 per annum CCA Rs. 2,500 per month HRA Rs. 8,000 per month Rent paid Rs. 9,500 per month Professional tax paid Rs. 5,000 per annum Entertainment Allowance Rs. 1,000 per month 8. Compute Income from salary of Mr. Ramakrishna (Government employee) Basic pay Rs. 6,000 per month DA Rs. 1,500 per month Bonus Rs. 12,000 per annum HRA Rs. 1,250 per month Rent paid Rs. 2,000 per month Professional tax paid Rs. 2,400 per annum Entertainment allowance Rs. 1,500 per month.
8	UNIT-8 Income from House Property	Only problems	Nil	5. Actual Rental value Rs.8,000 p.m , Municipal Rental value Rs.9,000 p.m, Fair rental value Rs.7,500 p.m Municipal Taxes 10% House repairs and collection charges Rs,15,000 Loan taken for construction of house Rs.5,00,000 @ 8% interest Calculate Income from House property. 6. Municipal Rental value Rs. 3,000 per month Fair rental value Rs.2,500 per month Actual rental value Rs.3,500 per month Interest paid on loan taken for the purpose of house construction Rs.2,000 p.a. Municipal taxes paid Rs. 5,000 p.a. Calculate Income from House Property

ACCOUNTING & TAXATION - SECOND YEAR

PAPER-I: AUDITING

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 INTERDUCTION OF AUDITING	• Limitation Auditing	Nil	4. What are the limitation of Auditing?
2	UNIT-2 OBJECTS OF AUDITING	2.1 Objections of Auditing	Nil	Nil
3	UNIT-3 TYPES OF AUDIT	• Merits and demerits of Audit Programme, 3.3 Conduct of Audit Method-Advantages and Disadvantages of Continuous audit, Periodical Audit and Interim Audit Features of Audit Programme	Nil	4. Explain the advantages of continuous Audit. 5. What are the disadvantages of continuous Audit? 7. Explain the difference between Continuous audit and periodical audit.
4	UNIT-4 QUALIFICATION AND DISQUALIFICATION OF AUDITOR	4.2 Disqualification an Auditor	Nil	2. What are the disqualifications of an auditor?
5	UNIT-5 APPOINTMENT AND REMOVAL OF AUDITOR	• Automatic Appointment of Auditors- • Auditors of a Government Company- • Removal of Auditor- • Application for removal of Auditor to Central Government	Nil	2. What is the procedure of removal of an auditor?
6	UNIT-6 RENUMERATION,RIGHTS AND DUTIES OF AUDITOR	6.1 Remuneration of Auditor	Nil	1. What is the procedure for payment of Remuneration of an auditor?
7	UNIT-7 VOUCHING,ERRORS AND FRAUDS	7.2 Objects and Importance of Vouching	Nil	1. Explain the objects of vouching. 2. Explain the importance of Vouching.
8	UNIT-8 AUDITING AND INVESTIGATION	8.3 Circumstances Investigation Conducted	Nil	

ACCOUNTING & TAXATION - SECOND YEAR
PAPER-II ACCOUNTANCY-II

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 DEPRECIATION	• Diminishing Balance Method **Exercise:-** 6. On 1st January 2016 a firm purchased a machine for A 30.000. Assuming the depreciation is charged @10% on diminishing balance method. Prepare machinery account for three years. (Ans. Balance A 21,870) 7. A company purchased a plant worth A 25.000 on 31.3.2016 depreciation is calculate @10% per annum, under diminishing balance method. Show the machinery accounts up to 31st December 2018. (Ans. Balance A 18,731) 8. A company purchased a plant a worth A 25,000 on 01.7.2016 is calculated @ 10% per annum. Under diminishing Balance Method. Show the machinery account up to 31st Dec 2019. (Ans. Balance A 17,313) 9. Lee & Co. purchased a second hand machine costing A 45,000 on 1st Jan. 2016 and spent Rs. 5,000 on its repairs. The depreciation is charged @ 15% p.a. On diminishing balance method. Prepare machinery account for the first four years. (Ans. Balance A 26,100) **Sales of Asset** 10. Machinery bought on 1st Jan 2016 for A 20,000 has become obsolete and sold on 31st Dec, 2019 for A 13,000. Calculate the profit or loss assuming depreciation is charged @ 15% p.a . on straight line method. (Ans. Profit A 5,000) 11. Machinery purchased on 1.7.2016 for A 10,000 was sold on 31.12.2018 for A 5,000. Calculate the profit or loss of sale assuming depreciation is charged @ 10% per annum under fixed installment method. (Ans. Loss A 2,500) 12. Furniture worth A 10,000 was purchased as on 1.1.2016. The furniture was sold on 31.12.2018 for A 6,000. Find the profit or loss on the sale of furniture charge depreciation @ 10% p.a under diminishing balance method. (Ans. Loss A 561) 13. A second hand machine was purchased for A 12,000 on 1.1.2016 and A 3,000 spent towards repairs. On	Nil	2. How is the depreciation calculated in the diminishing Balance Method? 5. Distinguish between fixed installment and Diminishing Balance Method?

30.6.2019 the machine became unsuitable and was sold for A 10,000. Charge depreciation @ 15% on Diminishing Balance Method. Show the machinery account.

(Ans. Loss. A 3,520)

14. Furniture worth A 20,000 was purchased on 1.1.2016 and on 1.4.2017 additional furniture worth A 8000 was purchased and A 2,000 was spent on its perfection. On 31.12.2017 furniture purchased on 1.1.2016 was sold for Rs. 15,000. Prepare the furniture account up to 31.12.2018 charging depreciation @ 12% p.a. as per diminishing balance method.

2 UNIT-2 Accounts of Non-Trading Concern

- Balance Sheet

NIL

2. What is opening Balance Sheet? With purpose it is prepared?

8. From the following Receipts and Payments account for the year ending 31.3.2019. Prepare an income and expenditure account for the period ending 31.3.2019 and Balance Sheet as on that date.

Dr. **Cr.**

Receipts	**Rs.(**A)	**Payments**	**Rs.(**A)
To Donations received	35,000	By Salaries	37,500
To Subscriptions	1,15,000	By Help to poor students	37,000
To Life membership fee	50,000	By Expenses on free	34,500
To Legacy	75,000	By Postage and Stationery	3,500
To Interest received	4,000	By Furniture	50,000
		By Investments	75,000
		By Cash in hand	41,500
	2,79,000		2,79,000

Additional Information :

1. Subscription outstanding for the year A 5,000.
2. Salaries unpaid A 5,000.
3. Help to poor students promised but unpaid A 16,000.
4. Expenses of dispensary outstanding A 3,000.
5. Postage and Stationary expenses yet to be paid A 4,000.

(Ans: Surplus : A 18,500, B/S Total : A 1,71,500)

10. The Receipts and Payments account of the Hyderabad Friends Club for the period ending 31.3.2019 is given below.

Subscription fee outstanding for the year 2018-2019 Rs. 150. Salaries unpaid for the year Rs.85. From the above particulars prepare an Income and Expenditure account of the club for the year ended 31.3.2019 and the balance sheet in that date.

Dr. **Cr.**

Receipts	**Rs.(**A)	**Payments**	**Rs.(**A)
To Donation received	25,000	By Buildings	20,000
To Reserve Fund (Being life member fee received)	2,000	By Furniture	1,050
To Match fund	5000	By Tournament expenses from match fund	450
Revenue Receipts :		**Revenue Payments :**	
To Subscriptions (Including Rs. 50 for 2019-20)	1,600	By Salaries	900
To Lockers Rent	50	By Cricket	300
To Interest on securities	50	By Tennis	270
To Cricket	200	By Insurance (paid upto 31st Dec. 2019)	180

To Sundries	25	By Gardening	85
To Tennis	175	By Printing	15
To Billiards	100	By Telephone	125
		By Sundries	75
		By Investments (at cost)	9,000
		By Blance c/d	1,750
	34,200		34,200

(Ans : Excess of Income over expenditure A 400/- Balance Sheet Total : A 32,085)

11. Tarnaka Sports Club's Receipts and Payments account for the year ending 31.3.2019 is given here under.

Additional Information :

1. Subscriptions receivable for 2017-2018 were A 1000/- and for 2018-2019 A 1,050.
2. Games equipment in the beginning was Rs.1,000/- and at the end A 1,250 /-
3. Provide depreciations at 10% 0n grass cutting machine .

Prepare Income and Expenditure for the year ending 31.3.2019 and opening and closing balance sheet.

Dr. **Cr.**

Receipts	**Rs.(**A)	**Payments**	**Rs.(**A)
To Cash in hand	250	By Salary to workmen	2,000
To Cash in Bank	2,250	By Grass cutting machine	1,000
To Subscription	6,750	By Rent	450
To Tournament fund	2,500	By Games expenditure	3,500
To Life membership fee	1,500	By Tournament expenditure	1,000
To Entrance fee	250	By Office expenditure	2,250
To Donation for pavilion	4,000	By Games equipment	1,500
To Sale of grass	200	By Balance c/d	
		Cash in Hand	750
		Cash at Bank	5,250
	17,700		17,700

(Ans: Deficit A. 2,300. Balance Sheet total A 9,200)

12. Prepare Income and Expenditure account and balance sheet of Hyderabad Club from the particulars is given below for the year ending 31.3.2019.

Receipts and Payments account as on 31.3.2019

Dr. **Cr.**

Receipts	**Rs.(**A)	**Payments**	**Rs.(**A)
To Balance b/d	1,200	By Salaries	6,500
To Subscriptions		By Rent	1,200
(Including A 400 2019-20)	6,400	By Printing & Stationery	180
To Interest on investment		By Postage	50
(Investment cost A 40,000)	2,500	By Cycle purchased	800
To Bank Interest	50	By Govt. Bonds	1,000
To Sale of furniture	500	By Balance c/d	920
	10,650		10,650

Additional Information

1. Subscription received included A 200 of 2017-2018.
2. Rent paid included A 100 for March 2019 monthly rent is Rs.100.
3. Subscriptions due for 2018-2019 A 300.

4. Salaries Payable sold was A 600.
5. Cost of furniture sold was A 640.
(**Ans :** Deficit : A 20 capital fund 41,940 Balance Sheet total A 43,020).

3 UNIT-3 Partnership Accounts-I

- Sacrificing ratio

2. X and Y were partners in a firm. They shared Profit and Losses in the ratio 3:1; Z was admitted on 1-1-2019 & the new profit sharing ratio is 5:1:4. Find the sacrificing ratio.
4. Calculate Goodwill by 3 years purchase of average profits. Profit for 2016-2017, 2017-2018 & 2019 were A 509,000, A 75,000, A 65,000 & A 20,000.

6. X and Y were sharing profits in the positions of 2/3 and 1/3 showed the following as their Balance Sheet on 31-12-2019.

Dr. **Cr.**

Liabilities	**Amount Rs.(**A)	**Assets**	**Amount Rs.(**A)
Sundry Creditors	29,950	Buildings	25,000
Bills payable	3,000	Plant and Machinery	17,500
Capital Accounts		Stock	10,000
X 15,000		Sundry Debtors	4,850
Y 10,000	25,000	Cash in hand	600
	57,950		57,950

They agreed to admit Z into partnership on the following terms
(a) Z was to bring A 7,5000 as his Capital & A 3,000 as goodwill for ¼ share in the future profits of the firm.
(b) That the Value of stock, Plant & Machinery were to be reduced by 5%.
(c) That a reserved of A 375 was to be created in respect of sundry debtors.
(d) That the Building account was to be appreciated by 10%.
(e) That the Good will was to be retained in the business.
Prepare profit & Loss Adjustment Account, the Capital Account , & the new balance sheet of the firm.
(Ans : Revaluation Profit A.750 ; Capital A/c Balance X – A 17,500; Y – A 11,250; Z – A 7,500; Balance sheet Total A 69, 200)

7. On 31-12-19 the Balance Sheet of equal Partner P,Q and R is given below.

Balance Sheet

Liabilities	**Amount Rs.(**A)	**Assets**	**Amount Rs.(**A)
Sundry Creditors	19,600	Buildings	41,000
Bills payable	3,000	Furniture	3,200
Capital Accounts		Stock	25,200
P 35,000		Sundry Debtors	32,000
Q 30,000		Cash in hand	4,200
R 18,000	83,000		
	1,05,600		1,05,600

They admitted Mr. 'S' on the following conditions.
(a) ' S' has to bring A 24,000 towards Good will and A 30,000 as Capital for his 1/4th Share.
(b) ½ (half) of the Good Will be taken away by the old Partners, from the business.
(c) Depreciation @ 5% to be Provided on Stock & Furniture.
(d) 5% provision for Bad debts Reserve on debtors required.
(e) Buildings is to be valued at A 59,000/-
Prepare Profit and Loss adjustment account, Capital Account and Balance Sheet as on 1-1-2020
(Ans : Revaluation Profit – A 14,980, Capital A/C Balance P- A 43,993; Q - A 37,993; R- A 26,994; S- A 30,000; Balance Sheet Total A 1,62,580.)

4 UNIT-4 Partnership Accounts-II

- Gaining Ratio

Nil

1) X,Y,Z were partners sharing profits in the ratio of ½, $^1/_6$, $^1/_3$/ Their Balance Sheet on 31-12-2019 was as follows.

Liabilities	**Amount**	**Assets**	**Amount**

	Rs.(A)		Rs.(A)
Sundry Creditors	20,500	Buildings	50,000
Bills Payable	10,000	Plant and Machinery	25,000
Capital Accounts		Furniture	2,500
X 25,000		Stock	22,500
Y 20,000		Debtors 20,000	
Z 35,000	80,000	- Reserve 1,000	19,000
Reserve fund	12,000	Cash	3,500
	1,22,500		1,22,500

Z retires, so the following adjustment were agreed upon for ascertainment of the payment be made to him

(1) Appreciate the Buildings by 10% and Stock by 15%.
(2) Depreciate Plant by 10% and furniture by 7 ½ %.
(3) Reserve for Doubtful debts to be made up to A 1,500.
(4) Create Goodwill with A 20,000
(5) The amount pay able to should be transferred to Loan account.
(6) It is assumed that goodwill credited to retiring partner is being reduced from X and Y's Capital Balance Sheet.

(Ans : Revaluations profit – A 5,187; Z's Loan A/c – A 47,396 Balance Sheet Total – A 1,27,687)

5	UNIT-5 Hire Purchase and Installment purchase system	• Installment Method	13. State what journal entries will be passed in the books of buyer and seller under Installment purchase system?	**Problems:** 1. The Hyderabad Transport company purchased motor car from the Tata motor co. on hire purchase agreement on 1st January 2016 paying cash A 10,000 as down payment and agreeing to pay further three installment of A 10,000 each on 31st December each year. The cash price of the car is A37,250 and the Tata Motor Company charges interest at 5 percent p.a. the Hyderabad Transport Company writes off 10 percent p.a. as depreciation on the reducing installment system. Journalize these transaction in the books of both the parties. **(Interest 2016,** A **1,363; 2017** A **931 & 2018** A **456)** 2. On 1st January 2016 Messrs. Ram & CO. took from Auto car Ltd. Delivery of a Motor Van on hire purchase system. A 2,000 being paid on delivery and the balance in five installment of A 3,000 each payable annual on 31st December. The vendor company charges 5 percent p.a. interest on yearly balances. The cash down value of the van is A 15,000. Show the necessary ledger account in the books of Ram & Co. the company provides 10% p.a. depreciation according to reducing Installment system. **(Ans. Interest 1st year, A 650, Second year A 533, 3rd year A 409, 4th year A 280 and 5th year A128)** 4. A company purchased a motor cycle on hire purchase system on 1st January 2016. The first installment of A 6,000 was paid immediately and the balance by four equal installment of A 6,000 was each to be paid on the last date of each year. The vendor charged 5% per annum interest on the unpaid balance. The cash price of the press on delivery was A 27,300. Depreciation is to charged at 10% on the diminishing balance of the asset. Draw up Vendor's Account, Motor cycle account , interest account and depreciation account in the books of the buyer. **(Ans. Interest A 1,065, A 818, A 559 and A 258)** 5. Rohita Purchased a machine on hire purchase system , the cash price of which was A 14,6000. A 11,400 were paid at the time of contract on 1st July 2016 and the balance was to paid by half-yearly installment of A 800 plus interest at 5 percent p.a. Depreciation charged by Ashaaz is 10 percent p.a. on diminishing balance method. Accounts are closed on 30th June. Prepare machinery account, hire vendor account , interest account and depreciation account in rohita's Ledgers. **(Ans. Interest A 80, A 60, A 40 and A 20)**

					4. Muneer purchased an asset for A 60,000 payment to be made year. Rate and three installment of A 18,000 each at the end of each depreciates asset at 10% p.a. on written down value method. Due to financial difficulties Muneer could not pay installment after the first installment and the selling company took possession of the asset. The selling company after spending A 1,500 on repairs of the asset sold it away for A38,000. Prepare the necessary ledger accounts in the books of both the parties. **(Ans. Loss on default transferred to Profit and Loss Account A13,950. Seller's account transferred to asset account A 34,650, Profit on resale A 1,850)** 6. Lallu purchased a Lorry from Kishen for A 1,50,000 payable A50,000 down and the balance in four annual equal installments for A 25,000 each at the end of each year, together with interest @ 10% p.a. The lorry is depreciated at 20% p.a. on the reducing balance system. Lallu pays cash down and three successive installment but fail to the last installment. Consequently Kishens reclaims the lorry. He spends, A 5,000 on repair and sell it for A50,000. Show the ledger account in the books of Lallu **(Ans. Loss on default A 33,940)**
6	UNIT-6 Company Accounts-I	• Issue share with Premium, • Issue share with Discount, • Forfeiture of shares		Nil	**Exercises** 1. PQR limited issued 10,000 shares of A 10 each payable A 2 on application A 5 on allotment and the remaining balance on call. Applications were received for 9,000 shares and the shares were duly allotted. All cash due on allotment and call was received .Write the journal entries in the books of company and prepared cash book. 3. Reliance limited invite applications for 60,000 shares at A 100 each at premium of A 10 per share. The share were payable as follows, on application A 30, on allotment A 60 including premium, on call A 20. Application were received for 50,000 shares. Allotment money was received for 38,000 shares. No calls were made till to date. Write journal entries. **Problems** 3. A limited company was formed on January 1, 2019 with an authorized capital A 3,00,000 divided into 1,000 shares of A 100 each. On the same date, the company issued a prospectus asking for subscriptions to 900 shares payable A 25 per share on applications A 40 on allotment and the remainder on a call. All share were applied for and allotted and the call cash due on allotment and call was received. Give the necessary entries. 5. Base Informatics Limited issued 5,000 equity share of A 10 each at premium of A 2 per share payable A 2 on application A 5 on allotment (including premium) A 3 on first call and balance on final call. The shares were all subscribed and amount received on calls except the first call on 1,000 shares and final calls on 1,500 shares. Give cash book and journal entries 6. Monica Ltd., invite applications for 20,000 shares of A 100 each at a premium of A 10 per share. The share were payable as follows On application A 20 On Allotment A 40 (including premium) On First Call A 30 On Final Call A 20 Give Journal entries

7	UNIT-7 Company Accounts-II		Nil	3. From the following balances prepare Trading Account and Profit & Loss Account, Profit and Loss Appropriation A/c for the year ended 31st March 2019. Rs. (A) Purchases -- 5,69,842 Stock on 1-4-2018 -- 68,892 Freehold Premises -- 55,026 Productive wages -- 25,090 Salaries -- 22,060 Bad Debts -- 476 Repairs to Building -- 5,056 Interest on Bank overdraft -- 1,260 Plant and Machinery -- 80,140 Printing and Stationery -- 33,400 Director's Fees -- 6,400 Auditor's Fees -- 3,000 Rates and Taxes -- 7,576 Debtors -- 45,000 Sundry office expenses -- 1,052 Share capital (25000 shares of A 10) -- 2,50,000 Purchase returns -- 5,500 Sales -- 1,91,800 Rents from property -- 12,260 P&L Credit balance -- 10,000 Discount received -- 4,000 Commission received -- 5,000 The following adjustments have to be made before closing the accounts (a) Value of closing stock is A 1,40,200 (b) Depreciation on Plant and Machinery has to be written off at 10% per annum, (c) Provide for Bad and Doubtful Debts at 5 percent. **(Ans. Gross Profit 168,175, Net Profit A 96,641, Surplus A 108891)**
8	UNIT-8 Company Accounts-III		Nil	**Exercise No. 3** Ramada Co. Ltd was registered with an authorised Capital of A 10,00,000 divided into 10,000 ordinary shares of A 50 each and 5,000 10% reference shares of A 100 each. The following Trial balance was extracted from the books of the company as on 31st December 2019 Prepare balance sheet as on 31 December 2019. Plant and Machinery 2,85,000 Lease hold premises 7,00,000 Calls in Arrears on ordinary shares 5,000 Sundry Debtors 3,00,000 Prepaid advertisement expenses 1,40,000 Furniture and fixtures 29,000 Cash in hand 1,000 Ordinary shares capital (8,000 shares fully called up) 4,00,000 Preference Shares 5,00,000 Sundry Creditors 1,42500 Profit and loss adjustment account (Surplus) 1,14,000 Bank overdraft 25,000

				Debentures 5,00,000 **Adjustments :** 1. Depreciate Plant and Machinery at 10% 3. Closing stock amounted to A 2,50,000 **Balance Sheet Total - 16,76,500**

ACCOUNTING & TAXATION - SECOND YEAR
PAPER-III: TAXATION-II

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	**UNIT-1** Income From Business		4. Write any expenses allowed under the heads of Income from business.	**Problem 5**

From the Profit and Loss Account Mr. madan for the ending 31 st March 2019. Find out his business income.

Dr.			Cr.
To Office Expenses	40,000	By Gross profit	4,60,000
To General expenses	10,000	By Interest on B.deposit	40,000
To Interest on loan	5,000	By Discount	5,000
To Interest on capital	15,000	By Sundry receipts	15,000
To Audit fee	8,000	By Bad debt recovered	20,000
To Rent	20,000	By Refund of sales tax	5,000
To Income tax	6,000	By Dividend	10,000
To Charity	4,000		
To Legal expenses	4,000		
To Compensation to worker	12,000		
To Wealth tax	10,000		
To Sales tax	8,000		
To Net Profit	4,13,000		
	5,55,000		5,55,000

Other information:

1. General expenses include the purchase of office equipment costing A8,000.
2. Legal expenses are in relation to income –tax proceedings.
3. Rent includes A 10,000 paid as rent of the house in which the assessee lives.
4. Depreciation on all assets amount to A 14,000.
5. Sales tax paid was in relation to the year 2018-19 **[Ans: A 4.02,000]**

6 From the below given information compute business income of Mr.Mohan for the A.Y. 2018-19.

Dr.			Cr.
To Salaries	10,000	y Gross profit	1,72,000
To Household expenses	5,000	By Dividends	10,000
To Charity	10,000	By Interest on debtors	10,000
To Wealth tax	10,000	By Commission	15,000
To Donations	15,000	By Bad debts recovered	10,000
To Income tax	7,000		
To Bad debts	3,000		
To Provision for bad debt	2,000		
To Discount	3,000		
To Interest on capital	15,000		
To Depreciation	12,000		
To Fire insurance	1,000		
To Life insurance premium	4,000		
To Travelling	6,000		
To General expenses	14,000		

To Net Profit	1,00,000		
	2,17,000		2,17,000

Further information:

1. Allowable depreciation A16,000.
2. General expenses include A 4,000 spent on rectifying the defective title of a business asset.
3. Travelling expenses include A 5000 spent on pleasure trip of the proprietor.
4. Donations are paid to an approved institution.
5. Bad debts recovered were disallowed earlier.

[Ans: A1,53,000]

2 **UNIT-2** Income From Profession

5. Mention any four professional incomes.
6. Write briefly differences between business and profession.

Problem 4

'Rama Rao' is a leading tax consultant, who maintain his books of account on each basis furnishes the following particulars for the year ending 31st march,2019.

Receipts and Payments Accounts for the year ended 31-03-2019

Dr.			Cr.
Receipts	**Rs.(A)**	**Payments**	**Rs.(A)**
Balance b/d	16,000	Purchase of computer	30,000
Fees from clients		Car expenses	20,000
	40,000	Office expenses	10,000
	1,60,000	Salary to staff	
Gifts from clients	20,000	2017-18	12,000
Examiner's Fees	10,000	2018-19	28,000
		Repairs	5,000
		Income-Tax	8,000
		Life insurance	12,000
		Balance c/d	1,21,000
	2,46,000		2,46,000

Notes:

1. Depreciation on computers 60 %
2. Depreciation on motor car A 10,000. Car is used partly for official and partly for private purposes. The A.O. felt that 40 % of car's use in attributable to private purpose. Compute professional income for the Assessment Year 2018-19.

Problem 5

Mr.'Shyam' a practicing Chartered Accountant submits you the following information. Compute Professional Income.

Receipts and Payment A/c for the year 31-03-2019

Dr.			Cr.
To Opening balance	1,20,000	By Staff salaries	1,20,000
To Audit fees	2,40,000	By Office expenses	1,80,000
To Dividends	60,000	By Stationery	20,000
To Interest on securities	40,000	By Books and Journals	15,000
To Financial Consultancy	80,000	By Shares purchased	30,000
To Fees for accounting works	20,000	By Govt. Securities	20,000
To Gifts from clients	40,000	By Travelling	10,000
To Rent from house property	100,000	By Stipend to trainees	15,000
To Examiners fee	30,000	By General expenses	20,000
To Institute Fees	20,000	By Income tax	12,000
		By Life insurance	18,000
		By Membership	5,000

				subscription By Closing Balance 2,85,000 7,50,000 7,50,000 Additional information: 1. Gifts include **A** 10,000 received from parents. 2. Closing stock of stationery **A** 5,000 3. Salaries include **A** 20,000 paid to domestic servants. 4. General expenses include **A** 8,000 as charity paid to poor students. **[Ans: A 68,000]**
3	**UNIT-3** Income from Capital Gains		Nil	**6.** From the information given below compute taxable capital gains.

Asset	Date of Acquisition	Cost of Acquisition	Date of Transfer	Transfer Consideration	Transfer Expenses
Residential house property	1-4-1979	1,25,000 FMV A 1,60,000	30-06-18	40,00,000	40,000
Urban Agricultural land	30-09-02	2,40,000	01-02-19	30,00,000	20,000
Shares of X Ltd.	31-12-14	1,20,000	01-07-18	10,00,000	5%
House hold Furniture	30-09-08	2,40,000	01-06-18	2,00,000	--

Note : From the transfer consideration received on residential house property of A 10,00,000 reinvested on another house property. Similarly A 4,00,000. re-invested on the purchase of agricultural lands in urban areas from the consideration of unban agricultural lands.

CII for the years 2014-15= 1024; 2002-03=447 2018-19=1024).

(**Ans :** Nil; LTCG: A 7,92,574, STCG A 3.36,000; House hold furniture not taxable)

7. From the information given below compute taxable capital gains.

Particular	**Compulsory acquisition of land & building**	**Plant Machinery**	**Gold and jewelry**	**Shares of X Ltd**
Date of acquistion	1-6-2004	30-6-1998	1-4-85	31-12-2011
Cost of acquisition	2,40,000	10,00,000 (W.D.V, 6,00,000)	80,000 (FMV 1,20,000)	1,20,000
Date of transfer	30-06-2018	1-2-2019	30-9-2018	31-12-2018
Transfer consideration	12,60,000	4,50,000	10,43,600	5,18,250
Transfer expenses	60,000	Nil	10,000	5,000
Reinvestment same in the asset	8,00,000	Nil	2,40,000	2,00,000
CII	480	351	133	711

Note: Current year CII =1024.

4	**UNIT-4** Income from Other Sources	• various types of securities. • grossing up	3. Mention various types of securities. 4. What is grossing up?	3. Following are the particulars of investment of Miss. Lavanya for the previous year 2018-19. (i) A 1,00,000 – 2% Tax Free Kerala Government Securities. (ii) A 2,60,000 -6% Tax Free Debentures of Birla Jute Co., Limited. (iii) A 60,000 – 8.5% N.R.I. Bonds (Second Series) of S.B.I. (iv) A 90,000 – 4% (Less Tax) A.P. Government Bonds. (v) A1,80,000 – 10 % Fixed deposit with Indian Bank. (vi) A 70,000 – 8% Preference Shares of a Company. (vii) Bank Charges paid A 60/- (viii) Interest paid on loan taken for the purchase of tax free Government Securities A 850/- (ix) Income from other heads is A 2,07,414. Compute the income from interest on securities and tax liability. **[Ans: Income from interest on Securities A 22,023]**
5	**UNIT-5** Deductions from Gross total Income	5.12 Donations for Scientific Research	1.What are the deductions under section 80 GGA	4. The following are the income particulars of Mr.yakub Ali. Compute his total income for the A.Y. 2019-20. Rs.(A) Salary (gross) 75,000 Income from house property (computed) 25,000 Interest on bank deposits 12,000 Casual income 16,000 Tamil Nadu lottery prize 80,000 His payments are as follows: Life Insurance premium 10,000 Donation to National Defense Fund 3.000 Tax advocate fee 1,000 Interest on money borrowed for payment of tax 500 **[Ans. A1,95,000: Deduction u/s 80 G A 3,000]**
6	**UNIT-6** Assessment of individual		4. Compute the tax liability of Mr. Shekar. Total Income ` 5,25,000	3. From the following particulars compute total income of Mr. P Ram Reddy (a) Income from Salary - 3,50,000 (b) Income from House Property - 2,75,000 (c) Municipal Tax paid - 25,000 (d) Long term capital gain - 1,80,000 (e) Income from other sources - 1,90,000 (f) Life Insurance premium paid - 25,000 (g) Paid Medical Insurance - 5000 **4.** From the following particulars compute total income of Mr. Raj Kumar. **Rs.(A)** (i) Income from Salary 2,08,000 (ii) Income from house property 76,000 (iii) Income from long-term capital gains on shares A 81,000 and on building A1,90,000 (iv) Income from other sources 24,000 (v) Winning from Horse races (gross) 68,000 **Deductions allowable as per I.T. Act.** (1) A 86,000 u/s 80 C (2) A 5,000 u/s 80 D (3) A 10,000 u/s 80 G. **[Ans: 4,65,000]**
7	**UNIT-7** GST – I		Nil	1. Explain the silent features of GST.
8	**UNIT-8** GST – II		2. What is GST Audit? 3. What is validity of E-way bill?	3. Explain regarding returns under GST.

VOCATIONAL CURRICULUM-2020

(For the Academic year 2020-21)

[70% CONTENT IN VIEW OF COVID-19 PANDEMIC]

OFFICE ASSISTANTSHIP
[COURSE CODE: 213]

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

Dr. A.Ashok I.A.S
COMMISSIONER

500001

INTERMEDIATE EDCATION
Government of Telangana
Nampally, Hyderabad-

Phone: 040-24655915

Fore word

In any developing society with a booming population, Vocational Education occupies an important position for generating large scale employment opportunities. Viewed in this context the importance of Vocational Education for our country cannot be over emphasized. Vocationalization of Secondary Education was introduced in 1988 at the Intermediate level. Recently, the Government of India has developed a National Skills Qualification Framework for establishing a clear path for vocational education from the school level to the highest level. The Department of Intermediate Education has recently framed a new curriculum to bring greater value to the system of vocational education. The primary aim of this reform is to prepare the students with employable skills for absorption in organized sectors and in few cases, even for self-employment.

State Institute of vocational education and Board of Intermediate Education, Telangana have reviewed the curriculum of vocational courses in order to reorient them for their practical approach. Greater emphasis is now being placed on Laboratory work and on the job training.

Simultaneously, The State Institute of Vocational Education and the department of Intermediate Education are presently making efforts to upgrade the quality of infrastructure in the colleges to meet the challenges of the changed curriculum. I am confident that the revised curriculum and the new text books would prove to be beneficial to the students in the vocational stream and help them train in need based productive courses leading to gainful employment.

Commissioner of Intermediate Education
Government of Telangana

S No.	Contents	Page No.
I	**Introduction**	5
II	**Objectives of the Course**	6
III	**Skills to be provided**	6
IV	**Job Opportunities** a) Wage Employment b) Self-Employment	6
V	**Scheme of Instruction and Examination**	7
VI	**Evaluation of On the Job Training**	
	SYLLABUS	
VI	**First year Intermediate** **Theory** Paper I : Business Organization Paper II : Accountancy & Computers - I Paper III: Shorthand, Correspondence and Data Entry on Computers **Practicals** Paper I : Business Organization Paper II : Accountancy & Computers - I Paper III: Shorthand, Correspondence and Data Entry on Computers	10
VII	**Second Year Intermediate** **Theory** Paper I : Shorthand Speed drills & Transcription Paper II : Accountancy & Tally - II Paper III: Office Management and Secretarial Duties **Practicals** Paper I : Shorthand Speed drills & Transcription Paper II : Accountancy & Tally - II Paper III: Office Management and Secretarial Duties	20
VIII	**Model Question Papers**	28
IX	**List of Equipment** a) Collaborating Institutions for curriculum transaction b) On – the – Job Training Sites	42
X	**Teaching staff and their Qualification**	43
XI	**Vertical Mobility**	43
XII	**Equivalency of Papers**	43
XIII	**List of Participants**	44

I INTRODUCTION

The objectives of Vocational Education System in the context of fulfilment of national goal is to train the students for employment in the growing sectors of economy, both organized and unorganized, to provide an alternative channel for higher education and making students self-reliant for gainful employment. Office Assistant, Secretarial Post, Personal Secretary Post, Stenographer Post & Head Clerk Posts have grown by leaps and bounds and the diversification of activities has led to exponential increase in the availability of job opportunities in different Sectors related to service industries. To cater to the requirements of the Office Assistantship, this Office Assistantship Course syllabus has been refined.

At present 29 Vocational Courses are offered at Intermediate Level in Telangana. As per the guidelines given in the National policy on Education, all the Vocational Courses are terminable in nature. The present curriculum is so framed to meet the challenges on one side and the requirements of such sector on the other.

It is therefore felt necessary to convert the Vocational Courses as Job oriented courses and to refine the syllabus for the existing Vocational courses. Accordingly to accomplish this task it is decided to conduct the curriculum development work shops with Expert Committees. The members entrusted with the task of preparation of syllabi hail from various reputed organizations and institutions of varied nature i.e. Academicians, Professionals and Technical Experts. They felt more emphasis is to be given for practical training, hence more importance has been given to On the Job Training in the present syllabi.

II. Objectives of the Course:

- To understand the concepts of E-Commerce and Computers
- To keep the student abreast of the Accounting procedures of various types of business concerns and organization.
- To acquire skills of speed, accuracy and efficiency in Data Entry On Computers.
- To acquire skills of speed, accuracy and efficiency in Shorthand.
- To use the computer skills in the accomplishment of office work.
- To enable the student appreciate the role and contribution of an Office Assistant.
- To train and develop competent office personnel for salary and self-employment.

III. SKILLS TO BE PROVIDED

- Noting, Drafting, filing, indexing, Data Entry on Computers etc.
- Maintenance of Inward and Outward Mail.
- Use of Modern Office equipments, Computers and Stationery.
- Taking Dictation and Transcribing using Phonography and Computer Skills.
- Awareness of various Communication Skills in different sectors.
- Data Entry using MS-Office.
- Use of Printer.
- Preparation of Accounts by using of Tally.

IV. JOB OPPORTUNITIES

SALARY EMPLOYMENT

4.1.1 Office Assistant/Junior Assistant
4.1.2 Accounts Assistant
4.1.3 Stenographer
4.1.4 Record Assistant
4.1.5 Steno-Typist
4.1.6 Computer Data Entry Operator
4.1.7 Personal Assistant /Private Secretary
4.1.8 Receptionist.

SELF EMPLOYMENT

4.2.1 Establishing Coaching Centre for Shorthand and Computers.
4.2.2 Data Entry on Computers.

V. SCHEME OF INSTRUCTION AND EXAMINATION

ANNUAL SCHEME OF INSTRUCTION AND EXAMINATION FOR OFFICE ASSISTANTSHIP

FIRST YEAR

Part-A		Theory		Practicals		Total	
		Periods	**Marks**	**Periods**	**Marks**	**Periods**	**Marks**
1.	English	150	50	0	0	150	50
2.	General Foundation course	150	50	0	0	150	50
	Part-B						
3.	**Paper-1** Business Organization	135	50	135	50	270	100
4.	**Paper-II** Accountancy & Computers- I	135	50	135	50	270	100
5.	**Paper-III** Correspondence and Data Entry on Computers	135	50	135	50	270	100
6.	**Part-C OJT**	0	0	365	100	365	100
	Total	**705**	**250**	**770**	**250**	**1475**	**500**

*on the Job Training for 1st year from 1stNovember to 31st December

SECOND YEAR

Part-A		Theory		Practicals		Total	
		Periods	**Marks**	**Periods**	**Marks**	**Periods**	**Marks**
1.	English	150	50	0	0	150	50
2.	General Foundation course	150	50	0	0	150	50
	Part-B						
3.	**Paper-1** Shorthand Speed drills & Transcription	110	50	115	50	225	100
4.	**Paper-II** Accountancy & Tally - II	65	50	160	50	225	100
5.	**Paper-III** Office Management and Secretarial Duties	110	50	115	50	225	100
6.	**Part-C OJT**	-	-	450	100	450	100
7.	**Total**	**630**	**250**	**795**	**250**	**1425**	**500**
TOTAL 1st YEAR AND 2nd YEAR MARKS 1000							

*OJT Programme for 2nd year students from 1st August to 31st October

EVALUATION OF ON THE JOB TRAINING:

The "On the Job Training" shall carry 100 marks for each year and pass marks is 50. During on the job training the candidate shall put in a minimum of 90 % of attendance.
The evaluation shall be done in the last week of January.

Marks allotted for evaluation:

S.No	Name of the activity	Max. Marks allotted for each activity
1	Attendance and punctuality	30
2	Familiarity with technical terms	05
3	Familiarity with tools and material	05
4	Manual skills	05
5	Application of knowledge	10
6	Problem solving skills	10
7	Comprehension and observation	10
8	Human relations	05
9	Ability to communicate	10
10	Maintenance of dairy	10
	Total	100

NOTE: The On the Job Training mentioned is tentative. The spirit of On the Job training is to be maintained. The colleges are at liberty to conduct on the job training according to their local feasibility of institutions & industries. They may conduct the entire on the job training periods of (365) First year and (450) Second year **either by conducting classes in morning session and send the students for OJT in afternoon session or two days in week or weekly or monthly or by any mode which is feasible for both the college and the institution**. However, the total assigned periods for on the job training should be completed. The institutions are at liberty to conduct On the Job training during summer also, however there will not be any financial commitment to the department.

SCHEME OF INSTRUCTION PER WEEK

	Part-A	**Theory**	**Practicals**	**Total**
1.	English	4	-	4
2.	General Foundation Course	4	-	4
	Part-B			
3.	Paper –I	4	4	8
4.	Paper-II	4	4	8
5.	Paper-III	4	4	8
6.	**Total**	**20**	**12**	**32**

SYLLABUS
OFFICE ASSISTANTSHIP
FIRST YEAR
PART B – VOCATIONAL SUBJECTS
PAPER – I: BUSINESS ORGANISATION (THEORY& PRACTICALS)
TIME SCHEDULE, WEIGHTAGE & BLUE PRINT

S.No	NAME OF THE UNIT	No. Of Periods		Weightage in marks	Short answer questions	Essay/ Problem questions
		Theory	Practical			
01	Basic Concepts	15	15	10	2	1
02	Sole proprietorship, Joint Hindu family	20	20	8	1	1
03	Partnership	15	15	8	1	1
04	Joint stock company	20	20	10	2	1
05	Incorporation of Joint stock company	20	15	8	1	1
06	Co-operative societies	15	15	8	1	1
07	Aids to Trade - Banking & Insurance services	10	15	8	1	1
08	Aids to Trade - Transport, Warehousing & Advertisement	20	20	8	1	1
	Total	135	135	68	10	08

Note: The question paper contains two sections.

Section – A of question paper contains 10 questions carries 2 marks each. The student has to answer all questions.

Section – B of question paper contains 8 questions carries 6 marks each. The student has to answer five questions.

COURSE CONTENTS:

1. **Basic Concepts** – Business organization and its scope – Business, Profession, Industry, Trade, types and ~~aids to trade~~, Classification of Industries, Forms of Business organization.
2. **(a). Sole trader** – Characteristics - merits and demerits of sole trader – **Joint Hindu Family** – Karta – ~~merits and Demerits~~ – Schools of Joint Hindu Family.
   (b). Self -Employment, Entrepreneurship, Small Business, Private sector, Government Sector, CRM Practices
3. **Partnership** – Characteristics – merits and demerits – ~~Partnership deed~~ – Types of partners – ~~Rights and duties of partners~~.
4. **Joint Stock Company**– Characteristics, merits – demerits, ~~kinds of companies~~, Promoter.
5. **Incorporation of Joint Stock Company** – Procedure of promotion and incorporation of Joint stock Company – Memorandum of Association – Articles of association – ~~Prospectus~~ – Golden rule of framing prospectus.
6. **Co-operative societies –** Characteristics – ~~Types of co-operative societies~~ – merits and demerits
7. **Aids to Trade -** Banking and Insurance Services **–** Definition of bank and insurance – ~~Different types of banks~~ – Functions of commercial banks – Advantages of insurance – Principles of insurance – ~~Types of insurance~~ – RBI and its Functions
8. **Aids to Trade -** Transport, Warehousing & Advertisement **–** Advantages of transport – Types of transport – ~~Importance of warehousing~~ – ~~types of warehousing~~ – Need and importance of advertisement – Print media – outdoor media – Importance of Advertising to different types of companies

References:

1. Jones & Mathew: Organization Theory, designed change – Vikas Publishers
2. P.N.Reddy – Principles of Business Organizations – S. Chand Publications
3. Nathan S.Collier - A Different types of Business Organizations – Wiley Publications

OFFICE ASSISTANTSHIP
FIRST YEAR
PART B – VOCATIONAL SUBJECTS
PAPER – II: ACCOUNTANCY & COMPUTERS – I (THEORY& PRACTICALS)
TIME SCHEDULE, WEIGHTAGE & BLUE PRINT

S.No	NAME OF THE UNIT	No. Of Periods		Weightage in marks	Short answer questions	Essay /Problem questions
		Theory	Practical			
01	INTRODUCTION TO ACCOUNTANCY	15	05	10	2	1
02	JOURNAL	15	10	8	1	1
03	SUBSIDIARY BOOKS	10	10	8	1	1
04	LEDGER	25	10	8	1	1
05	CASH BOOK	10	15	8	1	1
06	RECTIFICATION OF ERRORS &TRIAL BALANCE	15	10	8	1	1
07	FINAL ACCOUNTS	20	20	8	1	1
08	Basic fundamentals of computer	25	55	10	2	1
		135	135	68	10	08

Note: The question paper contains two sections.
Section – A of question paper contains 10 questions carries 2 marks each. The student has to answer all questions. **Section – B** of question paper contains 8 questions carries 6 marks each. The student has to answer five questions.

COURSE CONTENTS:

1. **Introduction to Accountancy** – Definition of Accountancy and Book keeping – Objectives- Merits and demerits – Accounting concepts – ~~Conventions~~ – Single entry system – Double entry system – Advantages – Accounting Cycle – Accounting Standards – IFRS – Concept & Need.
2. **Journal** –Types of Accounts – Rules of Debit and Credit – Journal – Journal entries (including Problems) – Functions of Debit and Credit
3. **Subsidiary books** – Types of subsidiary books – Purchase book – purchase returns book – Sales book – Sales returns book – Bills receivable book – Bills payable book- Journal proper (including Problems)
4. **Ledger** – Meaning Classification of Ledger – posting the transactions into Accounts – Balancing the Accounts (including Problems)
5. **Cash Book** – Types of cash book – Simple or single column cash book – Two column cash book – ~~Three column cash book – Petty cash book~~ - (including Problems)
6. **Rectification of errors &Trial balance** – Rectification of Errors – one side & two side Importance of trial balance – Preparation of trial balance – (including Problems)
7. **Final Accounts** – Preparation of Trading account, Profit & Loss account and Balance sheet with adjustments (including Problems)
8. **Basic Fundamentals of computers** – Fundamentals of Computers - Types of Computers - Generation of computers – Block Diagram – Memory – CPU - Advantages of computers - Input, output devices – Operating system – MS.WORD – MS EXCEL - MS POWERPOINT.

References:-

1. P.C.Tulsian – Financial Accounting & Analysis – Tata Mcgraw Hill Publications
2. S.N.Maheswari – Financial Accounting & Analysis – Vikas Publications
3. V.K.Goyal – Financial Accounting – EXCEL Books
4. E.Balaguruswamy- Fundamentals of Computers Tata C Graw Hill Education Pvt, Ltd.,

PRACTICAL ACTIVITIES UNDER ACCOUNTANCY & COMPUTERS:

PROBLEMS IN JOURNAL
PROBLEMS IN LEDGER
PROBLEMS IN SUBSIBIARY BOOKS
PROBLEMS IN CASH BOOK
PROBLEMS IN RECTIFICATION OF ERRORS & TRAIL BALANCE
PROBLEMS IN FINAL ACCOUNTS

WINDOWS:
Basics of windows operation, copying , moving of files, creating, deleting, renaming folders, creating shortcuts, placing shortcuts, operation of control panel, screen setting, mouse setting, viewing files with my computer, viewing files with explorer, deleting files, folders and retrieving from cycle bin, installing software/uninstalling software, hardware, printing text documents.
MS – WORD:
Creating and saving a document, operation of tool bars, selecting menus from the drop menus, formatting the text, spell checking, mail merging, printing of document
MS – EXCEL
Introduction to electronic spreadsheets, entering column titles, entering numbers, editing data, selecting cells, calculations using formulas, copying data, moving data, drag and drop feature, clearing cell contents, saving a work book, closing a work book, working with work sheets, inserting and deleting worksheets, etc. Problems of Final Accounts using Excel.
WINDOWS: Demonstrate use of start button

- Demonstrate viewing of the setting option in the start menu
- Demonstrate loading of control panel and understand selecting the items
- Demonstrate changing date and time, screen settings, printer settings
- Demonstrate changing of settings of mouse
- Demonstrate creating of folders
- Demonstrate deleting of files, folders, un-deleting of files and folders
- Create text file using wordpad or notepad
- Format the text document with all the features available in wordpad
- Print the document created using wordpad, note pad

MS – WORD: Demonstrate starting MS word

- Identify the word screen elements
- Identify the tool bars on the screen
- Demonstrate creating a sample text
- Demonstrate text formatting
- Demonstrate page formatting
- Demonstrate search and replace of text
- Demonstrate selecting, diselecting the text from menu and copying
- Demonstrate spell checking
- Demonstrate mail merging of documents

MS – EXCEL
Describe the EXCEL window

- Define the term cell, current cell, cell pointer, range
- List the toolbars of EXCEL and their functionality
- Demonstrate procedure to Edit the contents of the cell
- Demonstrate the procedure to format the cells with numbers
- Demonstrate the procedure to format the text in the cells
- Demonstrate the procedure to change the width of the cells
- Demonstrate the procedure to change the height of the cells
- List the operators used in formula
- Procedure to enter formulae with functions

OFFICE ASSISTANTSHIP
FIRST YEAR
PART B – VOCATIONAL SUBJECTS

PAPER –III SHORTHAND, CORRESPONDENCE AND DATA ENTRY ON COMPUTERS SHORTHAND[Theory]

S.No	Contents of the Chapters	No. of Periods	Weighatge in Marks	Short Answer Questions	Essay type Questions
1.	Introduction of Phonographic system – Consonants- Joining of Strokes- Vowels- Places- Intervening Vowels- Position Writing – Grammalogues- Punctuation marks	**25**	**10**	**2**	**-**
2.	Alternative Forms for 'R' and 'H'- Diphthongs- Triphones- Abbreviated W- Phraseography.	**15**	**8**	**2**	**-**
3.	Circle S & Z Stroke S & Z, Large Circles SW, SS & SZ, Loops ST and STR	**10**	**8**	**1**	**1**
4.	Initial Hooks, Alternative Forms, Circles and Loops to Initials hooks – Final Hooks N&F- Circles and Loops to Final Hooks – Shun Hook.	**25**	**8**	**2**	**-**
5.	Aspirate – Upward and Downward R- Upward and Downward L & SH- Compound Consonants – Vowel Indication.	**25**	**8**	**1**	**1**
6.	Halving Principle Section I & II – Doubling Principle.	**20**	**10**	**1**	**-**
7.	Essential Vowels- Medial Semi Circle- Prefixes- Suffixes & Terminations- General Contractions & Special Contractions.	**15**	**8**	**1**	**-**

Reference Books:

1. Pitman Shorthand Instructor and key.
2. Shorthand Dictionary.
3. National Shorthand School (Books) Theory.

Objectives:

At the end of the instruction, the learner will be able to

1.0	Understand the Phonography System
1.1.	State the need for Shorthand in Modern Business and Government Offices.
1.2	Define and Explain the Importance of Shorthand.
1.3	State the advantages of phonography in Shorthand.
1.4	Define Consonants.
1.5	Identify the consonantal sounds in English.
1.6	Distinguish the consonantal sounds in English and Phonography.
1.7	Identify and write the signs of consonants.
1.8.	Practice the consonantal signs from exercises.
1.9.	Explain the principle of joining the strokes.
1.10	Practice the joining of strokes.
1.11	Define a Vowel in phonography.
1.12	List the various vowel sounds.
1.13	Explain the vowel places.
1.14	Identify and indicate the vowels in respective places.
1.15	Explain the Intervening Vowels.
1.16	Indication of Intervening vowels to the strokes.
1.17	Explain the rules governing the position writing of the strokes.
1.18	Define Grammalogues.
1.19	Explain the various punctuation marks in Shorthand.
1.20	Practice Grammalogues.
2.0	**Understand the Alternative forms for 'R' & 'H' Diphthongs and Phraseography.**
2.1	Explain the Alternative forms for 'R'
2.2	List the circumstances in which Downward 'R' is used.
2.3	List the circumstances in which upward 'R' is used.
2.4	Explain the alternative forms for 'H'
2.5	Explain the use of Downward and Upward 'H'
2.6	Practice words using the alternative forms.
2.7	Define Diphthong.
2.8	List the various diphthong signs and their places.
2.9	Use of diphthongs at the appropriate place.
2.10	Explain the joined diphthongs.
2.11	Define Triphone.
2.12	Explain the use of Triphone in Shorthand.
2.13	Define abbreviated 'W'.
2.14	Explain the use of abbreviated ' W' in Shorthand.
2.15	Difference between Phraseography and Phraseogram.
2.16	List the qualities of a good Phraseogram.
2.17	Explain the position of a Phraseogram.
3.0	UNDERSTAND THE WRITING OF SMALL AND LARGE CIRCLE, AND LOOPS 'ST' AND 'STR'.
3.1	Explain the left & right motion used for circles.
3.2	Explain the rules governing the use of a small circle initially, medially and finally to straight and curved strokes.

	3.3.	Define a Large Circle.
	3.4.	Explain why the 'SW' circle is used only initially.
	3.5	Explain the use of 'SW' circle to straight and curved strokes.
	3.6	Explain the use of 'SS' Circle to straight and curved strokes.
	3.7	List the circumstances when large circles are not used.
	3.8	Mention the use of large circles in phraseography.
	3.9.	Define the loop 'ST' and 'STR'.
	3.10	Explain the use of loops 'ST' and 'STR' initially, medially and finally to straight strokes and curves.
	3.11	Explain the circumstances in which the loops are not used.
	3.12	List the use of loops in Phraseography.
4.0	**Understand the use of hooks to the strokes.**	
	4.1	Explain the concept of double consonants and its features.
	4.2	Explain the procedure for writing the 'R' hook to the straight stokes and curves.
	4.3	Explain the procedure for writing the 'L' hook to the straight stokes and curves.
	4.4	Explain the procedure for indication of vowels to the double consonants.
	4.5	Explain the alternative forms for fr,vr,thr&Thr.
	4.6	Explain the rules governing the use of alternative forms for fr,vr,thr&Thr.
	4.7	List the alternative forms for fl,vl&thl.
	4.8.	Explain the rules governing the use of alternative forms for fl,vl&thl.
	4.9.	Explain the indication of intervening vowels to the double consonants.
	4.10	Explain the use of extended use of 'L' hook.
	4.11	Explain the use of circles and loops to initially hooked strokes.
	4.12	Explain the use of final hooks for 'N', F & V.
	4.13	Explain the circumstances in which the final hooks are not used.
	4.14	Explain the use of circles and loops to final hooks.
	4.15	Explain the rules governing the use of Shun hook to straight strokes and curves.
	4.16	List the circumstances in which Shun hook is not used.
5.0	**Appreciate the use of Aspirate and the Alternative forms for 'R', 'L' and 'SH'.**	
	5.1	Define Aspirate
	5.2	List the various forms of Aspirate.
	5.3	Explain the rules governing the use of various forms of Aspirate 'H'.
	5.4	List the circumstances in which Downward 'R' is used.
	5.5	List the circumstances in which Upward 'R' is used.
	5.6	Explain the use of Upward and Downward 'L'
	5.7	Explain the use of Upward and Downward 'SH'
	5.8	Define compound consonants.
	5.9.	Explain the use of various compound consonants.
	5.10	Explain the circumstances when a vowel is implied.
6.0	**Explain the halving and Doubling Principles.**	
	6.1	Define the principle for halving a stroke
	6.2	Explain the use of halving principle for monosyllabic words.
	6.3	Explain the use of halving principle for polysyllabic words.
	6.4	Explain the rules governing the halving of 'M', 'N', 'L' & 'R'.

	6.5 Explain the rules where halving principle is not used. **6.6** Explain the rules governing the use of halving principle in phrases. **6.7** Define Doubling Principle. **6.8** Explain the rules governing the use of doubling principle for straight stokes and curves. **6.9** Explain the rules governing the use of MP and NG. **6.10** Explain the rules where doubling principle is not used. **6.11** Explain the rules where doubling principle is used in phrases.
7.0	**Understand the use of Essential Vowels, Medial Semi-Circle, Prefixes, Suffixes, General Contractions and Special Contractions.** **7.1** Explain the circumstances when vowels are essential. **7.2** Explain the various forms of Medial Semi-Circle. **7.3** Explain the various prefixes and their usage. **7.4** Explain the various suffixes and terminations and their usage. **7.5** Practice exercises covering figures and special symbols. **7.6** Explain the General Contractions. **7.7** Categorize the use of General Contractions. **7.8** Practice the exercises covering the contractions. **7.9** Explain the use of Special Contractions. **7.10** Practice of Special Contraction. **7.11** Practice the exercises in Special Contractions.

SYLLABUS
OFFICE ASSISTANTSHIP
SECOND YEAR
PAPER-I: SHORTHAND SPEED DRILLS & TRANSCRIPTION [THEORY]

S.No	UNIT	Periods
1.	Advance Phraseography	10
2.	Speed Drills at 40 wpm	10
3.	Speed Drills at 50 wpm	15
4.	Speed Drills at 60 wpm	15
5.	Speed Drills at 70 wpm	20
6.	Speed Drills at 80 wpm	20
7	Speed Drills at 90 wpm	20
	Total	**110**

The Examination papers shall be sent by the B.I.E. for I.P.E at 80 wpm to be dictated and transcribed in 1hr. 30 minutes. The duration of speed is 7 minutes [5 minutes passage + 2 minutes letter]

Objectives:
At the end of instruction, the student will be able to

1.	**Understand the rules governing the use of Advance Phraseography** 1.1 Practice Grammalogues /Contractions. 1.2 Practice Special Contractions Section I to V. 1.3 Explain the rules governing the formation of advance phrases. Practice the Advanced phraseography from section I to VII. 1.4 Practice Revisionary Exercises A, B and C
2.	**Practice Taking Down Dictation at 40 WPM** 2.1 Practice taking down dictation from B.I.E. 2.2 Practice reading of the dictation at 30 wpm. 2.3 Practice taking down dictation from B.I.E. 2.4 Practice reading of the dictation at 40 wpm.
3.	**Practice taking Down Dictation at 60 WPM** 3.1 Practice taking down dictation from B.I.E. 3.2 Practice reading of the dictation at 50 wpm 3.3 Practice reading of the dictation at 60 wpm
4	Practice taking down dictation at 70 wpm 4.1 Practice taking down dictation at 80 wpm
5.	Practice taking down dictation at 80 WPM 5.1 Revise Grammalogues and Contractions. 5.2 Practice taking down dictation from B.I.E. Speed papers at 80 wpm. 5.3 Practice transcribing the dictation from B.I.E Speed papers at 70 wpm. 5.4 Practice transcribing the dictation from B.I.E. Speed papers at 70 wpm. 5.5 Practice transcribing the dictation from B.I.E. Speed papers at 80 wpm. 5.6 Practice transcribing the dictation from B.I.E. Speed papers at 90 wpm.

OFFICE ASSISTANTSHIP
SECOND YEAR
PAPER –II: ACCOUNTANCY– II (THEORY & PRACTICALS)

TIME SCHEDULE, WEIGHTAGE & BLUE PRINT

S.No	NAME OF THE UNIT	No. Of Periods		Weightage in marks	Short answer questions	Essay/ Problem questions
		Theory	Practical			
01	DEPRECIATION	05	10	8	1	1
02	ACCOUNTS OF NON-TRADING CONCERNS	15	20	10	2	1
03	PARTNERSHIP ACCOUNTS – I	15	20	10	2	1
04	PARTNER SHIP ACCOUNTS - II	15	15	8	1	1
05	HIRE PURCHASE AND INSTALMENT PURCHASE SYSTEM	10	15	8	1	1
06	COMPANY ACCOUNTS – I (Tally)	10	15	8	1	1
07	COMPANY ACCOUNTS – II (Tally)	10	15	8	1	1
08	COMPANY ACCOUNTS – III (Tally)	15	20	8	1	1
		95	130	68	10	08

Note: The question paper contains two sections.

Section – A of question paper contains 10 questions carries 2 marks each. The student has to answer all questions.

Section – B of question paper contains 8 questions carries 6 marks each. The student has to answer five questions.

COURSE CONTENTS:

1. **DEPRECIATION** – Meaning and need of depreciation – Causes of depreciation – Methods of depreciation – Simple problems on depreciation (Straight line and ~~diminishing balance method)~~
2. **ACCOUNTS OF NONTRADING CONCERNS –** Distinction between capital and revenue expenditure – Receipts and payments account – Income and expenditure account
3. **PARTNERSHIP ACCOUNTS –** I – Problems on Profit and Loss appropriation account – Admission of partner
4. **PARTNER SHIP ACCOUNTS –** II – Problems on retirement of partner
5. **HIRE PURCHASE AND INSTALMENT PURCHASE SYSTEM –** Features of Hire purchase and Instalment purchase system - Difference between Hire purchase and instalment purchase system – Simple problems in Hire purchase system (only ledger accounts)
6. **Company Accounts – I –** Meaning of company – Meaning of Share capital – Classification of share capital – Types of shares – Issue of shares at par, premium, discount
7. **Company Account – II –** Company final accounts – Trading account, Profit and Loss account & Profit and Loss appropriation account with simple adjustments
8. **Company Account – III –** Company final accounts – Simple problems on Balance sheet contents without adjustments

References:-

1. M.C.Sukla and S.C Gupta – Advanced Accounts – S.Chand& Co.
2. S.N.Maheswari – Introduction to Accountacy – Vikas Publishing House
3. Jagadish. R. Raiyani – Financial Ratios and Financial Statement Analysis – New Century Publications

OFFICE ASSISTANTSHIP
SECOND YEAR
PAPER –III OFFICE MANAGEMENT & SECRETARIAL DUTIES [THEORY]

S.No	Name of the unit	No. of Periods	Weightage in Marks	Short Answer Questions	Essay type Questions
1.	Office Management and its Functions	15	6	2	1
2.	Office Organization and Administration	15	10	1	1
3.	Office Accommodation and Environment	15	10	1	1
4.	Office MachinesandEquipmentandAutomation in Office:	15	6	1	1
5.	Records Management and Office Stationery	20	10	2	2
6.	Office Communication and Mail services.	15	10	1	1
7.	Secretarial Duties	15	6	2	1

Reference Books

1. Office Organization and Management ….R.K.Chopra.
2. Secretarial Practice – M.C.Kuchhal.
3. Telugu Academy Publications as per B.I.E. for Vocational II year.

SYLLABUS

S. No	Name of the unit	No. of Periods	Weightage in Marks	Short Answer Questions	Essay type Questions
1.	**Office Management and its Functions** Meaning Importance & ~~Functions of Office~~ & ~~Office Management~~, Nature of Office work, Functions, Duties & Qualities of an Office Manager.	15	6	2	1
2.	**Office Organization and Administration** Organization-Definition-Characteristics of an Organization-Importance of Organization-Steps taken in Organization Management-Administration-Principles of Organization-Formal & Informal Organization-Difference between Management and Administration on the basis of functions.	15	10	1	1
3.	**Office Accommodation and Environment** Introduction-Principles-~~Location of Office~~-Office Building-Office Layout-Office Lighting-Types of lighting systems-Ventilation-Interior Decoration-Furniture-Safety & Security Measures.	15	10	1	1
4.	**Office Machines and Equipment and Automation in Office:** Objectives of Mechanization-Criteria in selection of office	15	6	1	1

	machines-~~Types of Office machines-~~ Miscellaneous machines including biometrics.				
5.	**Records Management and Office Stationery** Records-~~Importance of Records~~-Record Management-~~Filing-Methods of Filing~~-Indexing-Types of Indexing-Stationery-Importance of Stationery-~~Methods for purchasing of Stationery~~ & ~~Stationery Control.~~	20	10	2	2
6.	**Office Communication and Mail services.** Importance of Communications-Types of Communication-~~Communication procedure~~ - Video Conferencing.- Office Correspondence	15	10	1	1
7.	**Secretarial Duties** Convening & Conducting of Meetings-Notices of Meetings-Quorum, Recording of Minutes & Confirmation.	15	6	2	1

OFFICE ASSISTANTSHIP
SECOND YEAR
PAPER –III OFFICE MANAGEMENT [PRACTICALS]

S.No.	Major Units	Periods
1.	**Office Management and Modern Office and its functions :** Charts - Principles of Management – Flow Charts of Office Activities – Model Office - Types of Offices with Examples.	20
2.	**Office Organization and Administration** Charts – Types of Organizations – Principles of Organization – Functions of Office Administrator.	20
3.	**Office Accommodation and Environment:** Charts – Managing of Office Space/Utilization of Office Space – Display of different Offices – Various Types of Lighting & Ventilation Systems in different types of Offices. Example: Banks, Modern Offices, Schools, Factories, Airports etc.	20
4.	**Office Machines and Equipment and Automation in Office**:Identifying the different types of Office Machines & Equipments used in Offices, Factories, Schools & Banks etc.	10
5.	**Records Management and Office Stationery:** Types of Records, Registers & Files – Stationery Registers & Miscellaneous Expenses Registers – Indexing in different Offices Example: Banks, Modern Offices,Schools, Factories etc. Format of Stationery Register – Regarding purchase & issue of Stationery.	15
6.	**Office Communication and Correspondence and mail services:** Communication Channel in traditional and modern offices – display of sophisticated types of Communication.	15
7.	**Secretarial Duties :** Draft a notice of conducting of Meeting, Preparation of Agenda and Recording of Minutes.	10
	Total	**110**

- Visit any office and do practicals relating to Office functions, Office organization like inward and outward sections & Administration and learn about Office accommodation and environment
- Know about various office machines and equipment like operating fax machines, copier machines etc.,
- Know about maintaining Office stationery and maintenance of records like indexing, filing etc.
- Know about various types of office communications and mail service
- The concerned group lecturer shall take the students and to any office and show live practicals in the office to get easy understandability for the students.
- Visiting Limited Companies like HAL, BHEL, BDL, DRDL students will learn how various departments are functioning under the Personnel Department (Admin). Our Students will know the Secretarial work like taking dictation, making of notices and preparation of circulars. Preparation for meetings like making of Agenda & Minutes of meeting.

OFFICE ASSISTANTSHIP

I YEAR

MODEL QUESTION PAPERS

PAPER – I: BUSINESS ORGANISATION (THEORY)

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**

ii) Each question carries two marks

1. Define Trade.
2. What is an Industry?
3. What is Joint Hindu Family firm?
4. Define Partnership.
5. Define joint stock company.
6. Who is a promoter?
7. Define Articles of Association.
8. Define co-operative society.
9. Define a Bank.
10. What is print media?

SECTION –B

Note: i) Answer all questions **5 x 6 = 30**

ii) Each question carries six marks

11. What are the different types of trades.Explain briefly?
12. State the merits of sole trading business.
13. What are the demerits of partnership firm of organization?
14. What are the characteristics of a joint stock company?
15. What do you understand by “Memorandum of Association”? Describe it’s contents?
16. What are the important characteristics of a co-operative society?
17. Write the important functions of commercial banks?
18. What are the advantages of insurance?
19. Write briefly about different types of transport?
20. Write briefly about the need and importance of advertisement.

OFFICE ASSISTANTSHIP
I YEAR
PAPER – I I: ACCOUNTANCY & COMPUTERS – I (THEORY)

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**
ii)Each question carries two marks

1. Define Accountancy ?
2. Who is Debtor?
3. What is Journal ?
4. Define Ledger?
5. What is Purchase Book?
6. What is Drawings?
7. What is cash book?
8. What is Debit Note?
9. What is a Computer?
10. What is a Scanner?

SECTION –B

Note: i) Answer all questions **5 x 6 = 30**
ii)Each question carries six marks

11. What are the Accounting Concepts ? Explain some of them?
12. List out any five input and output devices in detail.
13. Prepare the Single column cash book from the following transactions

2019		Rs
March 1	Cash Balace	15000
March 5	Cash Purchases	25000
March 15	Cash Sales	35000
March 20	Cash Deposited into Bank	12000
March 28	Cash Withdrawn from Bank	5000
March 30	Drawings	2000

14. Explain different types of Accounts.
15. Explain the different types of cash book.
16. Explain the importence of Cash Book.
17. Give proforma of an account. Explain how entries are made into it?
18. Explain the characteristics of computer.
19. Enter the following transactions in the sales book and post them in ledger account.

2020		Rs.
January 1	Sold goods to naveen	6000
January 5	Sales to gopal	12000
January 8	Sold goods to Ajay	2800
January 15	Goods sold to Vasu	15000
January 20	Sales to Krishna	6000
January 25	Sales to Ramesh	5000
January 26	Sold goods to Manish	8000

20. Prepare the Final Accounts from the following balances:

Opening Stock	Rs. 15000
Purchases	Rs. 9000
Wasges	Rs. 6000
Carriage Inward	Rs. 5000
Factory Rent	Rs. 1000
Sales	Rs. 45000
Closing Stock	Rs. 70000

OFFICE ASSISTANTSHIP
FIRST YEAR
PAPER –III SHORTHAND, CORRESPONDENCE AND DATA ENTRY ON COMPUTERS
[THEORY]

Time: 3 hours **Marks: 50**

Section – A 10X2=20

I. Note : i) Answer ALL the questions
ii) Each question carries TWO marks.

1. Define 'Consonant".
2. Define Vowel?
3. Define Triphone?
4. Write about abbreviated 'W' or what is Right semi circle?
5. Write about 'ST' loop give examples.
6. How is 'N' hook used in phraseography?
7. Write about 'tick H'. Give examples?
8. Write about upward and downward 'R'. Give Examples.
9. Write about circle 'S' and 'Z' and give suitable examples?
10. Write about MP& MB. Give examples.

Section – B

II. Write the following outlines for the following words 10X1=10
Each outlines carries ONE mark

a) I shall be b) can c) which d) I am e) ourselves
f) so much g) because h) influence i) special j) this

III. Write the following any ONE passage in Shorthand 1X20=20
It carries TWENTY marks.

1. I-am assuming you-will like to see-the details of-the sales of-the new books on Siam, and-I-am asking-the cashier to-give-you these up to-this week. If-you would like to speak to-me on-the business, or if-you have special reasons for supposing you can push the sales of-the books at-this time, I-shall-be happy to see you. I-have myself seen to-the dispatch of all-the review copies, and-the head of-the mailing room has himself seen to-the dispatch of copies to buyers by mail. The subject with-which-the books deal seems-to be popular now, and-I-have-had several visitors to-the showroom each day since the issue of-the volumes.

2. I-can see myself in-your easy-chair in-the larger of-your two rooms at home, with my journal on-my knee and-the cheerful listeners facing me while I-talk of-the days of-my subjection and-of-the dreary subjective examinations I gave myself in justification of-my actions. In-my opinion, you will say-the tale is significant, and, in signification of-the happenings in-the northern and southern climes, far beyond anything you know. I-must leave-the balance of the tale, however, till I-can go over it with-you. I-have some information, largely personal to-you, which I-must tell-you at-all-costs before long. I-trust the information will give-you as-much-pleasure as I-think-it-will. Anyway it-will enable you to-set a right valuation upon-the rest of-my story. Please remember me to-the children at home, and to-the older and larger children also.

OFFICE ASSISTANTSHIP
SECOND YEAR
PAPER –I: SHORTHAND SPEED DRILLS & TRANSCRIPTION [THEORY]

Time: 7 Minutes for Dictation **Marks: 50**
1 ½ Hour for Transcription

Note: Instructions to the Chief Superintendent:

1) The following passage is to be dictated to the candidates ONCE only in a loud and distinct voice, no word or phrase being repeated and no punctuation stop mentioned.
2) The passage is to be dictated at the rate of EIGHTY words in a minute. It is marked into portion of one minute's duration and each of these is subdivided into quarters. The reader will read with a watch in hand and notice every quarter minute whether he is strictly adhering to the speed or not.
3) Before dictation is commended the candidates be told to take down the following passage and letter in the intermediate style of phonograph.
4) As soon as the dictation is over, the candidates should be told to transcribe into longhand what they have written.
5) They should also be informed that no candidate will be allowed to pass who makes more than five percent of errors and omissions in his transcription.
6) At the end of the time allowed for transcription both the shorthand and longhand performances of the candidates should be fastened together and give to the Chief Superintendent.

***

Mr. Speaker,

I-have-noted with great interest the points made-in-the debate on president's address, which contains/an analysis of the problems and-tasks facing our country and – the manner in-which-the Government proposes to –tackle- //- them A great-deal of concern was expressed by-many Members regarding-the economic-situation. In presenting-the budget yesterday /// the Finance Minister has already referred to-the difficulties which we-are facing at-present in-the economic field. I-(1) – would like to emphasize that many of –these difficulties are due to-the fact that-we in India are trying/to develop at a more rapid rate to achieve over within a decade or so what many countries have achieved over a longer// period. This –is not mere an idealism as-has-been mentioned by many people, but is a necessity /// for a country placed as India is. It –may –be easy to slow-down our development and I-am sure[2] that neither-the house nor-the country would wish this to happen.

Hon. Members will-have –seen – the evidence of-/ our determination to defence – the country and of –our territory in-the budget provision on defence account. To-my mind,// it-is a pity that –the country, as poor as India, should – have to –direct any of its resources/// from development. Fortunately within-the Defence Budget is included developmental expenditure on Industrial units, on Hospitals, and roads and houses and (3) many other items which –are-not –in the same class as military hardware.

We-are anxious to see that-the/prices of essential commodities remain stable and –that-the upward rise is halted. Since-the main instrument for controlling prices// is higher production, prices should also provide an adequate incentive to-the producer to increase his production. Hence the necessity /// to fix in-advance a reasonable price for-the main agricultural products.

It-has been suggested here in this House (4) and elsewhere that-the zonal restrictions should –be eliminated. There-can-be-no-doubt that on a national problem there/ -should –be a national point-of- view. However, I-would like to-place before Hon. Members the practical difficulties that// may likely to arise in eliminating zonal system. Another-point is any review of the arrangement has to take full/// account of the difficult and the possible dangers to the availability of supplies under conditions of scarcity. (5)

Dear Sirs,

We- shall –be obliged if you will arrange to-have your premises ready for our Inspector Mr.George/ on Monday Morning next when he-will call at 10 o' clock. It-will-be necessary for –him to – report in// full to us before we-can reply to-your inquiries. It is unlikely that any difficulties will arise, but we /// are compelled to-make – sure of details we-have –no hesitation in promising that we-will do our best for –(6) –you and – that we-will give-you-the full benefit our-our wide experience and expert knowledge. We have asked /our inspector to let-us have his report by first post on Tuesday. Upon –which day we-will endeavor to // forward our suggestions etc. to-you.

We –are –pleased to-receive your appreciation of work that –we carried out /// for you in July last. The Plant installed then was – the most up to date in-the-country.

We remain,

Yours –faithfully,(7)

OFFICE ASSISTANTSHIP

SECOND YEAR

PAPER – II: ACCOUNTANCY - II (Theory)

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**

ii)Each question carries two marks

1. Define Depreciation.
2. What is Receipts and Payments account?
3. What is Equity Shares?
4. What is Balance Sheet?
5. What is Divident?
6. What is Closing Stock?
7. What is Capital Expenditure?
8. What is Income and Expenditure account?
9. What is Hire Purchase System?
10. What is Prliminary expenses?

SECTION – B

Note: i)Answer any five questions **5 x 6 = 30**

ii) Each question carries Six marks

11. Furniture is purchased for Rs. 35000/-. It is decided to depreciate the asset on staright line method at 10% per annum. Show the Furniture account for 5 years.
12. Prepare the Receipts and Payments account from the following particulars.

	Rs
Cash in hand	5000
Cash at bank	12000
Subscription Received	40000
Donations Received	32000
Investment purchased	12000
Sundry expenses	2000
Rent Paid	500

13. A and B are carrying business in a partnership sharing profit & Losses in the ratio of 2:3. Their Balance sheet as at 31.12.2020.

Balance Sheet

Liabilities	Amount Rs.	Assets	Amount Rs
Sundry Creditors	50,000	Cash in Hand	30,000
Capital Accounts:		Cash at Bank	20,000
A 280000		Sundry Debtors	1,00,000
B 420000	7,00,000	Stock	2,00,000
		Furniture	50,000
		Buildings	3,50,000
	7,50,000		7,50,000

On that date they admit "C" on to partnership and given him 1/4th share in the future profit on the following terms.

(a) "C" is to bring in Rs. 3,00,000 as his capital and Rs. 1,00,000 as good will which sum is to remain in the business.
(b) Stock and furniture are to be reduced in value by 10%
(c) Buildings are to be appreciated by Rs. 50,000
(d) A provision of 5% to be created on sundry Debtors for doubtful debts.

Prepare the ledger accounts and show the opening Balance Sheet of the new firm.

14. On 1st January 2020 the Directors of Wipro Limited has issued 1,00,000 shares at Rs. 10 per share. The share amount payable is as follows Rs. 2.50 on applications, Rs. 3.00 on allotment, Rs. 2.50 on first call and final call. Applications were received for 90,000 shares. Write journal entries.
15. How is the depreciation calculated in the fixed installment method.
16. Discuss the difference between receipts and payments account and income and expenditure account.
17. Mythil, Mayuri and Mounica are partners sharing profits and losses equally. Their Balance Sheet on 31st march 2019 is given below.

Liabilities	Amount Rs.	Assets	Amount Rs
Sundry Creditors	20,000	Cash at Bank	18,000
Reserve Fund	18,000	Debtors	30,000
Capital accounts		Stock	24,000
Mythili 50,000		Machinery	40,000
Mayuri 40,000		Buildings	46,000
Mounica 30,000	1,20,000		
	1,58,000		1,58,000

On the above date, Mounica decided to retired from the firm on the following conditions.

(a) Goodwill of the firm be valued at Rs. 24,000
(b) Depreciate stock & Machinery by 10%
(c) Buildings will be appreciated to Rs. 56,000
(d) Provide 5% on the debtors towards reserve for doubtful debts.

Prepare Revaluation Account, Capital Account and New Balance Sheet

18. What is opening Balance Sheet? With purpose it is prepared.
19. The following Trial Balance of Wipro Ltd was extracted from their books on 31st december 2020.

Particulars	Rs.	Particulars	Rs.
Purchases	3,04,000	Share Capital	1,44,000
Plant and Machinery	28,800	Return Outwards	14,400
Stock in trade on 1.1.2020	25,600	Sales	4,00,200
Salaries	14,400	Discount	4,480
Carriage outwards	2,000	P&L A/c (Credit balance)	25,000
Carriage inwards	8,000		
Discount allowed	5,600		
Return inwards	12,800		
Insurance	4,000		
Dividends	20,000		
Interim dividends	22,400		
Rate & Taxes	6,400		

You are required to prepare the Trading and P&L Appropriation account for the year ended 31.12.2020, in doing so take the following adjustments into account.

(a) Plant and machinery is to be depreciated by 10%

(b) Stock in trade on 31st Dec 2020 is Rs. 28,800.

20. From the following particulars prepare Balance Sheet 31.12.2020

Particulars	Rs.
Share Capital	4,00,000
Building and Machinery	8,60,000
General Reserve	50,000
Loans	5,50,000
Sundry Debtors	1,00,000
Debentures	25,000
Bank balance	1,10,000
Bills Payable	1,50,000
Bills receivable	80,000
Sundry creditors	50,000
Goodwill	25,000
Preliminary expenses	50,000

OFFICE ASSISTANTSHIP
SECOND YEAR

PAPER –III OFFICE MANAGEMENT AND SECRETARIAL DUTIES [THEORY]
Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**
ii)Each question carries two marks

1. Define Modern Office

2. What is meant by Organization

3. Define Office Lay-Out

4. Define Ventilation.

5. What is meant by filing?

6. Define Indexing.

7. Mention any four types of Office Furniture.

8. How to prepare Agenda.

9. What is Video Conference?

10. Define Effective Communication.

Part-B

Note: i) Answer any five questions **5 x 6 = 30**
ii) Each question carries Six marks

11. What are the types of Lighting Systems used in an Organization?

12. Difference between Management & Administration.

13. State the principles for Formal & Informal Organization.

14. What is meant by Office Automation? Explain its objectives.

15. What is meant by Office Stationery? How to control office Stationery.

16. What is meant by Record Management and state importance?

17. What is meant by Communication? Explain types of Communications.

18. How to convene and conduct a Company Meeting.

IX LIST OF EQUIPMENT

1.	Shorthand Consonants &Vowels charts.
2.	Computers – 20 No's
3.	Printers -2
4.	Filing cabinets -2
5.	Various types of files.
6.	Card Index cabinet.
7.	Intercom Set-1
8.	Intel PIV3.0Ghz with HT technology, 512 DDR RAM, 80GB HDD[7200RPM], 52XCD ROM Drive, CD Writer-DVD Combo Driver, 256 MB Pen Drive, 1.44" FDD, 10/100NIC, 56 KBPS Internal Modem, 1:4 Multimedia Speakers, On board sound and video Cards, web CAM, Multimedia Wireless Keyboard,Wireless Mouse.
9.	132 Col.24 wire Dot Matrix Printer
10.	750 VA UPS per system for 20 minutes backup
11.	16/32 port LAN Hub
12.	Networking of Systems.
13.	Computer furniture.
14.	Softwares.
15.	MS Office
16.	Tally
17.	Windows O.S
18.	Library package.
List of consumable Materials	
1.	Office Stationery
2.	Computer Stationery
3.	Typewriting and Shorthand Magazines.
4.	Speed Books of National Shorthand School, Vizag.
5.	Manuscript books of National Shorthand School, Vizag for Typewriting.
6.	Shorthand Dictation Speed Cassettes and CDs

7. Shorthand Dictionary.

b) ON THE JOB TRAINING [OJT] CENTERS IN THE STATE.

1. All Nationalized Banks.
2. All Co-operative Banks.
3. All Local bodies
4. All Central & State Government undertakings.
5. State Financial Institutions.
6. Central & State Government Offices.

X QUALIFICATIONS FOR LECTURERS :

Junior Lecturer in Commerce:

Must possess a second class Post Graduation in M.Com or equivalent qualification of a university in India established or incorporated by or under Central Act, State Act, or a Provincial Act or an institution recognized by the university grants commission

Junior lecturer in Shorthand and Computer Typing:

Must possess a Degree in B.A or B.Com or B.Sc from a recognized university and a certificate in Shorthand Lower grade English and Typewriting Higher grade English issued by State board of Technical Education

XI VERTICAL MOBILITY

The Student, on completion,

1. Can seek admission into 2nd year of DCCP in Polytechnics.
2. Can seek Admission into B.Com., B.Com (Computers), BBM, BBA and other Humanities subjects.

XII Equivalency:

In the new curriculum 2017 there is no equivalency paper to any paper. Hence the old syllabi students will be given two chances to clear their backlogs (i.e. March & ASE 2016) for I year and (March & ASE 2017) for II year.

XIII LIST OF PARTICIPANTS

List of Subject Committee Members Office Assistantship Course:

1.	Prof. V.Usha Kiran Professor of Commerce Director placements Osmania University Cell No: 9440226669
2.	Dr.B.Prabhakar Head of the Department (DCCP) Govt. Polytechnic College, Gajwal, Siddipet, Cell. No:9441940116
3.	Smt. MalathySutar JL in Office Assistantship, Sri Padmavathi Junior College for Girls Saidabad, Hyderabad 9652421067
4.	**Verified and Finalised By** Dr. D.Raghunatha Reddy Professor, School of Management Studies Jawaharlal Nehru Technological University(JNTUH) Kukatpally, Hyderabad-85
5.	**Co-ordinator:-** Sri.K.Vishweshwar, S.I.V.E O/o The Commissioner of Intermediate Education Telangana, Hyderabad

Sd/- Dr A. Ashok
COMMISSIONER OF INTERMEDIATE EDUCATION

30% DELETED CONTENT IN VIEW OF COVID-19 PANDEMIC

FIRST YEAR

PAPER-I BUSINESS 0RGANISATION

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 Basic concepts	1.2 Characteristics of Business 1.7 Aids to Trade	1. Define the term Business.	2. What are the different aids to trade? Explain briefly?
2	UNIT-2 Forms of business organization	2.6 Merits of Joint Hindu family 2.7 Demerits of Joint Hindu family	NILL	4. State the merits of 'Joint Hindu Family Firm'? 5. State the demerits of 'Joint Hindu Family Firm
3	UNIT-3 Partnership	3.4 Partnership Deed 3.6 Rights of partners 3.7 Duties of partners	2. What is partnership deed?	4. What are the duties of partners? 5. What are the rights of partners?
4	UNIT-4 Joint stock company	4.4 Kinds of companies	2. Define a private company? 3. Define a public company? 4. What is a government company?	4. Discuss various kinds of companies briefly?
5	UNIT-5 Incorporation of Joint Stock Company	5.4Prospectus – objects-contents	3. Prospectus.	4. Define company "prospectus"? State its contents briefly.
6	UNIT-6 Co-Operative societies	6.2 Types of Co-operative societies	2. What is a consumer cooperative society? 3. What is producer cooperative society? 4. What is a cooperative farming society? 5. What is a cooperative housing society?	4. Explain the various types of cooperative societies.
7	UNIT-7 Aids to Trade-I Banking and Insurance Services	7.3 Different Types of Banks 7.7 Types of Insurance	3. What is a commercial bank? 4. What is an exchange bank? 5. Expand NABARD, ADB.	4. Write the important principles of insurance? 5. What are three main types of insurance? Explain briefly about them.
8	UNIT-8 Aids to Trade-II Transport, Warehousing and Advertisement	8.3 Importance of Warehousing 8.4 Types of ware housing	1. What is a public warehouse? 2. What is a bonded warehouse?	3. Explain the importance of warehousing. 4. Write briefly about different types of warehousing?

OFFICE ASSISTANTSHIP - FIRST YEAR
PAPER-II: ACCOUNTANCY & COMPUTERS

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Exercise Questions deleted
1	UNIT-1 Introduction to Accountancy	• Accountancy conventions	2. What are the important accounting conventions? Discuss some of them
2	UNIT-2 JOURNALS		**Long Answer Questions** 1. Journalise the following Transactions 2018 Jan. 2018 1 Started business with ..... 20,000 ,, ,, Deposited into Bank ..... 3,000 ,, ,, Purchase of furniture ..... 3,000 ,, 5 Payment of rent ..... 500 ,, ,, Purchases of goods ..... 1,200 ,, ,, Purchase from Ram ..... 4,000 ,, ,, Purchases from Mohan ..... 3,000 ,, ,, Received from Bank ..... 8,000 ,, ,, Payment to Mohan ..... 3,000 ,, ,, Sale of goods ..... 8,000 ,, ,, Purchases ..... 300 ,, ,, Sales ..... 800 Jan. 10 Sales to Satish ..... 800 ,, ,, Sales to Rajesh ..... 300 ,, ,, Received commission ..... 100 ,, ,, Interest Paid ..... 120 ,, ,, Advertisement Expenses ..... 40 ,, 12 Sales to Satish ..... 800 ,, ,, Payment of Salary ..... 304 ,, ,, Wages Paid ..... 200 ,, 12 Received from Satish ..... 800 ,, ,, Paid to ram ..... 1000 ,, ,, Cash Sales ..... 2000 9. Enter the following transactions in the journal of Hanuman Rs 1. Purchases Return to hari ..... 2,000 2. Sales ..... 50 3. Paid wages to Ashok ..... 50 4. Paid rent to Kamal ..... 500 5. Received Interest ..... 150 6. Advertisement ..... 300 7. Insurance ..... 120 8. Received from Satish ..... 500 9. Paid to Ram ..... 200 10. Paid for interest ..... 250 11. Paid for Commission 50

12. Received Commission 40

10.For the following write journal entries in the book of Karunaker:

(a) Deposited with bank Rs 6,000/- on six months fixed deposit and Rs.18,000/- on current account.
(b) Draw from Bank for office use Rs. 2,000/-.
(c) Received from Singh a treasury order for Rs. 1,000/-.
(d) Paid salaries by Cheque Rs. 1,500/-.
(e) Received from Khan a postal order for Rs. 20/- and paid the same into Bank.
(f) Received from Lal in cash Rs. 980/- after deduction of 2% cash discount.
(g) Received cash from Chanadar Rs. 1,480/- and allowed him discount Rs. 20/-.
(h) Sold goods for cash Rs. 950/- and out of that paid Rs. 800/- into Bank.

3 UNIT-3 LEDGER

10. Enter the following transactions in Journal and post them in ledger accounts.

March 16	1	Sales to Ram		Rs
,,	2	Sales to Ratan	.....	1,100
,,	3	Purchases returned to Ram	.....	300
,,	4	Received from Ratan	.....	100
,,	5	Purchases from Ratan	.....	800
,,	6	Advertisement	.....	210
,,	7	Paid rent	.....	100
,,	8	Sales	.....	1,200
,,	9	Purchases from Satish	.....	400
,,	10	Purchases of Machinery	.....	1,000
,,	11	Received from Ram	.....	500
,,	12	Received from Ratan	.....	400
,,	13	Deposited into Bank	.....	800
,,	14	Sales	.....	300
,,	15	Drawn from bank	.....	400
,,	16	Paid salary	.....	800
,,	17	Paid wages	.....	400
,,	18	Deposited into bank	.....	300
,,	19	Sales	.....	500
,,	20	Advertisement	.....	100

11. Journalise the following transactions and post them in ledger accounts.

Oct	1	Sale of goods		Rs
,,	2	Purchases from Ram	.....	8,100
,,	3	Purchases of Machine	.....	3,000
,,	4	Cash purchases from Ram	.....	300
,,	5	Cash purchases from Mohan	.....	400
,,	6	Received from Ram	.....	800
,,	7	Advertisement Expenses	.....	1,300
,,	8	Rent paid	.....	150
,,	9	Paid Insurance	.....	120
,,	10	Sales	.....	50
,,	11	Paid interest to Ram	.....	300
,,	12	Paid rent to Sham	.....	200
,,	13	Payment to Mohan	.....	100
,,	14	Paid wages	.....	200
,,	15	Received Commission	.....	100

12. Enter the following transactions in journal and prepare Cash and Bank accounts.

			Aug. 1 Ahmed brought as capital ..... 25,000 ,, 2 Deposed in Bank ..... 20,000 ,, 3 Paid Rent ..... 200 ,, 4 Paid wages ..... 100 ,, 5 Purchases from Ganesh ..... 5,000 ,, 6 Purchases from Rakesh ..... 8,000 ,, 7 Brought from Bank ..... 12,000 ,, 8 Cash Purchases ..... 8,000 ,, 9 Travelling expenses ..... 200 ,, 10 Sales ..... 800 ,, 11 Goods returned to Ganesh ..... 1,000 ,, 12 Goods returned to Rakesh ..... 200 ,, 13 Goods sold to Madan ..... 800 ,, 14 Received from Madan ..... 800 ,, 15 Brought from Bank ..... 500 ,, 16 Paid rent ..... 100 ,, 17 Paid into Bank ..... 40 ,, 18 Post and Telegraph expenses ..... 400 13. From the following particulars prepare Madan's account and find out the balance. Oct 1 Sales to Madan ..... 100 ,, 2 Sales return from Madan ..... 20 ,, 3 Sales to Madan ..... 300 ,, 4 Payment to Madan ..... 200 ,, 5 Sales to Madan ..... 20 ,, 6 Purchases from Madan ..... 300 ,, 7 Purchases return to Madan ..... 10 ,, 8 Sales return from Madan ..... 25 ,, 9 Interest paid to Madan ..... 47 ,, 10 Cash sale to Madan 30
4	UNIT-4 SUBSIDARY BOOKS	Problems deleted	2. What transactions are entered in Sales and Sales Return Books? How are they posted? 8. Enter the following transactions in proper subsidiary books and post them in ledger accounts. Find the balances in Madan's and Hari's account and state what they reveal. Jan 1 Sales to Madan Rs ,, 1 Sales to Hari ..... 1,000 ,, 2 Hari returned Goods ..... 2,000 ,, 3 Madan returned Goods ..... 100 ,, 4 Purchases from Madan ..... 3,000 ,, 8 Goods returned to Madan ..... 200 ,, 19 Sales to Madan ..... 1,500 ,, 28 Sales to Hari ..... 2,500 ,, 29 Purchases from Hari ..... 3,000 ,, 30 Goods returned to Hari ..... 200 9. Enter the following transactions in proper subsidiary books and post them into ledger accounts. Jan 1 Purchases from bharath .... 2000 " 2 Sales to Ramesh . 1000

			” 3 Returned goods to Bharath . 500 ” 4 Ramesh returned goods . 200 ” 5 Purchases from Raju . 1500 ” 6 Sales to kamal . 1300 ” 7 Purchases from Rashed . 500 ” 8 Goods Returned to Raju . 300 ” 9 Goods Retunred to Kamal . 100 ” 10 Sales to Asif . 2000
5	UNIT-5 CASH BOOK	• Three column Cash Book, • Petty cash Book	Short Answer Questions 4. What is petty cash book? 5. What is Contra Entry? Long Answer Questions 4. Enter the transactions given in question 13 in three column cash book and bring out cash and bank balance. (Ans: Cash Balance Rs 4,481 Bank Balance Cr. Rs. 1,900) 5. Enter the following transactions in cash and discount column cash book and prepare a separate bank account. Jan 1 Capital broght in business ..... 20,000 ,, 2 Deposited in bank ..... 15,000 ,, 3 Rent paid ..... 500 ,, 4 Advertisement paid ..... 200 ,, 5 Purchases paid by cheque ..... 1,200 ,, 6 Received from Ram ..... 300 ,, 6 Discount given to him ..... 10 ,, 7 Paid to sham by cheque ..... 190 ,, 7 Discount received ..... 10 ,, 8 Paid salary by cheque ..... 800 ,, 9 Sales ..... 1,200 ,, 10 Purchases cheque given ..... 1,000 ,, 11 Received from Sham ..... 780 ,, 11 Discount given to him ..... 20 ,, 12 Deposited into Bank ..... 300 ,, 13 Received from Sham ..... 250 ,, 13 Discount given to him ..... 20 6. Enter the following transactions given in question 16 in three columns cash book and bring out the balances. 8. Enter the following transactions in Analytical Petty Cash book and post them in ledger account. Jan 1 Received cash from petty payments ..... 200.00 ,, 2 Paid wages ..... 30.50 ,, 3 Postage ..... 12.25 ,, 4 Bus charges ..... 3.20 ,, 5 Travelling expenses ..... 15.40 ,, 6 Wages 13.15

,,	6	Purchases of Stationery	..... 4.20
,,	7	Bus Charges	..... 5.40
,,	7	Tea expenses	..... 10.30
,,	17	Travelling expenses	..... 30.00
,,	18	Tea expenses	..... 12.00
,,	20	Telegram	..... 5.00
,,	25	Tea expenses	..... 12.00
,,	29	Sundry expenses	..... 12.00
,,	30	Rishaw charges	..... 8.00
,,	31	Stationery	..... 2.50
	31	Sundry expenses	5.00

9. Record the following transactions in Analytical Petty Cash Book and post them in ledger accounts.

				Rs.
2018 Jan	1	Received a cheque for petty payment	.....	500.00
,,	2	Paid wages	.....	20.00
,,	3	Paid for advertisement	.....	50.50
,,	4	Paid for Postage	.....	3.20
,,	5	Paid wages	.....	100.00
,,	6	Bus charges	.....	3.50
,,	7	Stationery	.....	12.00
,,	8	Printing Charges	.....	20.80
,,	9	Travelling expenses	.....	80.00
,,	10	Stationery	.....	30.00
,,	11	Wages	.....	10.00
,,	12	Postage	.....	11.40
,,	13	Travelling expenses	.....	12.50
,,	14	Tea Expenses	.....	3.00
,,	15	Auto rickshaw Charges	.....	5.00
,,	15	Sundry expenses	.....	3.00

10. Enter the following transactions in Cash book with Cash, Bank and dicount columns in the books of Govind and bring out the balances as at May 31-2018.

2018

				Rs.
May	1	Balance in cash Rs. 2000 and at bank	.....	1,450
,,	2	Cash sale investment deposited in bank	.....	8,000
,,	3	Issue cheque of Rs. 2,500 to Balkishan and received discount.	.....	30
,,		Paid as Wages	.....	
,,	4	Received cash Rs. 300 and cheque of Rs. 850 from Gopinath and we allowed him discount	.....	400
,,	8	Deposited in bank	.....	
,,		Drawn from Bank for office use	.....	
,,		Cash sales	.....	50
,,	10	Issued cheque for salary	.....	1,000
,,	21	Balance in cash Rs. 2000 and at bank	.....	150

			,, 24 Cash sale investment deposited in bank ..... 750 ,, 31 Issue cheque of Rs. 2,500 to Balkishan and received discount. ..... 200 11. Prepare three column Cash book and enter the following transaction. Rs. a) Cash in hand Rs. 300 and cash at bank ..... 7,600 (b) Issued cheque for Purchase ..... 2,000 (c) Cash received for sales ..... 3,000 (d) Paid into Bank ..... 2,500 (e) Paid for Stationery in cash ..... 50 (f) Cash withdrawn from bank for office use ..... 500 (g) Paid salary in cash ..... 500 (h) Cash withdrawn from bank for personal use ..... 400 (i) Paid rent by Cheque ..... 200 (j) Paid Rao & Sons by cheque Rs. 675 in settlement of an account of ..... Received a cheque for cash sales of ..... 700 (k) Cash in hand Rs. 300 and cash at bank 450
6	UNIT-6 TRIAL BALANCE		2. How is a trial balance prepared? Explain with example? 4. What do you mean by agreement of trial balance? What does it is show? 6. From the following ledger balances in Madan's book, prepare the Trial balance. Madan's capital Rs. 20,000, Drawings Rs. 2,000, Sunday debtors Rs. 6,000, Sunday creditors Rs. 8,700, Bills payable Rs. 4,000, Bills receivable Rs. 8,000, Furniture &Fitting Rs. 300, Opening Stock Rs. 8,000, Cash Rs. 300, Cash at bank Rs. 1,200, Rent Rs. 200, Sales Rs. 25,000, Purchases Rs. 15,000, Salary Rs. 8,000, Sales return Rs. 200, Purchases return Rs. 3,000, Machines Rs, 5,000, Loose tools Rs. 4,800, Travelling expenses Rs. 1,500, Discount given Rs. 300, Discount received Rs. 100 7. Taking following ledger balances, prepares the trial balances. Capital Rs. 1,24,000, Drawings Rs. 6,000, Sunday creditors Rs. 43,000, Bills payable Rs. 4,000, Sunday debtors Rs. 51,000, Bills receivable Rs. 5,000, Loan advance to Mohan Rs. 10,000, Fixture and Fittings Rs, 4,500, Opening stock Rs. 47,000, Cash Rs. 900, Cash at State Bank of India Rs. 12,500, Overdraft with Andhra Bank Rs. 6,000, Purchases Rs. 50,000, Duty and Clearing charges Rs. 3,500, Sales Rs. 28,000, Salary Rs. 9,500, Return from customers Rs. 1,000, Return to creditors Rs. 1,100, Commission and travelling expenses Rs. 4,700, Rent Rs. 2,000, Discount received Rs. 4,000, Trade expense Rs. 2,500.
7	UNIT-7 FINAL ACCOUNTS		Short Answer Questions 3. What are fixed and floating assets Long Answer Questions 3. What are usual items debited and credited to trading account 6. Following balances are taken from the books of Mohan. Prepare Tradingand Profit & Loss Account and Balance sheet for the year ended on Dec - 31 - 2018.

Building	42,800	Sales	3,00,000
Machinery	18,000	Capital	2,00,000
Purchases	1,51,000	Creditor	80,100
Opening stock	1,00,050	Bills Payable	21,000
Salary	18,000		
Wages	40,000		
Drawing	50,000		
Import Duty	15,000		

Carriage Inward	4,500		
Insurance	2,800		
Advertisement	8,000		
Interest	6,800		
Debtors	1,10, 000		
Discount	12,800		
Sales return	3,000		
Post and Telegraphs	4,200		
Commission	3,700		
Bank Balance	9,200		
Cash in Hand	1,250		
	6,01,100		6,01,100

The Closing stock is of Rs. 2,00,500

2. The following balances are taken from the books of Shashibhushan for the year ended on December, 31-2018. Prepare the final accounts.

Cash in Hand	1,000	Machinery & Plant	60,000
Capital	1,00,000	Sales	2,00,000
Purchases	12,000	Furniture and Fitting	15,000
Bills Payable	22,000	R.D.D.	1,000
Opening Stock	35,000	Bills Receivables	20,000
Debtors	50,000	Rent & Taxes	10,000
Creditors	24,000	Salary	20,000
Wages	16,000	Machinery & Plant	60,000

The following adjustments are necessary :

(a). Rs. 200 for rent and takes, Rs. 300 for wages and Rs. 4,000 for salary are outstanding (b) Closing stock is of Rs. 40,000. (c) Depreciate Plant and MAchinery at 5 percent, (d) Calculate 10 percent depreciation on furniture and fittings. (e) The reserve for Doubtful debts should be 2.5 percent on debtors.

3. Prepare Trading and Profit & Loss Account and Balance sheet from the following particulars. Journal entries are not necessary for adjustments.

TRIAL BALANCE AS ON 31st December, 2018

Particulars	**Debit Amt. Rs.**	**Credit Amt. Rs.**
Purchases	16,000	-
Discount	1,300	-
Wages	6,500	-
Salaries	2,000	-
Travelling expenses	500	-
Carriage Inwards	275	-
Insurance	150	-

8	UNIT-8 BASIC FUNDAMENTALS OF COMPUTERS	• History of Computer, • Milestones in Computer History • Classification of computers • Operating system concepts • Features of windows	Short Answer Questions 2. What are the types computers based on purpose? 3. What are the types computers based on operation? Long Answer Questions 3. What is operating system? List different types of operating system.

OFFICE ASSISTANTSHIP - FIRST YEAR

PAPER-III: SHORTHAND, CORRESPONDENCE AND DATA ENTRY ON COMPUTERS

SL No	Unit No. Name of the Unit	Topics/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	Lesson No. 22. The Halving Principle (Section – I)	--------	1) When halving principle is not used?	--------
2	Lesson No. 23 The Halving Principle (Section – II)	--------	1) How the Halving Principles is used in Phraseography? 2) Write about RT & LT give two examples?	---------
3	Lesson No. 24 The Doubling Principle	--------	1) Write about two rules about doubling principle? 2) How the doubling principle used in phraseography?	---------
4	Lesson No. 25 Diphonic or Two Vowel signs	--------	1) Define the diphonic sound?	----------
5	Lesson No. 26 Medial Semicircles	--------	1) How the medial semicircle used?	----------
6	Lesson No. 27 Prefixes	--------	1)Write about two prefixes Acom, intro	----------
7	Lesson No. 28 Suffixes and Terminations	---------	1) How the Suffixes used in logically, ship?	1)Revisionary Exercise (c)
8.	Lesson No.29 Contractions	----------	1)Omissions of N give two examples	---------
9	Figures etc	----------	----------	---------

OFFICE ASSISTANTSHIP - SECOND YEAR
PAPER: I SHORTHAND SPEED DRILLS & TRANSCRIPTION

SL No	Unit No. Name of the Unit	50 Marks Question deleted 7 minutes speed 1 hour Transcription
1	Unit – 1 Speed Transaction Drills	**Speed - 4** Ladies-and-Gentlemen, It-gives-me-great-pleasure to associate myself with-you today. The present problem of food distribution / can be solved by tackling it in both-the short-term as-well-as-the long-term ways. Under short-//-term measures, we-will-have to-take very quick and prompt action. But at-the-same-time, we-cannot completely /// ignore –the long term measures. The real key to-the problem is decreased production and-unless we increase production we-{1}-will always-be faced with difficulties and-it-will-not lead to-the economic development. It-is impossible to-believe-/-that we-cannot increase our food production or we-cannot fight-the shortage of food in-our-country. The people // in general should come out with their valuable suggestions and-the same will-be-considered by-the State-Government as-///-well-as-the Government-of-India. In my opinion, the Community Development Department should pay more attention towards increasing {2} agricultural production in-the-years to-come. The officials should try to know whether there-was a shortage of manures, / whether proper seeds were given and whether water was made available or not. The officials should inspect-the field and // help-the farmers so-that they overcome-the difficulties. So we-have to work more in-the field rather-than/// in-our offices. The Prime-Minister earlier suggested that-the food and agriculture department should-be taken-over by-the {3} Chief-Ministers themselves. It-is believed that-the whole economy is based on adequate food production and total elimination of / imports. We-have made significant progress in industries and-the results are very-good. But agriculture sector still remains backward. // So-far-the agriculture as-well-as irrigation departments have functioned more-or-less in a routine manner. Basically, it-///-is due to-the reason that industrial sector is an organised sector and much labour is-not involved in-it. {4} In-respect-of agriculture sector we-have to-deal-with millions of-people, we-have to-deal-with vast areas. / So –far-the Government-for-India, has-not achieved good results even though our country derived its strength before independence // from-the cultivators. The labour has to realise that-they-have a great responsibility to-the people of-the-country. /// It-is-not purely a trade-union matter. It-is a national problem. I request the Chief-Ministers to-do-the needful. {5} Letter, dated 10th January, addressed to-the Manager, Bank of India, Main Branch, Hyderabad. We-are-in-receipt-of-your-/-letter of-the 1st –instant for-which we-thank-you. In-fact, we expected reply in-the-last month and-//-we- felt that our letter was lost in transit. We-are extremely happy to note-that you-are prompt in /// giving the additional loan to us but wanted to know-the purpose of-the loan. We-wish to submit-the {6} reasons for seeking additional loan as under. In-order-to expand our business, we need to-raise-the huge funds. / The purpose of seeking loan is for-the purchase of latest machines. As-far-as repayment of-the loan is concerned // we assure-you that-we-will pay-the loan amount along-with-the interest in fifty monthly equal instalments. We /// request you to-give top priority to-our request in-this-matter. Hoping to-hear from-you early. Yours-faithfully {7} **Speed – 5** My-dear-friends, In-your-address, you have referred to-the provision of facilities by-the-Corporation as also about / their future programme. I-am-happy at-the good record. You-have mentioned about plans of wider roads for-which // you-require assistance from-the State and-the Central-Government. I-have-no-doubt your request will receive-the consideration /// of-the authorities concerned and-I-hope-that-the funds raised will-be utilised for-the real purpose for-which {1} they-were intended. You-have-been very fortunate in having administrators and rulers who-have done so-much not-only / to beautify this-city, but also to-improve-the living conditions of-the people. At-present, the country is passing // through a serious crisis on-account-of food scarcity. The Government-of-India and-the State-Government are doing their /// best to-meet it by importing food grains from outside and ensuring-the distribution of grains in-such a way {2} as to see that everyone has some food and-no-one is allowed to starve. I-hope we-shall-be-/-able-to get-over-the crisis. It-is necessary for-the people at large to-face-the problem bravely and-//-with faith and determination. I-have-no-doubt that if-we fight-the problem in-that spirit, we-shall-be-///-able to get-over-the crisis. We-have, only for-the-last three-or-four years, been enjoying-the power {3} to shape your-own destiny. We-have-had to-face various kinds of difficulties. It-is, therefore, no-wonder that / it-has-not-been possible for our Governments, either Central or State, to do all that-they had wished to//-do for improving the material condition of-the people. Our first and foremost duty is to-raise-the standard-of///-living of-the people and make-them more prosperous. It-is-no-doubt true that, in many respects, independence has- {4}-not brought us all-that-we-had hoped for. But-the time has-been too short and-we-have-had / to-face one crisis after another. We should-not, however, feel disappointed at-the inevitable happenings. We-have, in-the-//last three-years, laid-the foundation for big advances by establishing a large-number-of laboratories which-are carrying-out /// not-only fundamental research, but also research of a radical nature, which-can-be made applicable to-the solution of practical problems. {5}

		To-the Public Relations Manager, Hotel Green Park, Hyderabad. Dear-Sir, With reference to-the earlier-letter dated twenty-ninth / ultimo, I-am to inform-you that-the commonwealth Parliamentary Seminar is going to-be held in- this-city for-//-the first-time outside-the Capital of-the-country, in-the-month of October. A large-number-of Hon'ble Presiding /// Officers of-the Commonwealth countries will participate in-the Seminar. As such, decent and comfortable accommodation is needed in-your {6} hotel for-the delegates for nearly six days. So I-would-like-to-have-the details of-suites and other / amenities available in-your hotel. I further request you to kindly let-me know-he details of vehicles with modern // comforts which-you-can provide for-the delegates, who-would like to visit-the important tourist places in and around-///-the city. We-may also require-the experienced tourist Guides for-the purpose. I-shall-be thankful if-you-can arrange-the services of experienced guides. Thanking-you, Yours-faithfully, Secretary. {7}
2	Unit – 2 Speed Transaction Drills	**Speed – 9** Mr.Speaker, -Sir, At-the-outset I-would-like-to thank-you for giving me this opportunity to-express my / views on some of-the important issues concerning the State. I-have-been watching what-is happening during-the-last // three-days and-it-is a privilege to-express my opinions on-them. Many members of-this House have-been /// pointing-out that some regions of-the State have-been benefited and-some other regions have-not. I-agree-that {1} there-is-the imbalance in development of some parts of-the State. I-do-not-want to criticise anyone for / this. There-may-be different reasons for either-the development or-the poverty. I-am of-the view that every-//place has its-own resources and-the development of-that-place depends on-the use of all-the resources to-///-the maximum extent possible. For-instance, the north eastern States have-been full of natural resources but they-are not {2} used properly. That-is-the important reason for-those States remaining backward. We-can blame-the government if-it does-/-not provide-the required resources. But, when there-are natural resources and-if they-are not utilised properly by-the // masses, how-can-we blame-the government? If I-am permitted to-mention here, I-draw-the attention of-the /// Honourable-Members to-the fact that-the Governments both at the Centre and-in-the State have-been working hard {3} to provide educational facilities under various programmes. But, if-the people are-not willing to-send their children to-the / schools and-they feel that everyone in-the family must work hard and earn something so-that all-the members // live together happily, it-is-not fault of-the Government. As-a-matter-of-fact, the Government are providing /// all kinds of assistance, in-the form of scholarships, mid-day meals etc. to encourage-the children of-the people {4} below-the poverty line to-get education at-least to-the higher secondary stage. On-the-other-hand, I regret / to say that-the-members are-not offering any suggestions which-would improve-the situation. It-is-the responsibility of-//-the members of-this House to-rise above party lines in-the overall growth of-the State irrespective of-the /// region to-which they belong. I request the Members to stop fighting each-other on issues of development and come {5} out with useful suggestions. Sir, I-draw-the attention of-the Honourable-Home-Minister to-the law-and-order situation / in-the State. There-have-been thefts, murders and accidents. Whenever this issue comes up for discussion, the Hon'ble-Minister // expresses helplessness saying that-the existing police force is insufficient to handle-the situation. There-is- no recruitment of any-///-kind for-the-last six years and-this-is-the chief cause for-the youth to-take to arms. Had-{6}-the Government taken-up recruitment for all-those vacant posts, the unemployment problem would-have-been solved. Though I come / from a village in-the under-developed area, I-feel that-the people themselves should realise and make use of-the // opportunities at hand. I once-again thank-the Speaker for-the opportunity given to-me. In-fact, for a member /// who-is elected for-the-first-time to-the Legislature, it-is a great experience taking part in-the discussions. {7} **Speed – 10** Ladies-and-Gentlemen, I-am-happy to join you again at a conference like-this after nearly one and half / years. At-the-outset, let-me-place on record my appreciation of-the efforts put in by-the Collectors, and // others in solving-the problems of-the people and-in ensuring effective implementation of-the various schemes and policies undertaken /// by-the State-Government. I-am-glad that-the District Officers, Heads of Department and Senior Officers in-

		the Government {1} have met-from-time-to-time here again to discuss-the important-problems facing-the State and to-set new / goals in various activities and development programmes. I-would-lie-to discuss all-the issues and come up with solutions. // I-am-happy that to a large-extent, we-have succeeded in translating into action most of-the decisions taken in-///-the-last Conference. I-thank everybody for-this. Our needs are many, the aspirations of the people are large and-{2} –we-have high ambitions too. I-hope-and-trust that all of-you to continue to act not-merely as-the eyes / and ears of-the Government but as agents of change, a change for-the betterment and-welfare of-the people, // particularly weaker sections of-the-society. In-this-connection, I-need hardly remind you that-the institution of-the District /// Collector has maintained a unique character in-our State. I-wonder if I-would-be exaggerating if-I-were to {3} say that-such a extraordinary combination of functions, responsibilities and authority cannot-be found anywhere in-the-country. Even within / our-own State, we all know-that no functionary above or below-the District Collector enjoys such a pride status // including-the other district officers. This-is largely because of-the faith that-the Governments have placed in-this institution. /// However, I-would-like-to add a word of caution to-some of-the Collectors on-the need to-maintain {4} good public relations with people's representatives. The Collectors must realize that-the non-officials have an important role to-play / in-the parliamentary democracy. The Collectors must therefore, carry-the non-officials along-with-them. This will enable-the Collectors // to discharge their functions in a more effective manner. It-must-be realized that once-the non-official finds the /// Collector receptive to-his suggestions, he-will assist the district administration in-the better implementation of-the policies and programme. {5} Dear-Sirs, We-wish to introduce ourselves as one-of-the leading manufactures of four wheelers. We-are-having our / authorised dealers in all-the important cities and towns through-out-the country. In-this-connection, we-wish to-bring to-//-the notice of all-our customers that shortly we-are introducing into-the market a new car suitable for long /// distance travel coupled with comfort. The other technical details will-be published shortly in all-the news-papers for public {6} information. We-have got all-the clearances from-the Government-of-India and-the concerned State-Governments. In-fact, we-/-have received appreciation Letter-from Government-of-India for introducing such a kind of cars to-the public which-is // cost effective. In-this-connection, we-wish to inform our customers that since it-is a product which-is /// being released on-the occasion of Silver Jubilee Celebration of-our-Company, we-want to extend credit facility. Yours-faithfully {7}
3	Unit – 3 Speed Transaction Drills	**Speed – 14** I-have-been asked this evening to-speak to-you about social services. If-you find that I-am-not / able-to sufficient justice to-this great audience you-will-credit to so-many engagements that I hastily // accepted. It-was my desire that I should-have at-least a few moments to-think out what I-//-have to say to-you, but it-was-not to-be. For social service as for any-other service on-{1}-the face of-the earth, there-is one condition indispensable, namely proper qualifications on-the part of-those-who-want / to-render social service or any-other service. So we-shall ask ourselves this evening whether those of us who-//-are already engaged in-this-kind of-service and others who-have aspired to-render-the service possess these necessary /// qualifications. Because you-will-agree-with me that in social service, if-they can mend matters they can also spoil {2} matters and-in trying to-do service however well-intended that service might be, if they-are not qualified for-/-that service they-will-be rendering not service but disservice. What-are-those qualifications? They-are of universal application and-//-they are necessary for any-class of work, much-more so in social service at-this-time of-the /// in-our national-life in-our dear country. It-seems to-me that-we require truth in-one hand and {3} fearlessness in-the other-hand. Unless we carry-the torch-light we-shall-not see-the step in front of / us and unless we carry-the quality of fearlessness we-shall-not-be-able-to-give-the message that-we // might want to-give. Unless we-have-this fearlessness, I-feel sure that when-that supreme final test comes we-///-shall-be found

wanting. So I suggest to every social worker must have-these two qualities to-serve his countrymen. {4}

Although in-India we-have-had a long tradition of voluntary social work, I-find that-we-are-not making / full use of-our resources. There-is a lot of-talent and capacity and willingness for-the social work. We-//-should so device our programmes as-to attract-the people who-are ready to help us with their money or /// talent or time. The voluntary organisations provide an opportunity for-those who-are ready to contribute money, talent or service. {5}

Dear-Sirs, We-have given our careful attention to-your terms-and conditions and-have decided to appoint you as / our Agent. We appoint you as our Agent in-the-first-instance for a period of two-years from January // next and agree to allow you commission on all orders received direct or indirect from buyers in-yours. For reasons /// mentioned in-our earlier-letter, your area of operation will-be limited to-the city only.

Of all-the orders {6} received from outside-the city and-the State, whether we-have already represented for many years past, we-can allow / you only five per-cent commission on-the net amount of all sales effected by-you on-our behalf. We // agree to allow-you on-our behalf. We // agree to allow-you the customers discount of two per-cent on all ordinary sales and special discount to-be /// arranged for special orders. We should-be-glad to-receive your-confirmation of-the above terms at-your-earliest-convenience. Yours-faithfully. {7}

Speed – 15

I-have started my journey in-this industry one-year-ago. My father is my main inspiration and-support. We / entered this industry with-the challenge of making-it a recognised brand name in-the Indian market. It-is-really // our hard work that bears fruits today. Young leaders are an emerging development across many industries in-our-country. My /// father is my greatest motivation because he worked very-hard to establish this company's name in-the industry. That-is-{1} –the reason why I follow his footsteps.

First of all, at-the-time of entering-the-market, leaders must have / self-confidence to-go forward. There-may-be times when-their business rules may face problems while other popular companies rule // the day. It-is-necessary to-have /// people skills so-that one-can manage-the employees. They-must-be ready to-face unexpected situations while dealing-with-{2}-the daily affairs of-the business. One should-be-able-to face all-kinds of problem situations. To start a / company, one should-be very determined and possess a good dose of patience which-will lead to-success. One should-//-have-the dedication to-reach-the goal and-the skill to-deal-with all-crisis situations. Young minds are always /// full of fresh thoughts and new ideas. They-have-the ability to-be direct, open and can take new risks {3} better. This-is a very-important aspect to-bring-about innovation in-our-country.

There-is-nothing wrong if-one / takes orders from a young leader as-long-as he or she takes-the responsibility to-improve-the company's growth. // In-fact, a right mix of ideas can go a long-way to-find-the right solution to-solve problems /// and-bring-about-the necessary change. Therefore, if a junior is well-qualified to handle the responsibilities, everyone should respect {4} his or her position in-the larger interests of-the company's growth. Finally, it-is-the team effort that helps / in reaching-the common goals and-in-this respect age and seniority should-not-be allowed to spoil-the smooth // functioning. The goal of-our-company is to-deliver an international sports experience at reasonable prices. Our aim is to-///-take sports industry in-our-country on par with-the global level by promoting sports from-the grass-roots level. {5}

Letter dated December 5; From Messrs. Raja Enterprises, Hyderabad. To Mrssrs. Lotus Oils Limited, Mumbai.

Dear-Sirs, We-are-in-/respect of-your-letter dated 1st December sending us your detailed catalogue and-price-list and-we-thank-you for-the-//-same. We-are willing to market your products in-the twin cities through our wholesale network. With regard to-the /// terms and conditions of-our agency, we-feel that-the commission you offer is very-low compared to similar offers

{6} we receive from other business concerns from-time-to-time. We-wish to inform-you that unless you increase-the / percentage of commission, we may-not-be in a position to accept your offer.

		Even-the terms of-credit you // proposed are-not business friendly. For-this purpose, we-wish to-send our representative to-you to discuss and finalize /// these matters. Please-let-us-know your convenient dates for meeting. Thanking-you and awaiting an early reply. Yours-faithfully. {7]
4	Unit – 4 Speed Transaction Drills	**Speed – 19** Ladies-and-Gentlemen, I-am really happy to-be with-you here today. I-see that a large-number-of / people, men, women and children, have come here on-this-occasion. I-think that-this shows your affection for-me. // At-the-same-time, I-take it that-you-are-interested also in-the welfare of-the people of-this-///-place. At-the-outset, I-would-like to assure-you that our-Government will do their best to help-you {1} in-this-matter. Now, your Chairman has referred to-the needs of-your locality. Of-course, I-am aware that-/-it-is a long list. But, as I- // -have already said, I-will-be happy to-do all-that-is possible to-meet-the needs mentioned by-him. /// But, in-the same way, I-hope-you-will-remember that-there-are other areas in-our State also, where, {2} the people want several things to-be done for-them. As you know, the present-Government is of-the people, / by-the people and-for-the people. So, we-will-do all-that-we-can to-promote-the welfare of-//-the people. Now, you-are-aware that-we-have started a self-help scheme. I-am-told by-your Chairman /// that-there-is a good reception for-that scheme here. I-understand that many works have-been carried-out here {3} under-this scheme. I-am-glad-to-hear about it and-I-thank-you for-it. There-is-no-doubt / that-you-will-continue to co-operate with-your Chairman in-this-regard and set an example to people in-other // parts of-the State also. So-far-as water-supply is concerned, I-agree-with your-Chairman that-you-should- ///- be supplied with good drinking water. In-this-connection, I-would-like to say that if any proposal is sent {4} by-your municipality, I-am-sure that-the-Government will-be-able-to-do whatever is needed in-this-matter. / There-is such a need in-some other parts of-the State also. The Government are-aware of-this and // they-are trying to-do whatever is possible. When I come here next, I-am-sure you-will-be-able-///-to-thank me for all-the help that-the-Government give as-far-as this-matter is concerned. Thank-you {5} Letter-from Somu and Sons, Chennai to-Messrs. Jacob and Company Limited, Salem. Dear-Sirs, We-are-very-much-obliged / to-you for-your-letter. You-are one-of-our valued customers and so, we-wish to-bring to-your // notice that-we-have recently added to-our stock a new variety of umbrellas. We-are- sure that-you-will /// very-much like them as-they can-be easily carried wherever you-go. We-will-be ready to offer them {6} at a low-price. We-have-no-doubt that-you-will come forward to-make use of-this opportunity. As / you know, we-are dealing in miscellaneous articles. We-feel sure that-you-will-be attracted by-your Hot Lines. // We-may-tell-you that-they keep-the food hot for seven hours. We-have on sale new patterns of /// goods. Your representative may-have a look at-them in-our show-room and select what-you want. Yours-faithfully, {7} **Speed – 20** Ladies-and-Gentlemen, I-am-glad to-be here to open this Hostel to-day. I-thank all-those-who-have / given me this opportunity. I-am one-of-those-who-are interested in-the welfare of boys-and-girls. It-//-gives-me-great-pleasure that-this Hostel has-been established in a rural area. As Minister in-charge of Rural /// Development, I-shall-be-glad if-there-is any improvement in-the standard-of-living of-the people in-the {1} rural areas. I-am-sure, that-the people here will take advantage of-this facility and see that-they also / take-part in national development. Now, I-am aware that-it-is-my duty to-help-you as-much-as-//-possible so-that you-may-be-able-to-make rapid progress. There-is-no-doubt that-you-

		are in-need /// of good roads in-order-that you-may-make-the Hostel very useful. On-this-occasion, I-would-like to {2} assure-you that-the-Government will do all-that-is-necessary as-early-as-possible so-far-as this-matter / is concerned. We-will make necessary steps to-provide electricity and-water-supply to-the Hostel immediately. It-is-not // as if-you-should-be satisfied with-the Hostel alone. I-shall-be-happy if-you-can take active interest /// in opening more-and-more schools-and-colleges not-only here but all-over-the-country. It-is-necessary that-{3} –the boys-and-girls should get good education so-that-they-may play a useful role in-the progress of-/-the-country. At-the same-time, I-think-you-will-agree-that we should do whatever is necessary to-provide // opportunities for employment. That-is-why I-want-the children to-be well-educated. But that-is-not-enough. They /// should-be-able-to develop-the country in all possible ways. So, I-would-like to point-out that-they {4} should-have craft training. In-this-connection, I-have-no-doubt that-you-are aware of-the efforts made by-/-the Government in-this-regard. I-am-certain that-you realize that jobs in offices alone will-not solve-the // problem of unemployment. It-is for-the purpose of-providing employment that-the-Government are doing their best to-promote /// cottage and village industries. In-conclusion, I-thank-you all once-again for having started the Hostel in-this-place. {5} Letter-from-the Chief Secretary to Government, Chennai to all District Collectors. Sir, You-are-aware that after a drought, / we-have-now rains. It-is reported that many roads have-been affected in-all-parts of-the State on-//-account-of-this. It-is-the desire of-the-Government that-they should-be restored to good condition as-early-///-as-possible. So, necessary steps may-be taken for-this purpose. It-is-necessary that-there-should-be pure water {6} supplied to-the people. If-this-is- not-done, it-may lead to-many diseases. It-is-said that-there-/-is difficulty in regard to-this-matter in-some-places. It-is-requested that necessary steps may-be taken in-//-this-regard. It-seems that-there-are difficulties in-regard to-supply of food when there-are floods. I-am /// directed to-request that-the situation may-be watched and necessary measures taken in-respect-of-this-matter. Yours-faithfully, {7}
5	Unit – 5 Speed Transaction Drills	**Speed – 24** Mr.Speaker,-Sir, At-the-outset I-would-like-to thank-you for giving me this opportunity to-express my / views on some of-the important issues concerning the State. I-have-been watching what-is happening during-the-last // three-days and-it-is a privilege to-express my opinions on-them. Many members of-this House have-been /// pointing-out that some regions of-the State have-been benefited and-some other regions have-not. I-agree-that {1} there-is-the imbalance in development of some parts of-the State. I-do-not-want to criticise anyone for / this. There-may-be different reasons for either-the development or-the poverty. I-am of-the view that every-//-place has its-own resources and-the development of-that-place depends on-the use of all-the resources to-///-the maximum extent possible. For-instance, the north eastern States have-been full of natural resources but they-are not {2} used properly. That-is-the important reason for-those States remaining backward. We-can blame-the government if-it does-/-not provide-the required resources. But, when there-are natural resources and-if they-are not utilised properly by-the // masses, how-can-we blame-the government? If I-am permitted to-mention here, I-draw-the attention of-the /// Honourable-Members to-the fact that-the Governments both at the Centre and-in-the State have- been working hard {3} to provide educational facilities under various programmes. But, if-the people are-not willing to-send their children to-the / schools and-they feel that everyone in-the family must work hard and earn something so-that all-the members // live together happily, it-is-not fault of-

the Government.

As-a-matter-of-fact, the Government are providing /// all kinds of assistance, in-the form of scholarships, mid-day meals etc, to encourage-the children of-the people {4} below-the poverty line to-get education at-least to-the higher secondary stage. On-the-other-hand, I regret / to say that-the-members are-not offering any suggestions which-would improve-the situation. It-is-the responsibility of-//-the members of-this House to-rise above party lines in-the overall growth of-the State irrespective of-the /// region to-which they belong.

I request the Members to stop fighting each-other on issues of development and come {5} out with useful suggestions. Sir, I-draw-the attention of-the Honourable-Home-Minister to-the law-and-order situation / in-the State. There-have-been thefts, murders and accidents. Whenever this issue comes up for discussion, the Hon'ble-Minister // expresses helplessness saying that-the existing police force is insufficient to handle-the situation. There-is-no recruitment of my-///-kind for-the last six years and-this-is-the chief cause for-the youth to-take to arms.

Had- {6}-the Government taken-up recruitment for all-those vacant posts, the unemployment problem would-have-been solved. Though I come / from a village in-the under-developed area, I-feel that-the people themselves should realise and make use of-the // opportunities at hand. I once-again thank-the Speaker for-the opportunity given to-me. In-fact, for a member /// who-is elected for-the-first-time to-the Legislature, it-is a great experience taking part in-the discussions. {7}

Speed – 25

Ladies-and-Gentlemen, I-have-great-pleasure to inaugurate-the newly constructed railway-station building and-the platform for-the / benefit of-the people living on-the east side of-this-city. In-fact, this-is-one-of-the long // pending demands of-the people of-this-city, which-is fulfilled now.

I-am-very-happy to come to-this /// city because over a decade ago, I had stayed in-this-city for about two or three-years to get {1} coaching for any higher education, as this city has-been well known for good coaching centres to enable aspiring students / join professional colleges of-their choice. I-am-glad-that educational institutions, however, continue to-maintain-the same lead even // today. All-over-the-country, people belonging to-the different sections of-the society, have-been making demands requesting for new /// railway lines, providing stops for some of-the trains, amenities to passengers etc.

I-think-you-will-agree-with-me {2} that although there-are a large-number-of demands from passengers, which merit favourable consideration because they-are genuine, finding-/-the necessary resources to-make-them a reality has become a difficult task. As you-are-aware, Indian-Railways is-//-the lifeline of moving people and-the goods all-over-the-country. It-is one-of-the world's largest network. /// Notwithstanding-the fact that-it-is largely spread, connecting people in different parts of-the-country and moving raw-materials {3} and finished goods from places of production to places of consumption, railways suffer problems like shortage of wagons, increasing costs / of fuel, wage bill etc. That-is-the reason why it takes a long-time to-make promises turn into // a reality.

As-far-as-the new facilities that-have come-up at-this station are-concerned, the whole credit /// goes to-the Honourable Member-of-Parliament representing this-city. She made constant efforts to-get all-these benefits to-{4}-the people of-this-city. You-may-be aware of-the-fact-that-the approach roads to-the newly built / railway-station on-the-other side were built with financial assistance provided from-the Local Area Development Fund. On-this-//-occasion, I congratulate her for making tireless efforts to-realise this goal.

On-this-occasion, I-would-like-to-state /// that-the central-government, under-the dynamic leadership of-our Prime-Minister, is very-much interested to provide link between {5} people living in backward and under-developed areas where there-is-no railway line at-all. For-instance, the government have / cleared-the long pending proposal of-the people to provide a rail link connecting the shipping port in-this-city // with-the neighbouring district

		headquarters. Because of-this iron ore, coal and other raw-materials can-be transported upto-///-the port in-this-city for exporting to other countries with lesser costs of transportation. In-addition, people of-the {6} backward region who never heard-the whistle of-the train engine, will-be-able-to enjoy-the travel by train / hereafter. I-am-glad to announce that your city will soon have direct train starting from here to-the State / capital. I-am-also happy to announce that-the frequency of-the local-train from here to Chennai will-be /// increased to three times a day. Finally, I convey my best-wishes to all and declare open-the new facilities. (7)

Note: Only 50 Marks 1 Question in (Shorthand Lowergrade).

OFFICE ASSISTANTSHIP - SECOND YEAR
PAPER-II ACCOUNTANCY-II

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 DEPRECIATION	• Diminishing Balance Method **Exercise:-** 6. On 1st January 2016 a firm purchased a machine for A 30.000. Assuming the depreciation is charged @10% on diminishing balance method. Prepare machinery account for three years. (Ans. Balance A 21,870) 7. A company purchased a plant worth A 25.000 on 31.3.2016 depreciation is calculate @10% per annum, under diminishing balance method. Show the machinery accounts up to 31st December 2018. (Ans. Balance A 18,731) 8. A company purchased a plant a worth A 25,000 on 01.7.2016 is calculated @ 10% per annum. Under diminishing Balance Method. Show the machinery account up to 31st Dec 2019. (Ans. Balance A 17,313) 9. Lee & Co. purchased a second hand machine costing A 45,000 on 1st Jan. 2016 and spent Rs. 5,000 on its repairs. The depreciation is charged @ 15% p.a. On diminishing balance method. Prepare machinery account for the first four years. (Ans. Balance A 26,100) **Sales of Asset** 10. Machinery bought on 1st Jan 2016 for A 20,000 has become obsolete and sold on 31st Dec, 2019 for A 13,000. Calculate the profit or loss assuming depreciation is charged @ 15% p.a . on straight line method. (Ans. Profit A 5,000) 11. Machinery purchased on 1.7.2016 for A 10,000 was sold on 31.12.2018 for A 5,000. Calculate the profit or loss of sale assuming depreciation is charged @ 10% per annum under fixed installment method. (Ans. Loss A 2,500) 12. Furniture worth A 10,000 was purchased as on 1.1.2016. The furniture was sold on 31.12.2018 for A 6,000. Find the profit or loss on the sale of furniture charge depreciation @ 10% p.a under diminishing balance method. (Ans. Loss A 561) 13. A second hand machine was purchased for A 12,000 on 1.1.2016 and A 3,000 spent towards repairs. On 30.6.2019 the machine became unsuitable and was sold for A 10,000. Charge	Nil	2. How is the depreciation calculated in the diminishing Balance Method? 5. Distinguish between fixed installment and Diminishing Balance Method?

depreciation @ 15% on Diminishing Balance Method. Show the machinery account.

(Ans. Loss. A 3,520)

14. Furniture worth A 20,000 was purchased on 1.1.2016 and on 1.4.2017 additional furniture worth A 8000 was purchased and A 2,000 was spent on its perfection. On 31.12.2017 furniture purchased on 1.1.2016 was sold for Rs. 15,000. Prepare the furniture account up to 31.12.2018 charging depreciation @ 12% p.a. as per diminishing balance method.

2 UNIT-2 Accounts of Non-Trading Concern

- Balance Sheet

NIL

2. What is opening Balance Sheet? With purpose it is prepared?

8. From the following Receipts and Payments account for the year ending 31.3.2019. Prepare an income and expenditure account for the period ending 31.3.2019 and Balance Sheet as on that date.

Dr. **Cr.**

Receipts	**Rs.(**A)	**Payments**	**Rs.(**A)
To Donations received	35,000	By Salaries	37,500
To Subscriptions	1,15,000	By Help to poor students	37,000
To Life membership fee	50,000	By Expenses on free	34,500
To Legacy	75,000	By Postage and Stationery	3,500
To Interest received	4,000	By Furniture	50,000
		By Investments	75,000
		By Cash in hand	41,500
	2,79,000		2,79,000

Additional Information :

1. Subscription outstanding for the year A 5,000.
2. Salaries unpaid A 5,000.
3. Help to poor students promised but unpaid A 16,000.
4. Expenses of dispensary outstanding A 3,000.
5. Postage and Stationary expenses yet to be paid A 4,000.

(Ans: Surplus : A 18,500, B/S Total : A 1,71,500)

10. The Receipts and Payments account of the Hyderabad Friends Club for the period ending 31.3.2019 is given below.

Subscription fee outstanding for the year 2018-2019 Rs. 150. Salaries unpaid for the year Rs.85. From the above particulars prepare an Income and Expenditure account of the club for the year ended 31.3.2019 and the balance sheet in that date.

Dr. **Cr.**

Receipts	**Rs.(**A)	**Payments**	**Rs.(**A)
To Donation received	25,000	By Buildings	20,000
To Reserve Fund (Being life member fee received)	2,000	By Furniture	1,050
To Match fund	5000	By Tournament expenses from match fund	450
Revenue Receipts :		**Revenue Payments :**	
To Subscriptions (Including Rs. 50 for 2019-20)	1,600	By Salaries	900
To Lockers Rent	50	By Cricket	300
To Interest on securities	50	By Tennis	270
To Cricket	200	By Insurance (paid upto 31st Dec. 2019)	180

To Sundries	25	By Gardening	85
To Tennis	175	By Printing	15
To Billiards	100	By Telephone	125
		By Sundries	75
		By Investments (at cost)	9,000
		By Blance c/d	1,750
	34,200		34,200

(Ans : Excess of Income over expenditure A 400/- Balance Sheet Total : A 32,085)

11.Tarnaka Sports Club's Receipts and Payments account for the year ending 31.3.2019 is given here under.

Additional Information :

1. Subscriptions receivable for 2017-2018 were A 1000/- and for 2018-2019 A 1,050.
2. Games equipment in the beginning was Rs.1,000/- and at the end A 1,250 /-
3. Provide depreciations at 10% 0n grass cutting machine .

Prepare Income and Expenditure for the year ending 31.3.2019 and opening and closing balance sheet.

Dr. **Cr.**

Receipts	**Rs.(**A)	**Payments**	**Rs.(**A)
To Cash in hand	250	By Salary to workmen	2,000
To Cash in Bank	2,250	By Grass cutting machine	1,000
To Subscription	6,750	By Rent	450
To Tournament fund	2,500	By Games expenditure	3,500
To Life membership fee	1,500	By Tournament expenditure	1,000
To Entrance fee	250	By Office expenditure	2,250
To Donation for pavilion	4,000	By Games equipment	1,500
To Sale of grass	200	By Balance c/d	
		Cash in Hand	750
		Cash at Bank	5,250
	17,700		17,700

(Ans: Deficit A. 2,300. Balance Sheet total A 9,200)

12.Prepare Income and Expenditure account and balance sheet of Hyderabad Club from the particulars is given below for the year ending 31.3.2019.

Receipts and Payments account as on 31.3.2019

Dr. **Cr.**

Receipts	**Rs.(**A)	**Payments**	**Rs.(**A)
To Balance b/d	1,200	By Salaries	6,500
To Subscriptions (Including A 400 2019-20)	6,400	By Rent	1,200
		By Printing & Stationery	180
To Interest on investment (Investment cost A 40,000)	2,500	By Postage	50
		By Cycle purchased	800
To Bank Interest	50	By Govt. Bonds	1,000
To Sale of furniture	500	By Balance c/d	920
	10,650		10,650

Additional Information

1. Subscription received included A 200 of 2017-2018.
2. Rent paid included A 100 for March 2019 monthly rent is Rs.100.
3. Subscriptions due for 2018-2019 A 300.
4. Salaries Payable sold was A 600.

5. Cost of furniture sold was A 640.
(**Ans :** Deficit : A 20 capital fund 41,940 Balance Sheet total A 43,020).

3 UNIT-3 Partnership Accounts-I

- Sacrificing ratio

2. X and Y were partners in a firm. They shared Profit and Losses in the ratio 3:1; Z was admitted on 1-1-2019 & the new profit sharing ratio is 5:1:4. Find the sacrificing ratio.

4. Calculate Goodwill by 3 years purchase of average profits. Profit for 2016-2017, 2017-2018 & 2019 were A 509,000, A 75,000, A 65,000 & A 20,000.

6. X and Y were sharing profits in the positions of 2/3 and 1/3 showed the following as their Balance Sheet on 31-12-2019.

Dr. **Cr.**

Liabilities	**Amount Rs.(**A)	**Assets**	**Amount Rs.(**A)
Sundry Creditors	29,950	Buildings	25,000
Bills payable	3,000	Plant and Machinery	17,500
Capital Accounts		Stock	10,000
X 15,000		Sundry Debtors	4,850
Y 10,000	25,000	Cash in hand	600
	57,950		57,950

They agreed to admit Z into partnership on the following terms

(a) Z was to bring A 7,5000 as his Capital & A 3,000 as goodwill for ¼ share in the future profits of the firm.
(b) That the Value of stock, Plant & Machinery were to be reduced by 5%.
(c) That a reserved of A 375 was to be created in respect of sundry debtors.
(d) That the Building account was to be appreciated by 10%.
(e) That the Good will was to be retained in the business.

Prepare profit & Loss Adjustment Account, the Capital Account , & the new balance sheet of the firm.

(Ans : Revaluation Profit A.750 ; Capital A/c Balance X – A 17,500; Y – A 11,250; Z – A 7,500; Balance sheet Total A 69, 200)

7. On 31-12-19 the Balance Sheet of equal Partner P,Q and R is given below.

Balance Sheet

Liabilities	**Amount Rs.(**A)	**Assets**	**Amount Rs.(**A)
Sundry Creditors	19,600	Buildings	41,000
Bills payable	3,000	Furniture	3,200
Capital Accounts		Stock	25,200
P 35,000		Sundry Debtors	32,000
Q 30,000		Cash in hand	4,200
R 18,000	83,000		
	1,05,600		1,05,600

They admitted Mr. 'S' on the following conditions.

(a) ' S' has to bring A 24,000 towards Good will and A 30,000 as Capital for his 1/4th Share.
(b) ½ (half) of the Good Will be taken away by the old Partners, from the business.
(c) Depreciation @ 5% to be Provided on Stock & Furniture.
(d) 5% provision for Bad debts Reserve on debtors required.
(e) Buildings is to be valued at A 59,000/-

Prepare Profit and Loss adjustment account, Capital Account and Balance Sheet as on 1-1-2020

(Ans : Revaluation Profit – A 14,980, Capital A/C Balance P- A 43,993; Q - A 37,993; R- A 26,994; S- A 30,000; Balance Sheet Total A 1,62,580.)

4	UNIT-4 Partnership Accounts-II	• Gaining Ratio	Nil	1) X,Y,Z were partners sharing profits in the ratio of ½,$^{1}/_{6}$,$^{1}/_{3}$/ Their Balance Sheet on 31-12-2019 was as follows.

Liabilities	Amount Rs.(A)	Assets	Amount Rs.(A)
Sundry Creditors	20,500	Buildings	50,000
Bills Payable	10,000	Plant and Machinery	25,000
Capital Accounts		Furniture	2,500
X 25,000		Stock	22,500
Y 20,000		Debtors 20,000	
Z 35,000	80,000	- Reserve 1,000	19,000
Reserve fund	12,000	Cash	3,500
	1,22,500		1,22,500

Z retires, so the following adjustment were agreed upon for ascertainment of the payment be made to him

(1) Appreciate the Buildings by 10% and Stock by 15%.
(2) Depreciate Plant by 10% and furniture by 7 ½ %.
(3) Reserve for Doubtful debts to be made up to A 1,500.
(4) Create Goodwill with A 20,000
(5) The amount pay able to should be transferred to Loan account.
(6) It is assumed that goodwill credited to retiring partner is being reduced from X and Y's Capital Balance Sheet.

(Ans : Revaluations profit – A 5,187; Z's Loan A/c – A 47,396 Balance Sheet Total – A 1,27,687)

5	UNIT-5 Hire Purchase and Installment purchase system	• Installment Method	13. State what journal entries will be passed in the books of buyer and seller under Installment purchase system?	**Problems:**

1. The Hyderabad Transport company purchased motor car from the Tata motor co. on hire purchase agreement on 1st January 2016 paying cash A 10,000 as down payment and agreeing to pay further three installment of A 10,000 each on 31st December each year. The cash price of the car is A37,250 and the Tata Motor Company charges interest at 5 percent p.a. the Hyderabad Transport Company writes off 10 percent p.a. as depreciation on the reducing installment system. Journalize these transaction in the books of both the parties.

(Interest 2016, A **1,363; 2017** A **931 & 2018** A **456)**

2. On 1st January 2016 Messrs. Ram & CO. took from Auto car Ltd. Delivery of a Motor Van on hire purchase system. A 2,000 being paid on delivery and the balance in five installment of A 3,000 each payable annual on 31st December. The vendor company charges 5 percent p.a. interest on yearly balances. The cash down value of the van is A 15,000. Show the necessary ledger account in the books of Ram & Co. the company provides 10% p.a. depreciation according to reducing Installment system.

(Ans. Interest 1st year, A 650, Second year A 533, 3rd year A 409, 4th year A 280 and 5th year A128)

4. A company purchased a motor cycle on hire purchase system on 1st January 2016. The first installment of A 6,000 was paid immediately and the balance by four equal installment of A 6,000 was each to be paid on the last date of each year. The vendor charged 5% per annum interest on the unpaid balance. The cash price of the press on delivery was A 27,300. Depreciation is to charged at 10% on the diminishing balance of the asset.

Draw up Vendor's Account, Motor cycle account , interest account and depreciation account in the books of the buyer.

(Ans. Interest A 1,065, A 818, A 559 and A 258)

5. Rohita Purchased a machine on hire purchase system , the cash price of which was A

				14,6000. A 11,400 were paid at the time of contract on 1st July 2016 and the balance was to paid by half-yearly installment of A 800 plus interest at 5 percent p.a. Depreciation charged by Ashaaz is 10 percent p.a. on diminishing balance method. Accounts are closed on 30th June. Prepare machinery account, hire vendor account , interest account and depreciation account in rohita's Ledgers. **(Ans. Interest A 80, A 60, A 40 and A 20)** 4. Muneer purchased an asset for A 60,000 payment to be made year. Rate and three installment of A 18,000 each at the end of each depreciates asset at 10% p.a. on written down value method. Due to financial difficulties Muneer could not pay installment after the first installment and the selling company took possession of the asset. The selling company after spending A 1,500 on repairs of the asset sold it away for A38,000. Prepare the necessary ledger accounts in the books of both the parties. **(Ans. Loss on default transferred to Profit and Loss Account A13,950. Seller's account transferred to asset account A 34,650, Profit on resale A 1,850)** 6. Lallu purchased a Lorry from Kishen for A 1,50,000 payable A50,000 down and the balance in four annual equal installments for A 25,000 each at the end of each year, together with interest @ 10% p.a. The lorry is depreciated at 20% p.a. on the reducing balance system. Lallu pays cash down and three successive installment but fail to the last installment. Consequently Kishens reclaims the lorry. He spends, A 5,000 on repair and sell it for A50,000. Show the ledger account in the books of Lallu **(Ans. Loss on default A 33,940)**
6	UNIT-6 Company Accounts-I	• Issue share with Premium, • Issue share with Discount, • Forfeiture of shares	Nil	**Exercises** 1. PQR limited issued 10,000 shares of A 10 each payable A 2 on application A 5 on allotment and the remaining balance on call. Applications were received for 9,000 shares and the shares were duly allotted. All cash due on allotment and call was received .Write the journal entries in the books of company and prepared cash book. 3. Reliance limited invite applications for 60,000 shares at A 100 each at premium of A 10 per share. The share were payable as follows, on application A 30, on allotment A 60 including premium, on call A 20. Application were received for 50,000 shares. Allotment money was received for 38,000 shares. No calls were made till to date. Write journal entries. **Problems** 3. A limited company was formed on January 1, 2019 with an authorized capital A 3,00,000 divided into 1,000 shares of A 100 each. On the same date, the company issued a prospectus asking for subscriptions to 900 shares payable A 25 per share on applications A 40 on allotment and the remainder on a call. All share were applied for and allotted and the call cash due on allotment and call was received. Give the necessary entries. 5. Base Informatics Limited issued 5,000 equity share of A 10 each at premium of A 2 per share payable A 2 on application A 5 on allotment (including premium) A 3 on first call and balance on final call. The shares were all subscribed and amount received on calls except the first call on 1,000 shares and final calls on 1,500 shares. Give cash book and journal entries 6. Monica Ltd., invite applications for 20,000 shares of A 100 each at a premium of A 10 per share. The share were payable as follows

On application A 20
On Allotment A 40 (including premium)
On First Call A 30
On Final Call A 20

Give Journal entries

7 UNIT-7 Company Accounts-II

Nil

3. From the following balances prepare Trading Account and Profit & Loss Account, Profit and Loss Appropriation A/c for the year ended 31st March 2019.

		Rs. (A)
Purchases	--	5,69,842
Stock on 1-4-2018	--	68,892
Freehold Premises	--	55,026
Productive wages	--	25,090
Salaries	--	22,060
Bad Debts	--	476
Repairs to Building	--	5,056
Interest on Bank overdraft	--	1,260
Plant and Machinery	--	80,140
Printing and Stationery	--	33,400
Director's Fees	--	6,400
Auditor's Fees	--	3,000
Rates and Taxes	--	7,576
Debtors	--	45,000
Sundry office expenses	--	1,052
Share capital (25000 shares of A 10)	--	2,50,000
Purchase returns	--	5,500
Sales	--	1,91,800
Rents from property	--	12,260
P&L Credit balance	--	10,000
Discount received	--	4,000
Commission received	--	5,000

The following adjustments have to be made before closing the accounts

(a) Value of closing stock is A 1,40,200

(b) Depreciation on Plant and Machinery has to be written off at 10% per annum,

(c) Provide for Bad and Doubtful Debts at 5 percent.

(Ans. Gross Profit 168,175, Net Profit A 96,641, Surplus A 108891)

8 UNIT-8 Company Accounts-III

Nil

Exercise No. 3

Ramada Co. Ltd was registered with an authorised Capital of A 10,00,000 divided into 10,000 ordinary shares of A 50 each and 5,000 10% reference shares of A 100 each. The following Trial balance was extracted from the books of the company as on 31st December 2019 Prepare balance sheet as on 31 December 2019.

Plant and Machinery	2,85,000
Lease hold premises	7,00,000
Calls in Arrears on ordinary shares	5,000
Sundry Debtors	3,00,000
Prepaid advertisement expenses	1,40,000

				Furniture and fixtures 29,000 Cash in hand 1,000 Ordinary shares capital (8,000 shares fully called up) 4,00,000 Preference Shares 5,00,000 Sundry Creditors 1,42500 Profit and loss adjustment account (Surplus) 1,14,000 Bank overdraft 25,000 Debentures 5,00,000 **Adjustments :** 1. Depreciate Plant and Machinery at 10% 3. Closing stock amounted to A 2,50,000 **Balance Sheet Total - 16,76,500**

OFFICE ASSISTANTSHIP - SECOND YEAR

PAPER-III: OFFICE MANAGEMENT AND SECRETARIAL DUTIES

Sl. No	Unit No. Name of the Unit	Topics/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1.	Unit – 1 Office Management and its Functions	1.6) Office Functions 1.1) Principles of Management 1.5) Office Activities 1.4) Office Work	1) Briefly explain the basic functions? 3) Explain the responsibilities of an authority?	3) What are Office Activities? 4) Explain the Office Work?
2.	Unit – 2 Office Organisation and Administration	2.7) Types of Organization 2.5) Administration 2.1) Organisation Meaning and Definition 2.2) Characteristics of an Organisation 2.3) Importance of Organisation	6) Mention the types of Organization? 7) What is meant by Administration? 8) What is informal organisation?	1) Give the definition of organization? 2) Explain the characteristics of an organization? 3) Write importance of organisation?
3	Unit – 3 Office Accommodation and Environment	3.3) Location of Office 3.10) Furniture	2) How to cover the floor covering? 4) What is meant by location of Office?	1) How the office manager can get maximum can get maximum efficiency with minimum cost explain? 6) Write about importance of Office Furniture?

4	Unit – 4 Office Machines and Equipment and Automation in Office	4.4) Types of Office Machines 4.3) The criteria for selection 4.2) Objects of Mechanisation 4.5) Miscellaneous Machines	1) How to utilise the computer in an office? 2) What type of points you remember to purchase office equipment? 3) What is Miscellaneous machine?	1) What are the objectives of office machines? 5) Explain briefly about miscellaneous machines?
5.	Unit – 5 Records Management and Office Stationery	5.7) Types of Indexing 5.10) Methods of Purchasing 5.11) Stationery control 5.2) Importance of records 5.4) Filing 5.10) Methods of Purchasing	6) What is page index? 7) Explain the spot purchasing? 8) How to fixation of levels?	2)Explain the importance of records? 4) Describe what is best Filing? 7) What steps in methods of purchasing?
6.	Unit – 6 Office Communication and Mail Services	6.2) Effective Communication 6.3) Communication Procedure 6.5) Organising Correspondence 6.8) Arrangement with the post office	2) Write any three facts of communication? 3) Write four phases of work in organisation? 6) What is the Organising Correspondence?	5) Explain briefly about centralised correspondence? Explain its advantages & disadvantages? 6) Explain briefly about decentralised correspondence? Explain its advantages & disadvantages? 8) What are the arrangements with Post Office?
7.	Unit – 7 Secretarial Duties	7.4) Notice and Drafting 7.2) Types of Meeting Maintenance of Diary	3) Write about Noting? 6) Define Quorum?	2) Explain about the Types of Meeting? 4) Wrote about kinds of Noting? 7) Discuss the points to be kept on mind while scheduling Appointment?

VOCATIONAL CURRICULUM-2020

(For the Academic year 2020-21)

[70% CONTENT IN VIEW OF COVID-19 PANDEMIC]

Insurance & Marketing

[Course Code: 214]

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

Dr. A.Ashok I.A.S
COMMISSIONER

500001

INTERMEDIATE EDCATION
Government of Telangana
Nampally, Hyderabad-

Phone: 040-24655915

Fore word

In any developing society with a booming population, Vocational Education occupies an important position for generating large scale employment opportunities. Viewed in this context the importance of Vocational Education for our country cannot be over emphasized. Vocationalization of Secondary Education was introduced in 1988 at the Intermediate level. Recently, the Government of India has developed a National Skills Qualification Framework for establishing a clear path for vocational education from the school level to the highest level. The Department of Intermediate Education has recently framed a new curriculum to bring greater value to the system of vocational education. The primary aim of this reform is to prepare the students with employable skills for absorption in organized sectors and in few cases, even for self-employment.

State Institute of vocational education and Board of Intermediate Education, Telangana have reviewed the curriculum of vocational courses in order to reorient them for their practical approach. Greater emphasis is now being placed on Laboratory work and on the job training.

Simultaneously, The State Institute of Vocational Education and the department of Intermediate Education are presently making efforts to upgrade the quality of infrastructure in the colleges to meet the challenges of the changed curriculum. I am confident that the revised curriculum and the new text books would prove to be beneficial to the students in the vocational stream and help them train in need based productive courses leading to gainful employment.

Commissioner of Intermediate Education
Government of Telangana

S No.	Contents	Page No.
I	**Introduction**	5
II	**Objectives of the Course**	6
III	**Skills to be provided**	6
IV	**Job Opportunities** a) Wage Employment b) Self-Employment	6
V	**Scheme of Instruction and Examination**	7
	SYLLABUS	
VI	**First year Intermediate** **Theory** Paper I : Business Organization Paper II : Accountancy-I Paper III: Principles of Insurance **Practicals** Paper I : Business Organization Paper II : Accountancy-I Paper III: Principles of Insurance	10
VII	**Second Year Intermediate** **Theory** Paper I : Retail Marketing Paper II : Accountancy-II Paper III: Principles of General Insurance **Practicals** Paper I : Retail Marketing Paper II : Accountancy-II Paper III: Principles of General Insurance	17
VIII	**Model Question Papers**	23
IX	**List of Equipment** a) Collaborating Institutions for curriculum transaction b) On – the – Job Training Sites	37
X	**Teaching staff and their Qualification**	37
XI	**Vertical Mobility**	37
XII	**Equivalency of Papers**	37
XIII	**List of Participants**	38

INTRODUCTION

The objectives of Vocational Education System in the context of fulfillment of national goal are to train the students for employment in the growing sectors of economy, both organized and unorganized, to provide an alternative channel for higher education and to prepare students for self – reliance and gainful employment. Insurance & Marketing industry has grown by leaps and bounds and the diversification of activities has lead to exponential increase in the availability of job opportunities in the Financial Market related service industries. To cater to the requirements of the Insurance & Marketing industries, this Insurance & Marketing course syllabus has been drafted.

At present 29 Vocational Courses are offered at Intermediate Level in Andhra Pradesh. As per the guidelines given in the National policy on Education, all the Vocational Courses are terminable in nature. The Present day curriculum is so framed to meet the challenges on one side and the requirements of such sector on the other.

It is therefore felt necessary to convert the Vocational Courses as Job oriented courses and to re-vamp the syllabus for the existing Vocational courses. Accordingly to accomplish this task it is decided to conduct the curriculum development work shops with expert committees. The members entrusted with the task of preparation of syllabi are hailed from various reputed Organizations and Institutions of varied nature i.e. academicians, professionals and stakeholders. They felt more emphasis is to be given for On the Job Training, hence more importance has been given to On the Job Training in the present syllabi.

In view of the above a committee has been constituted for revision of syllabus and the names of the members who have participated in this task are mentioned overleaf.

II. COURSE OBJECTIVES :

- To understand the basic concepts of Insurance & Marketing
- To impart skills to the students on the services provided by the Insurance & Marketing industry
- To impart skills in various non-banking and allied financial service areas
- To acquire computer operational skills with knowledge of accounting packages, etc
- To prepare the students for taking up wage and self-employment

III. SKILLS:

- Skills in Insurance & Marketing Services.
- Skills in Insurance companies, Mutual Funds, stock markets, Chit funds, Micro Finance, etc.
- Skills in computer profession i.e. MS Office, MIS, Accounting packages, Data base etc.
- Skills in insurance related services.
- Awareness about insurance activities and insurance to customers.

DURATION OF COURSE :

- Duration of the Course will be 2 academic years.

IV. JOB OPPORTUNITIES :

(a) Wage Employment

Insurance agents of Life Insurance & General Insurance

- Super bazaars / Malls / Hotels / Banks / Insurance companies
- Direct selling agency
- Recovery agencies
- Mutual fund companies
- Micro financial institutions.

(b) Self Employment

- Insurance consultants
- Postal saving Agents
- Banks Direct Selling Agents
- Verification Agents
- Recovery Agents
- Establishment of Micro Finance
- Door step Banking
- Establishment of chit funds
- Money lending / Pawn brokers

V

SCHEME OF INSTRUCTION AND EXAMINATION
ANNUAL SCHEME OF INSTRUCTION AND EXAMINATION FOR

INSURANCE & MARKETING
FIRST YEAR

Part-A		Theory		Practicals		Total	
		Periods	Marks	Periods	Marks	Periods	Marks
1.	English	150	50	0	0	150	50
2.	General Foundation course	150	50	0	0	150	50
	Part-B						
3.	**Paper-1** Business Organization	135	50	135	50	270	100
4.	**Paper-II** Accountancy & Computers- I	135	50	135	50	270	100
5.	**Paper-III** Principles of Insurance	135	50	135	50	270	100
6.	**Part-C OJT**	0	0	365	100	365	100
	Total	**705**	**250**	**770**	**250**	**1475**	**500**

*on the Job Training for 1st year from 1st November to 31st December

SECOND YEAR

Part-A		Theory		Practicals		Total	
		Periods	Marks	Periods	Marks	Periods	Marks
1.	English	150	50	0	0	150	50
2.	General Foundation course	150	50	0	0	150	50
	Part-B						
3.	**Paper-1** Retail Marketing	110	50	115	50	225	100
4.	**Paper-II** Accountancy & Tally - II	110	50	115	50	225	100
5.	**Paper-III** Principles of General Insurance	110	50	115	50	225	100
6.	**Part-C OJT**	-	-	450	100	450	100
7.	**Total**	**630**	**250**	**795**	**250**	**1425**	**500**
						TOTAL 1st YEAR AND 2nd YEAR MARKS 1000	

*OJT Programme for 2nd year students from 1st August to 31st October.

EVALUATION OF ON THE JOB TRAINING:

The "On the Job Training" shall carry 100 marks for each year and pass marks is 50. During on the job training the candidate shall put in a minimum of 90 % of attendance.
The evaluation shall be done in the last week of January.

Marks allotted for evaluation:

S.No	Name of the activity	Max. Marks allotted for each activity
1	Attendance and punctuality	30
2	Familiarity with technical terms	05
3	Familiarity with tools and material	05
4	Manual skills	05
5	Application of knowledge	10
6	Problem solving skills	10
7	Comprehension and observation	10
8	Human relations	05
9	Ability to communicate	10
10	Maintenance of diary	10
	Total	100

NOTE: The On the Job Training mentioned is tentative. The spirit of On the Job training is to be maintained. The colleges are at liberty to conduct on the job training according to their local feasibility of institutions & industries. They may conduct the entire on the job training periods of (365) First year and (450) Second year **either by conducting classes in morning session and send the students for OJT in afternoon session or two days in week or weekly or monthly or by any mode which is feasible for both the college and the institution**. However, the total assigned periods for on the job training should be completed. The institutions are at liberty to conduct On the Job training during summer also, however there will not be any financial commitment to the department.

SCHEME OF INSTRUCTION PER WEEK

	Part-A	**Theory**	**Practicals**	**Total**
1.	English	4	-	4
2.	General Foundation Course	4	-	4
	Part-B			
3.	Paper –I	4	4	8
4.	Paper-II	4	4	8
5.	Paper-III	4	4	8
6.	**Total**	**20**	**12**	**32**

SYLLABUS

INSURANCE & MARKETING

FIRST YEAR

PART B – VOCATIONAL SUBJECTS

PAPER – I: BUSINESS ORGANISATION (THEORY& PRACTICALS)

TIME SCHEDULE, WEIGHTAGE & BLUE PRINT

S.No	NAME OF THE UNIT	No. Of Periods		Weightage in marks	Short answer questions	Essay/ Problem questions
		Theory	Practical			
01	Basic Concepts	15	15	10	2	1
02	Sole proprietorship, Joint Hindu family	20	20	8	1	1
03	Partnership	15	15	8	1	1
04	Joint stock company	20	20	10	2	1
05	Incorporation of Joint stock company	20	15	8	1	1
06	Co-operative societies	15	15	8	1	1
07	Aids to Trade - Banking & Insurance services	10	15	8	1	1
08	Aids to Trade - Transport, Warehousing & Advertisement	20	20	8	1	1
	Total	135	135	68	10	08

Note: The question paper contains two sections.

Section – A of question paper contains 10 questions carries 2 marks each. The student has to answer all questions.

Section – B of question paper contains 8 questions carries 6 marks each. The student has to answer five questions.

COURSE CONTENTS:

1. **Basic Concepts** – Business organization and its scope – Business, Profession, Industry, Trade, types and ~~aids to trade~~, Classification of Industries, Forms of Business organization.
2. **(a). Sole trader** – Characteristics - merits and demerits of sole trader – **Joint Hindu Family** – Karta – ~~merits and Demerits~~ – Schools of Joint Hindu Family.
   (b). Self -Employment, Entrepreneurship, Small Business, Private sector, Government Sector, CRM Practices
3. **Partnership** – Characteristics – merits and demerits – ~~Partnership deed~~ – Types of partners – ~~Rights and duties of partners~~.
4. **Joint Stock Company**– Characteristics, merits – demerits, ~~kinds of companies~~, Promoter.
5. **Incorporation of Joint Stock Company** – Procedure of promotion and incorporation of Joint stock Company – Memorandum of Association – Articles of association – ~~Prospectus~~ – Golden rule of framing prospectus.
6. **Co-operative societies –** Characteristics – ~~Types of co-operative societies~~ – merits and demerits
7. **Aids to Trade -** Banking and Insurance Services **–** Definition of bank and insurance – ~~Different types of banks~~ – Functions of commercial banks – Advantages of insurance – Principles of insurance – ~~Types of insurance~~ – RBI and its Functions
8. **Aids to Trade -** Transport, Warehousing & Advertisement **–** Advantages of transport – Types of transport – ~~Importance of warehousing~~ – ~~types of warehousing~~ – Need and importance of advertisement – Print media – outdoor media – Importance of Advertising to different types of companies

References:

1. Jones & Mathew: Organization Theory, designed change – Vikas Publishers
2. P.N.Reddy – Principles of Business Organizations – S. Chand Publications
3. Nathan S.Collier - A Different types of Business Organizations – Wiley Publications

INSURANCE & MARKETING
FIRST YEAR
PART B – VOCATIONAL SUBJECTS
PAPER – II: ACCOUNTANCY & COMPUTERS – I (THEORY& PRACTICALS)
TIME SCHEDULE, WEIGHTAGE & BLUE PRINT

S.No	NAME OF THE UNIT	No. Of Periods		Weightage in marks	Short answer questions	Essay /Problem questions
		Theory	Practical			
01	INTRODUCTION TO ACCOUNTANCY	15	05	10	2	1
02	JOURNAL	15	10	8	1	1
03	SUBSIDIARY BOOKS	10	10	8	1	1
04	LEDGER	25	10	8	1	1
05	CASH BOOK	10	15	8	1	1
06	RECTIFICATION OF ERRORS &TRIAL BALANCE	15	10	8	1	1
07	FINAL ACCOUNTS	20	20	8	1	1
08	Basic fundamentals of computer	25	55	10	2	1
		135	135	68	10	08

Note: The question paper contains two sections.
Section – A of question paper contains 10 questions carries 2 marks each. The student has to answer all questions. **Section – B** of question paper contains 8 questions carries 6 marks each. The student has to answer five questions.

COURSE CONTENTS:

1. **Introduction to Accountancy** – Definition of Accountancy and Book keeping – Objectives- Merits and demerits – Accounting concepts – ~~Conventions~~ – Single entry system – Double entry system – Advantages – Accounting Cycle – Accounting Standards – IFRS – Concept & Need.
2. **Journal** –Types of Accounts – Rules of Debit and Credit – Journal – Journal entries (including Problems) – Functions of Debit and Credit
3. **Subsidiary books** – Types of subsidiary books – Purchase book – purchase returns book – Sales book – Sales returns book – Bills receivable book – Bills payable book- Journal proper (including Problems)
4. **Ledger** – Meaning Classification of Ledger – posting the transactions into Accounts – Balancing the Accounts (including Problems)
5. **Cash Book** – Types of cash book – Simple or single column cash book – Two column cash book – ~~Three column cash book – Petty cash book~~ - (including Problems)
6. **Rectification of errors &Trial balance** – Rectification of Errors – one side & two side Importance of trial balance – Preparation of trial balance – (including Problems)
7. **Final Accounts** – Preparation of Trading account, Profit & Loss account and Balance sheet with adjustments (including Problems)
8. **Basic Fundamentals of computers** – Fundamentals of Computers - Types of Computers - Generation of computers – Block Diagram – Memory – CPU - Advantages of computers - Input, output devices – Operating system – MS.WORD – MS EXCEL - MS POWERPOINT.

References:-

1. P.C.Tulsian – Financial Accounting & Analysis – Tata Mcgraw Hill Publications
2. S.N.Maheswari – Financial Accounting & Analysis – Vikas Publications
3. V.K.Goyal – Financial Accounting – EXCEL Books
4. E.Balaguruswamy- Fundamentals of Computers Tata C Graw Hill Education Pvt, Ltd.,
5. E.Balaguruswamy- Fundamentals of Computers Tata C Graw Hill Education Pvt, Ltd.,

INSURANCE & MARKETING
FIRST YEAR
PART B – VOCATIONAL SUBJECTS
PAPER –III: PRINCIPLES OF INSURANCE (THEORY)

PERIODS/WEEK: 05 **PERIODS/YEAR: 135**

Unit 1: The conceptual Framework: Nature of Insurance, Assurance and Insurance i) Brief history of Insurance ii) Principles of Insurance ~~iii) Classification of risks~~ iv) Classes of Insurance and Assumptions v) ~~Importance of insurance industry~~, Functions of Insurance
Unit-2 : The business of insurance ~~i) Managing risks~~ ~~ii) Retention~~ iii) Life insurance iv) Managing insurance ~~v) Funds of an insurer~~ vi) Trustee vii) Reinsurance viii) Role of insurance in economic development ix) Insurance and social security
Unit-3: The insurance contract i) Utmost good faith ii) Insurable interest iii) Criminal act iv) Indemnity ~~v) The insurance contract~~ vi) Subrogation and contribution vii) Proximate cause viii) Personal and non-personal contract
Unit-4: Insurance products i) Life insurance : Non - linked policies , linked policies, annuities Group policies. ii) Non life insurance ~~: loss of profits~~ , Marine insurance , Hull insurance, Motor insurance, personal accident , Fidelity Guarantee, Health insurance, Overseas Medical insurance, Liability insurance, Engineering insurance, ~~Boiler and Pressure Plant , Aviation insurance,~~ Other Miscellaneous insurance. iii) Innovative plans
Unit- 5: Insurance terminology – Casualty Insurance – Liability / Laws Resulting from a Accident – Legal Liability – Third Party – Damage to Property -
Unit-6: The insurance Market – Indian Insurance Industry – Market Development – Market Science – Government Initiatives

Unit-7:	Regulations i) The insurance act 1938 ii) IRDA ACT 1999 iii) Life insurance corporation act 1956 iv) General insurance act 1972 v) Consumer protection act 1986 vi) Income tax act vii) Other laws
Unit-8: The Insurance Customer and The Risk Management	

References:-

1. George E Rejda – Principles of Risk Management and Insurance – Pearson Publications
2. M.V.Garg – Insurance Management Principles and Practice – Deep and Deep Publications
3. M.N.Mishra and P.B. Mishra – Insurance Principles and Practice – S. Chand Publications & Co.

SYLLABUS

INSURANCE AND MARKETING
SECOND YEAR
PAPER – I: RETAIL MARKETING (THEORY)

TIME SCHEDULE, WEIGHTAGE & BLUE PRINT

S.No	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
01	Marketing	10	8	1	1
02	Types of Retailers	15	8	1	1
03	Stores layout and design	20	10	2	1
04	Buying Portfolio	10	8	1	1
05	Pricing & Promotion	10	8	1	1
06	Merchandise Control	10	8	1	1
07	Packing & Delivery	20	10	2	1
08	Social marketing	15	8	1	1
		110	68	10	08

Note: The question paper contains two sections.

Section – A: - Of question paper contains 10 questions carries 2 marks each. The student has to Answer all questions.

Section – B:-Of question paper contains 8 questions carries 6 marks each. The student has to answer Five questions.

1.**Marketing** – Function Of Marketing – ~~Channel Of Distribution~~ - Role Of Wholesaler& Retailer – Features Of ~~Multiple Shops~~-Department Stores-Mail Order Business-Tele Marketing-Of Transport Merits & Demerits –Types Of Warehousing.

2. **Types Of Retailer** –General Stores –Convenience Stores - Specialty Stores – ~~Malls~~-Super Markets-~~Cooperative Stores~~ - Rhythu Bazaar, Mandy, Daily & Weekly.

3. **Stores Layout & Design** –~~Factors Influencing the Location Stores~~ - Layout Importance – Factors Consider For Gross Layout.

4.**Buying Port Folio**-Factors Influencing In Selection Of Goods - Analyses Of Demand For Different Products, Mix –Effective Buying –Time Of Purchases-Discount, Delivery Etc. Role Of Grading & ~~Standardization~~ – Brokers, Commission Agents – Door To Door Marketing Perishable & Non Perishable Goods Markets

5. **Pricing& Promotion**-Product Cost And Mark Up Pricing – Factors Determining Pricing – Maintenance Of Regular Price-Types Of Sales Promotion-Windows & Interior Display –Planning For Displays-Consumer Promotion-Trade Promotion-Publicity-~~Advertising Techniques~~, Print,Electronic-Indoor,Outdoor Media.

6. **Merchandise Control**: Need for Control –~~Types of Inventory~~ Control-Inventory Systems-Calculation of Turnover Rate-Methods for Improvement.

7**. Packing & Delivery**: Importance of Packing, Life Packing, Proceduresfor Delivery of Goods atthe Counters and At Home. Discounts, Gifts, Offers, Etc. - After Sales Service- Customer Satisfaction And Attraction. –~~Document Used In Selling~~-Cash Memos, Invoice, and Delivery Note Etc.

8. **Social Marketing:** Event Management-Functions Etc. As Goods & Service Product-~~Goods & Services Marketing~~ & Salesmanship, Agriculture Marketing, Market Yards, Marketing Societies-Rural & Urban Marketing –Agriculture Go Downs.

References:-

1. H.R.Appanaiah and Ramnath. A.R – Retail Management – Himalaya Publishing House
2. AnsuyaAngadi – Retailing Management – S.Chand Publications & Co.
3. SwapnaPradon – Retailing Management – Tata Mcgraw Hill Edn Pvt. Ltd.,

SECOND YEAR
PAPER –II: ACCOUNTANCY– II (THEORY & PRACTICALS)

TIME SCHEDULE, WEIGHTAGE & BLUE PRINT

S.No	NAME OF THE UNIT	No. Of Periods		Weightage in marks	Short answer questions	Essay/ Problem questions
		Theory	Practical			
01	DEPRECIATION	05	10	8	1	1
02	ACCOUNTS OF NON-TRADING CONCERNS	15	20	10	2	1
03	PARTNERSHIP ACCOUNTS – I	15	20	10	2	1
04	PARTNER SHIP ACCOUNTS - II	15	15	8	1	1
05	HIRE PURCHASE AND INSTALMENT PURCHASE SYSTEM	10	15	8	1	1
06	COMPANY ACCOUNTS – I (Tally)	10	15	8	1	1
07	COMPANY ACCOUNTS – II (Tally)	10	15	8	1	1
08	COMPANY ACCOUNTS – III (Tally)	15	20	8	1	1
		95	130	68	10	08

Note: The question paper contains two sections.

Section – A of question paper contains 10 questions carries 2 marks each. The student has to answer all questions.

Section – B of question paper contains 8 questions carries 6 marks each. The student has to answer five questions.

COURSE CONTENTS:

1. **DEPRECIATION** – Meaning and need of depreciation – Causes of depreciation – Methods of depreciation – Simple problems on depreciation (Straight line and ~~diminishing balance method)~~
2. **ACCOUNTS OF NONTRADING CONCERNS –** Distinction between capital and revenue expenditure – Receipts and payments account – Income and expenditure account
3. **PARTNERSHIP ACCOUNTS –** I – Problems on Profit and Loss appropriation account – Admission of partner
4. **PARTNER SHIP ACCOUNTS –** II – Problems on retirement of partner
5. **HIRE PURCHASE AND INSTALMENT PURCHASE SYSTEM –** Features of Hire purchase and Instalment purchase system - Difference between Hire purchase and instalment purchase system – Simple problems in Hire purchase system (only ledger accounts)
6. **Company Accounts – I –** Meaning of company – Meaning of Share capital – Classification of share capital – Types of shares – Issue of shares at par, premium, discount
7. **Company Account – II –** Company final accounts – Trading account, Profit and Loss account & Profit and Loss appropriation account with simple adjustments
8. **Company Account – III –** Company final accounts – Simple problems on Balance sheet contents without adjustments

References:-

1. M.C.Sukla and S.C Gupta – Advanced Accounts – S.Chand& Co.
2. S.N.Maheswari – Introduction to Accountacy – Vikas Publishing House
3. Jagadish. R. Raiyani – Financial Ratios and Financial Statement Analysis – New Century Publications

INSURANCE & MARKETING
SECOND YEAR
PART B – VOCATIONAL SUBJECTS
PAPER –III: PRINCIPLES OF GENERAL INSURANCE (THEORY)

GENERAL INSURANCE

1.	Principles of general Insurance – Insurance Documents – Basis of ~~Rate making .Other acts relating to General insurance~~	15
2.	Fire Insurance – General conditions – ~~Tariff system~~ – Types ofPolicies – ~~Rules for cancellation of policy.~~	15
3.	Marine Insurance – Marine policies – Rating & Underwriting – Dody Insurance – ~~Increased valve Insurance~~ – Tariff policies Claims.	15
4.	Motor Insurance – Legal aspects I & II – Motor policies I & II – Motor Tariff – ~~Documents – underwriting~~ – Claims – Own Damage claims- Claims – II – Third party liability claims.	15
5.	Personal Accident Insurance – Types of Disablement – Policy Conditions – ~~Raising~~ – Risk Group I, II, III – Age limits – Group Personal Accident Policy – Claims – New Schemes.	20
6.	Health Insurance – Medi claim policies – Proposal form – Schedule Of the policy. TPAs – their role – settlement of the claims – Liaoning with Hospitals & Nursing Homes.	10
7.	Overseas Medical Policy – Burglary Insurance – Money Insurance ~~-Fidelity Guarantees.~~	10
8.	Bankers Blanket & Jewellers Block Policies – other miscellanies Policies like ~~Pedal cycle Insurance – Plat glass Insurance~~ – Missing Documents Indemnity – ~~Blood stock Insurance~~ – Pet Dog Insurance – Sports Insurance – Shop Keepers Insurance policy – House holders Insurance policy	10

Reference Books:

1. K.C. Sharma – General Insurance in India – Principles and Practice – Regal Publications
2. Manjula V, Narasimha Murthy H. and M.Mona – Life and General Insurance – Himalaya Publishing House
3. P.K.Gupta Principles and Practice of Non- Life Insurance – Himalaya Publishing House

INSURANCE AND MARKETING
I YEAR

MODEL QUESTION PAPERS

PAPER – I: BUSINESS ORGANISATION (THEORY)

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**

ii) Each question carries two marks

1. Define Trade.
2. What is an Industry?
3. What is Joint Hindu Family firm?
4. Define Partnership.
5. Define joint stock company.
6. Who is a promoter?
7. Define Articles of Association.
8. Define co-operative society.
9. Define a Bank.
10. What is print media?

SECTION –B

Note: i) Answer all questions **5 x 6 = 30**

ii) Each question carries six marks

11. What are the different types of trades.Explain briefly?
12. State the merits of sole trading business.
13. What are the demerits of partnership firm of organization?
14. What are the characteristics of a joint stock company?
15. What do you understand by “Memorandum of Association”? Describe it’s contents?
16. What are the important characteristics of a co-operative society?
17. Write the important functions of commercial banks?
18. What are the advantages of insurance?
19. Write briefly about different types of transport?
20. Write briefly about the need and importance of advertisement.

I YEAR

PAPER – I I: ACCOUNTANCY & COMPUTERS – I (THEORY)

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**

ii)Each question carries two marks

1. Define Accountancy ?
2. Who is Debtor?
3. What is Journal ?
4. Define Ledger?
5. What is Purchase Book?
6. What is Drawings?
7. What is cash book?
8. What is Debit Note?
9. What is a Computer?
10. What is a Scanner?

SECTION –B

Note: i) Answer all questions **5 x 6 = 30**

ii)Each question carries six marks

11. What are the Accounting Concepts ? Explain some of them?
12. List out any five input and output devices in detail.
13. Prepare the Single column cash book from the following transactions

2019		Rs
March 1	Cash Balace	15000
March 5	Cash Purchases	25000
March 15	Cash Sales	35000
March 20	Cash Deposited into Bank	12000
March 28	Cash Withdrawn from Bank	5000
March 30	Drawings	2000

14. Explain different types of Accounts.
15. Explain the different types of cash book.
16. Explain the importence of Cash Book.
17. Give proforma of an account. Explain how entries are made into it?
18. Explain the characteristics of computer.
19. Enter the following transactions in the sales book and post them in ledger account.

2020		Rs.
January 1	Sold goods to naveen	6000
January 5	Sales to gopal	12000
January 8	Sold goods to Ajay	2800
January 15	Goods sold to Vasu	15000
January 20	Sales to Krishna	6000
January 25	Sales to Ramesh	5000
January 26	Sold goods to Manish	8000

20. Prepare the Final Accounts from the following balances:

Opening Stock	Rs. 15000
Purchases	Rs. 9000
Wasges	Rs. 6000
Carriage Inward	Rs. 5000
Factory Rent	Rs. 1000
Sales	Rs. 45000
Closing Stock	Rs. 70000

INSURANCE AND MARKETING
I YEAR
PAPER – III: PRINCIPLES OF LIFE INSURANCE

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**

ii)Each question carries two marks

1. What is insurance?
2. What is risk?
3. What is life insurance?
4. Define reinsurance.
5. Define utmost good faith.
6. What is indemnity?
7. What is insurance contract?
8. Define marine insurance.
9. Define motor insurance.
10. What is health insurance

SECTION – B

Answer any five questions.

Each question carries six marks. **5 x 6 = 30**

11. Explain the principles of insurance.
12. Explain the different types of risks.
13. Explain the role of insurance in economic development.
14. Explain the functions of insurance.
15. How many types of insurance are there ? explain.
16. Explain the Insurance Act 1938.
17. Explain the IRDA act 1999.
18. Explain the life Insurance Act 1956.
19. Explain the different types of consumer forums.
20. Explain briefly about risk management.

INSURANCE AND MARKETING
SECOND YEAR
PAPER – I: RETAIL MARKETING (THEORY)

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**

ii)Each question carries two marks

1. What is marketing?
2. What is Tele - Marketing?
3. What is meant by General Store?
4. Define Rythu Bazar.
5. Define Layout.
6. What is Money Back offer?
7. Define out door advertisement.
8. What is Inventory Control?
9. Define invoice.
10. What is meant by Social Market?

SECTION – B

5X6=30

Note: - (I) Answer Any Five the Questions.
(ii) Each Question carries SIX Marks.

11. Explain the Functions of marketing.
12. Explain the role of retailer.
13. Explain different types of retail shops.
14. Explain the purpose of the store layout.
15. Write about perishable and non – perishable Market.
16. Explain the factors to determining pricing.
17. Explain the need for control.
18. Explain the importance of packing.
19. How attract and satisfied customer. Explain.
20. Explain the functions of event management.

INSURANCE AND MARKETING
SECOND YEAR
PAPER – II: ACCOUNTANCY - II (Theory)

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**
ii)Each question carries two marks

1. Define Depreciation.
2. What is Receipts and Payments account?
3. What is Equity Shares?
4. What is Balance Sheet?
5. What is Divident?
6. What is Closing Stock?
7. What is Capital Expenditure?
8. What is Income and Expenditure account?
9. What is Hire Purchase System?
10. What is Prliminary expenses?

SECTION – B

Note: i)Answer any five questions **5 x 6 = 30**

ii) Each question carries Six marks

11. Furniture is purchased for Rs. 35000/-. It is decided to depreciate the asset on staright line method at 10% per annum. Show the Furniture account for 5 years.
12. Prepare the Receipts and Payments account from the following particulars.

	Rs
Cash in hand	5000
Cash at bank	12000
Subscription Received	40000
Donations Received	32000
Investment purchased	12000
Sundry expenses	2000
Rent Paid	500

13. A and B are carrying business in a partnership sharing profit & Losses in the ratio of 2:3. Their Balance sheet as at 31.12.2020.

Balance Sheet

Liabilities	Amount Rs.	Assets	Amount Rs
Sundry Creditors	50,000	Cash in Hand	30,000
Capital Accounts:		Cash at Bank	20,000
A 280000		Sundry Debtors	1,00,000
B 420000	7,00,000	Stock	2,00,000
		Furniture	50,000
		Buildings	3,50,000
	7,50,000		7,50,000

On that date they admit "C" on to partnership and given him 1/4th share in the future profit on the following terms.

(a) "C" is to bring in Rs. 3,00,000 as his capital and Rs. 1,00,000 as good will which sum is to remain in the business.
(b) Stock and furniture are to be reduced in value by 10%
(c) Buildings are to be appreciated by Rs. 50,000
(d) A provision of 5% to be created on sundry Debtors for doubtful debts.

Prepare the ledger accounts and show the opening Balance Sheet of the new firm.

14. On 1st January 2020 the Directors of Wipro Limited has issued 1,00,000 shares at Rs. 10 per share. The share amount payable is as follows Rs. 2.50 on applications, Rs. 3.00 on allotment, Rs. 2.50 on first call and final call. Applications were received for 90,000 shares. Write journal entries.
15. How is the depreciation calculated in the fixed installment method.
16. Discuss the difference between receipts and payments account and income and expenditure account.
17. Mythil, Mayuri and Mounica are partners sharing profits and losses equally. Their Balance Sheet on 31st march 2019 is given below.

Liabilities	Amount Rs.	Assets	Amount Rs
Sundry Creditors	20,000	Cash at Bank	18,000
Reserve Fund	18,000	Debtors	30,000
Capital accounts		Stock	24,000
Mythili 50,000		Machinery	40,000
Mayuri 40,000		Buildings	46,000
Mounica 30,000	1,20,000		
	1,58,000		1,58,000

On the above date, Mounica decided to retired from the firm on the following conditions.

(a) Goodwill of the firm be valued at Rs. 24,000
(b) Depreciate stock & Machinery by 10%
(c) Buildings will be appreciated to Rs. 56,000
(d) Provide 5% on the debtors towards reserve for doubtful debts.

Prepare Revaluation Account, Capital Account and New Balance Sheet

18. What is opening Balance Sheet? With purpose it is prepared.
19. The following Trial Balance of Wipro Ltd was extracted from their books on 31st december 2020.

Particulars	Rs.	Particulars	Rs.
Purchases	3,04,000	Share Capital	1,44,000
Plant and Machinery	28,800	Return Outwards	14,400
Stock in trade on 1.1.2020	25,600	Sales	4,00,200
Salaries	14,400	Discount	4,480
Carriage outwards	2,000	P&L A/c (Credit balance)	25,000
Carriage inwards	8,000		
Discount allowed	5,600		
Return inwards	12,800		
Insurance	4,000		
Dividends	20,000		
Interim dividends	22,400		
Rate & Taxes	6,400		

You are required to prepare the Trading and P&L Appropriation account for the year ended 31.12.2020, in doing so take the following adjustments into account.

(a) Plant and machinery is to be depreciated by 10%

(b) Stock in trade on 31st Dec 2020 is Rs. 28,800.

20. From the following particulars prepare Balance Sheet 31.12.2020

Particulars	Rs.
Share Capital	4,00,000
Building and Machinery	8,60,000
General Reserve	50,000
Loans	5,50,000
Sundry Debtors	1,00,000
Debentures	25,000
Bank balance	1,10,000
Bills Payable	1,50,000
Bills receivable	80,000
Sundry creditors	50,000
Goodwill	25,000
Preliminary expenses	50,000

INSURANCE AND MARKETING
SECOND YEAR
PAPER – III: PRINCIPLES OF GENERAL INSURANCE

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**
ii) Each question carries two marks

1. What is General Insurance?
2. What is the Fire Insurance?
3. What is Marine Insurance?
4. Define Rating.
5. Define Motor Insurance.
6. What is Third party Liability?
7. Define personal Accident insurance.
8. What is Health Insurance?
9. What is Money Insurance?
10. What is Sports Insurance?

SECTION – B

5X6=30

Note: - (I) Answer Any Five the Questions.
(ii) Each Question carries SIX Marks.

11. Explain the Principles of General Insurance.
12. Explain the types of fire insurance policies.
13. Explain general conditions in fire insurance.
14. Explain the types of motor insurance policies.
15. Explain the types of Disablement.
16. Explain the TPA's role in settlement of claims.
17. Explain about Overseas Medical Policies.
18. Types of Fidelity Guarantee.
19. Explain Bankers Blanket and Jeweler's Block Policies.
20. Briefly explain Shop Keepers Insurance Policies.

IX. List of Equipment

1. Collaborating Institutions for curriculum transaction

a) Application forms of all Insurance Transactions like policy proposal forms, nomination forms etc
b) Cheques.
c) Computer (10 nos) , Printer, Software
d) Dummy Model Insurance company activities suitable for training with Records, Registers, forms, etc.

2. List on the Job Training sites

a) All nationalized and Private Banks including Co-Op Banks, LIC &GIC(NBFC, UTI) etc.
b) Registered Chit Fund Offices like Sri Ram Chit Fund, Margadarshi Chit Funds, etc.
c) Private Finance Companies like Sundaram Finance, Bajaj Finance etc.
d) Hire Purchase and leasing Companies etc.
e) Primary Agriculture Co-Operative Credit Societies, Micro Finance Organizations.
f) Stock Brokers
g) Mutual fund companies/ broker companies.

X. Qualifications for the Teaching Staff of Banking & Financial Services

M.Com [Insurance] or M.Com with background of B.Com (Insurance) or M.com., with a PG Diploma in insurance or Fellow of I.I.I (Proc.Rc.No.VOC-I-A1/471/2004, dated 21.07.2006 of Commissioner of Intermediate Education, Andhra Pradesh, Hyderabad)

XI. VERTICAL MOBILITY

B.Com or BBA
Or
B.Com – Insurance
Or
B.Com – any Vocational Course like Banking / Sales Management/ Tourism Management
Or
BA

XII LIST OF PARTICIPANTS

	Verified and Finalised By Dr. D.Raghunatha Reddy Professor, School of Management Studies Jawaharlal Nehru Technological University (JNTUH) Kukatpally, Hyderabad-85
	Co-Ordinator: Sri K.Vishweshwar, SIVE, O/o the Commissioner of Intermediate Education Telangana, Hyderabad

Sd/- Dr A. Ashok
COMMISSIONER OF INTERMEDIAT EDUCATION

INSURANCE AND MARKETING
FIRST YEAR
QUESTION BANK
Paper I: Business Organization

Time: 3hrs **Max. Marks: 50**

SECTION-I (Major Experiment)

Note: (i) Answer any one Question.
(ii) Each Question carries 20 mark **1X20=20 Marks**

1. ~~What are the main objectives of Partnership deed? And fill the application for partnership firm~~.
2. Filling forms relating to registration of co – operative societies.
3. Explain various types of Industries and fill the application for establishing small scale industry.
4. Fill the application form to open a Bank Account.
5. Fill the application form to fixed deposit in to the Bank.

SECTION-II (Minor Experiment)

Note: (i) Answer any One Question
(ii) Each Question carries 10 marks **1X10=10 Marks**

6. Fill the proforma of Co-operative society.
7. ~~What are the items include in Prospectus.~~
8. Narrate the advantages of Print Media.
9. What are the steps you are taken non – durable goods.
10. Fill the proforma of Demand Draft.

SECTION-III (Identification/ Spotting)

Note: (i) Answer any Five Questions.
(ii) Each Question carries 2 marks **5X2=10 Marks**

11. Draw the proforma of Demand Draft.
12. Draw the proforma of the Delivery receipt.
13. ~~Draw the proforma of Fixed Deposit.~~
14. Define sole trader.
15. Draw the proforma of pay slip.
16. Fill the proforma of the Withdrawal form.
17. Fill the Insurance form.
18. Define ware housing.
19. Define Kartha.
20. Give the Examples of the service sector.

SECTION-IV

Record **5 marks**
Viva- Voice **5 Marks**

INSURANCE AND MARKETING
FIRST YEAR
QUESTION BANK
Paper II: Accountancy & Computers

Time: 3hrs **Max. Marks: 50**

SECTION-I (Major Experiment)

Note: (i) Answer any one Question.
(ii) Each Question carries 20 mark **1X20=20 Marks**

1. Write and Demonstrate the steps to crate file in Ms-Word, type some text and save the file.
2. Write and Demonstrate the steps to create file in Ms- Excel, type some text and save the file.
3. Write and Demonstrate Mail Merge in Ms- word.
4. ~~Prepare the Three column cash book from the following particulars.~~

~~Particulars~~	~~Amount~~	~~Particulars~~	~~Amount~~
~~Cash Balance~~	~~25,000~~	~~Bank Balance~~	~~15000~~
~~Sales~~	~~50,000~~	~~Purchases~~	~~25,000~~
~~Cash deposited in Bank~~	~~10,000~~	~~salaries~~	~~10,000~~
~~Withdrawn from Bank~~	~~---~~	~~Purchased Machinery~~	~~----~~
~~For office use~~	~~5000~~	~~Paid by check~~	~~3000~~

5. Prepare the Trading and Profit & Loss Account.

Particulars	Amount	Particulars	Amount
Opening stock	10,000	Sales	80,000
Purchases	50,000	Wages	4,000
Carriage inward	2,000	Factory expenses	2000
Depreciation	2000	Salaries	6000
Received Commission	4000	Rent	2500
Interest	1500	Closing Stock	20000

SECTION-II (Minor Experiment)

Note: (i) Answer any One Question
(ii) Each Question carries 10 marks **1X10=10 Marks**

6. Create text file using word pad or Note pad.
7. ~~Write and Demonstrate the Procedure for changing the width of row and column in Excel.~~
8. List and demonstrate any four formula functions in Excel.
9. Enter the following transactions in the purchase Book, and Sales Book.

Date	Particulars	Amount	Date	Particulars	Amount
Jan1	Purchases from Raj	3000	Jan5	Sales to Karthik	5000
8	Purchases from Giri	8000	10	Sales to Rahu for cash	2000
12	Purchases from Naveen	2500	20	Sales to Nikhil	2800
25	Purchases from Santu	3200	30	Sales to Shailaja	1400

10. Prepare the Single column Cash Book.

Particulars	Amount	Particulars	Amount
Balances B/d	10,000	Paid to Anil	2500
Received from Roopa	300	Received Interest	1000
Paid rent	600	Paid into Bank	1500
Sales	1500	Advertisements	1200
Wages Paid	1000	Purchased furniture	1200

SECTION-III (Identification/ Spotting)

Note: (i) Answer any Five Questions.

(ii) Each Question carries 2 marks **5X2=10 Marks**

11. Write any two input devices.
12. Write any two Output devices.
13. Identify any four tools in Ms-Word.
14. ~~Identify any four tools in Ms-Excel.~~
15. How to fill the colours in Ms-word.
16. Define Journel.
17. Define Ledger.
18. Define Debit and Credit.
19. Define Contra entry.
20. Write rule for Personal Account.

SECTION-IV

Record **5 marks**

Viva- Voice **5 Marks**

INSURANCE AND MARKETING
FIRST YEAR
QUESTION BANK
Paper III: Principles of Insurance

Time: 3hrs **Max. Marks: 50**

SECTION-I (Major Experiment)

Note: (i) Answer any one Question.
(ii) Each Question carries 20 mark **1X20=20 Marks**

1. A) Calculate age nearer birthday and last birthday and age next birthday based on following data
   Date of Proposal: 1st November 2018
   Date of Birth: 19-10-1984
   b) And calculate the Paid up value:
   Sum Assured: 1, 00,000/-
   Plan and Term: Endowment – 20 years
   Date of Commencement: 1st April 2017
   Date of Last Unpaid Premium: 1st April 2018
   Mode of Payment: Yearly
2. A) Calculate age nearer birthday and last birthday and age next birthday based on following data
   Date of Proposal: 1st October 2018
   Date of Birth: 15-11-1974
   b) And calculate the Paid up value:
   Sum Assured: 2, 00,000/-
   Plan and Term: Endowment – 20 years
   Date of Commencement: 1st January 1995
   Date of Last Unpaid Premium: 1st April 2018
   Mode of Payment: Half Yearly
3. A) Calculate age nearer birthday and last birthday and age next birthday based on following data
   Date of Proposal: 1st January 2018
   Date of Birth: 27-01-1988
   b) And calculate the Paid up value:
   Sum Assured: 5, 00,000/-
   Plan and Term: Endowment – 10 years
   Date of Commencement: 1st April 2001
   Date of Last Unpaid Premium: 1st April 2013
   Mode of Payment: Quarterly
4. ~~A) Calculate age nearer birthday and last birthday and age next birthday based on following data~~
   ~~Date of Proposal: 1st August 2017~~
   ~~Date of Birth: 15-05-1979~~
   ~~b) And calculate the Premium Income for the 2016-2017:~~
   ~~Premium received on life policies during the year 50, 00,000/-~~
   ~~Reinsurance premium (paid) 2, 00,000/-~~
   ~~Bonus in reduction of premium 40, 000/-~~
   ~~Premium outstanding on 01-04-2017 - 1, 92,000/-~~
   ~~Premium outstanding on 01-04-2018 - 2, 00,000/-~~

5. A) Calculate age nearer birthday and last birthday and age next birthday based on following data
   Date of Proposal: 1st February 2018
   Date of Birth: 24-02-1984
   b) And calculate the Premium Income for the 2017-2018:
   Premium received on life policies during the year 25, 00,000/-
   Reinsurance premium (paid) 1, 00,000/-
   Bonus in reduction of premium 40, 000/-
   Premium outstanding on 01-04-2017 - 92,000/-
   Premium outstanding on 01-04-2018 - 1, 00,000/

SECTION-II (Minor Experiment)

Note: (i) Answer any One Question
(ii) Each Question carries 10 marks 1X10=10 Marks

6. Give the following data what would be the amount of surrender value?
   Available on 5th April 2018
   Plan and term Endowment: 31 Years
   Sum assured Rs. 4, 00,000/-
   Date of commencement 25th September 1986
   Premium Position half yearly premium due September
   2016 paid on 22-11-2016
   Bonus vested after valuation on 31 march 2016 Rs. 3, 40, 000/-
   Surrender Value factor Duration 14 years 22% - 15 years 25% - 16 years – 30%
7. Give the following data what would be the amount of surrender value?
   Available on 5th April 2017
   Plan and term Endowment: 31 Years
   Sum assured Rs. 3, 00,000/-
   Date of commencement 25th September 1995
   Premium Position half yearly premium due September
   2015 paid on 22-11-2015
   Bonus vested after valuation on 31 march 2015 Rs. 2, 50, 000/-
   Surrender Value factor Duration 14 years 22% - 15 years 25% - 16 years – 30%.
8. ~~Give the following data what would be the amount of surrender value?~~
   ~~Available on 5th April 2017~~
   ~~Plan and term Endowment: 31 Years~~
   ~~Sum assured Rs. 6, 00,000/-~~
   ~~Date of commencement 25th September 1996~~
   ~~Premium Position half yearly premium due September~~
   ~~2016 paid on 22-11-2016~~
   ~~Bonus vested after valuation on 31 march 2016 Rs. 5, 10, 000/-~~
   ~~Surrender Value factor Duration 14 years 22% - 15 years 25% - 16 years – 30%~~
9. Calculate the claims expenditure for the 2016-17
   Claims paid on life policies during the year 15, 00, 000/-
   Reinsurance claims (Received) 10,000/-
   Claims outstanding on 01-04-2015 - 90, 000/-
   Claims outstanding on 01-04-2016 - 1, 00, 000/-.
10. Calculate the claims expenditure for the 2017-18
    Claims paid on life policies during the year 25, 00, 000/-
    Reinsurance claims (Received) 1, 00,000/-
    Claims outstanding on 01-04-2016 - 92, 000/-

Claims outstanding on 01-04-2017 - 1, 00, 000/.

SECTION-III (Identification/ Spotting)

Note: (i) Answer any Five Questions.

(ii) Each Question carries 2 marks **5X2=10 Marks**

11. Proposal Form
12. Maturity claims
13. Salary saving schemes
14. ~~IRDA~~
15. ~~Riders~~
16. Postal Life Insurance
17. Pensions
18. Death Claim
19. Accidental benefits
20. Married Women's Property ACT policies

SECTION-IV

Record **5 marks**

Viva- Voice **5 Marks**

INSURANCE AND MARKETING
SECOND YEAR
QUESTION BANK
Paper I: Retail Management

Time: 3hrs **Max. Marks: 50**

SECTION-I (Major Experiment)

Note: (i) Answer any one Question.
(ii) Each Question carries 20 mark **1X20=20 Marks**

1. Explain the types of stores and their location.
2. ~~Various ways of stores lay out location of department etc..~~
3. Fill the transfer out form.
4. Arrangement of Product in racks.
5. Exterior and interior designing of the store.

SECTION-II (Minor Experiment)

Note: (i) Answer any One Question
(ii) Each Question carries 10 marks **1X10=10 Marks**

6. Holding discussion with the owner's management of retail stores.
7. Exercise in assessing the demand for selected product in given area.
8. Exercise in preparation of stock register, bin card, etc…
9. ~~A visit to a few retail stores to find out sales promotion.~~
10. The student should be a ware of handling event management. Independently.

SECTION-III (Identification/ Spotting)

Note: (i) Answer any Five Questions.
(ii) Each Question carries 2 marks **5X2=10 Marks**

11. Retailor.
12. ~~Malls.~~
13. Super markets.
14. ~~Layout.~~
15. Brokers.
16. Pricing
17. Outdoor Media
18. Inventory control
19. Delivery Note
20. Agriculture Market

SECTION-IV

Record **5 marks**

Viva- Voice **5 Marks**

INSURANCE AND MARKETING
SECOND YEAR
QUESTION BANK
Paper II: Accountancy & Tally

Time: 3hrs **Max. Marks: 50**

SECTION-I (Major Experiment)

Note: (i) Answer any one Question.
(ii) Each Question carries 20 mark **1X20=20 Marks**

1. Write and demonstrate the procedure of creating a company and creating a ledger under the group of direct expenses.
2. ~~Write and demonstrate the procedure of displaying the cash flow report in Tally.~~
3. Write and demonstrate the procedure of displaying the Funds flow statement in Tally.
4. Shravya and Sahasra are carrying on business in a partnership sharing profit &losses in the ratio of 2:3. Their Balance Sheet as at 31-3-2017 was under

Balance Sheet

Liabilities		Amount	Assets	Amount
Sundry Creditors		50,000	Cash in hand	30,000
Capital Accounts:			Cash at Bank	20,000
A	2,80,000		Sundry Debtors	1,00,000
B	4,20,000	7,00,000	Stock	2,00,000
			Furniture	50,000
			Building	3,50,000
		7,50,000		7,50,000

On that date they admit Shrestha in to partnership and given him 1/4th share in the future profit on the following terms.

(a) Shresta is to bring in Rs.3,00,000 as his Capital and Rs.1,00,000 as good will, which sum is to remain in the business.
(b) Stock and Furniture are to be reduced in value by 10%
(c) Buildings are to be appreciated by Rs. 50,000
(d) A provision of 5% to be created on sundry Debtors for doubtful debts.
Show Revaluation Account, Partners Capital Accounts and Balance sheet after the admission of Shresta.

5. The Vignesh manufacturing company ltd. was registered with a nominal capital if Rs. 6,00,000 in equity shares of Rs. 10 each. The following is the list of balances extracted from its books on 31st December 2016.

Subscribed and fully called-up-capital	4,00,000
Calls in Arrears	7,500
Premises	3,00,000
Plant and Mechinery	3,30,000
Fixtures and Fittings	7,200
Sundry Debtors	87,000
Goodwill	25,000
Cash in Hand	750

Cash at Bank	39,900
Priliminary expenses	5,000
6%debentures	3,00,000
Bills payable	38,000
Sundry Creditors	50,000
General Reserves	45,000
Investment	20,000
P&L Appropriation A/c (Credit balance)	37,500

Prepare a balance sheet in proper form after making the following adjustments.

1. Depreciation on Plant and Machinery 10%
2. Write off Rs. 500 from preliminary expenses
3. Provide half years debenture interest due.
4. Provision for doubtful debt 5% on debtors.
5. Stock on 31st December 2016 Rs. 95,000

SECTION-II (Minor Experiment)

Note: (i) Answer any One Question

(ii) Each Question carries 10 marks 1X10=10 Marks

6. ~~Write and demonstrate the procedure of displaying the Accounting Reports in Tally.~~
7. Write and demonstrate the procedure of creating a purchase voucher in Tally.
8. Write financial function of Tally and write the F11 features.
9. Machinery bought on 1st Jan 2014 for Rs. 40,000 has become obsolete and sold on 31st Dec. 2017 for Rs. 26,000. Calculate the Profit and Loss assuming depreciation is charged @ 15% p.a. on straight line method.
10. Define Profit and Loss Appropriation account and draw the proforma.

SECTION-III (Identification/ Spotting)

Note: (i) Answer any Five Questions.

(ii) Each Question carries 2 marks 5X2=10 Marks

11. Write and Demonstrate Alteration of company.
12. ~~Write the F12 Configurations.~~
13. Write and Demonstrate of grouping of ledger accounts.
14. Write Print Format.
15. Write and demonstrate the delete a company.
16. Write any four causes of Depreciation.
17. What is Revenue Receipts and Payment and give two examples each.
18. What is share premium?
19. Define Authorised capital.
20. Define equity share.

SECTION-IV

Record 5 marks

Viva- Voice 5 Marks

INSURANCE AND MARKETING
SECOND YEAR
QUESTION BANK
Paper III: Principles of General Science

Time: 3hrs **Max. Marks: 50**

SECTION-I (Major Experiment)

Note: (i) Answer any one Question.
(ii) Each Question carries 20 mark **1X20=20 Marks**

1. What is the procedure to tack fire insurance policy, and marine insurance policy?

1. Draw the diagram for various classes of insurance?
2. ~~Draw the diagram of types of hazards and explain briefly.~~
3. Discuss the legalities involved in case of accident under motor insurance?
4. List out of the benefits and difficulties associated with crop insurance and cattle insurance?

SECTION-II (Minor Experiment)

Note: (i) Answer any One Question
(ii) Each Question carries 10 marks **1X10=10 Marks**

6. ~~List out any eight general insurance companies~~
7. Write any application to insurance company to become on agent.
8. If you last motor cycle, what is the procedure to receive insurance claim?
9. Write the procedure to medi - claim of an individual explains.
10. What is the procedure claim for industrial building?

SECTION-III (Identification/ Spotting)

Note: (i) Answer any Five Questions.
(ii) Each Question carries 2 marks **5X2=10 Marks**

11. Proposal Form
12. Rating
13. ~~House holder policy~~
14. Health insurance
15. ~~Trail balance~~
16. Balance sheet
17. Recoveries
18. Claim
19. Sickness
20. Money insurance

SECTION-IV

Record **5 marks**
Viva- Voice **5 Marks**

30% DELETED CONTENT IN VIEW OF COVID-19 PANDEMIC

PAPER-I BUSINESS 0RGANISATION

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 Basic concepts	1.2 Characteristics of Business 1.7 Aids to Trade	1. Define the term Business.	2. What are the different aids to trade? Explain briefly?
2	UNIT-2 Forms of business organization	2.6 Merits of Joint Hindu family 2.7 Demerits of Joint Hindu family	NILL	4. State the merits of 'Joint Hindu Family Firm'? 5. State the demerits of 'Joint Hindu Family Firm
3	UNIT-3 Partnership	3.4 Partnership Deed 3.6 Rights of partners 3.7 Duties of partners	2. What is partnership deed?	4. What are the duties of partners? 5. What are the rights of partners?
4	UNIT-4 Joint stock company	4.4 Kinds of companies	2. Define a private company? 3. Define a public company? 4. What is a government company?	4. Discuss various kinds of companies briefly?
5	UNIT-5 Incorporation of Joint Stock Company	5.4Prospectus – objects-contents	3. Prospectus.	4. Define company "prospectus"? State its contents briefly.
6	UNIT-6 Co-Operative societies	6.2 Types of Co-operative societies	2. What is a consumer cooperative society? 3. What is producer cooperative society? 4. What is a cooperative farming society? 5. What is a cooperative housing society?	4. Explain the various types of cooperative societies.
7	UNIT-7 Aids to Trade-I Banking and Insurance Services	7.3 Different Types of Banks 7.7 Types of Insurance	3. What is a commercial bank? 4. What is an exchange bank? 5. Expand NABARD, ADB.	4. Write the important principles of insurance? 5. What are three main types of insurance? Explain briefly about them.
8	UNIT-8 Aids to Trade-II Transport, Warehousing and Advertisement	8.3 Importance of Warehousing 8.4 Types of ware housing	1. What is a public warehouse? 2. What is a bonded warehouse?	3. Explain the importance of warehousing. 4. Write briefly about different types of warehousing?

INSURANCE & MARKETING - FIRST YEAR
PAPER-II: ACCOUNTANCY & COMPUTERS

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Exercise Questions deleted
1	UNIT-1 Introduction to Accountancy	• Accountancy conventions	2. What are the important accounting conventions? Discuss some of them
2	UNIT-2 JOURNALS		**Long Answer Questions** 1. Journalise the following Transactions 2018 Jan. 2018 1 Started business with ..... 20,000 ,, ,, Deposited into Bank ..... 3,000 ,, ,, Purchase of furniture ..... 3,000 ,, 5 Payment of rent ..... 500 ,, ,, Purchases of goods ..... 1,200 ,, ,, Purchase from Ram ..... 4,000 ,, ,, Purchases from Mohan ..... 3,000 ,, ,, Received from Bank ..... 8,000 ,, ,, Payment to Mohan ..... 3,000 ,, ,, Sale of goods ..... 8,000 ,, ,, Purchases ..... 300 ,, ,, Sales ..... 800 Jan. 10 Sales to Satish ..... 800 ,, ,, Sales to Rajesh ..... 300 ,, ,, Received commission ..... 100 ,, ,, Interest Paid ..... 120 ,, ,, Advertisement Expenses ..... 40 ,, 12 Sales to Satish ..... 800 ,, ,, Payment of Salary ..... 304 ,, ,, Wages Paid ..... 200 ,, 12 Received from Satish ..... 800 ,, ,, Paid to ram ..... 1000 ,, ,, Cash Sales ..... 2000 9. Enter the following transactions in the journal of Hanuman Rs 1. Purchases Return to hari ..... 2,000 2. Sales ..... 50 3. Paid wages to Ashok ..... 50 4. Paid rent to Kamal ..... 500 5. Received Interest ..... 150 6. Advertisement ..... 300 7. Insurance ..... 120 8. Received from Satish ..... 500 9. Paid to Ram ..... 200 10. Paid for interest ..... 250 11. Paid for Commission ..... 50 12. Received Commission 40

10.For the following write journal entries in the book of Karunaker:

(a) Deposited with bank Rs 6,000/- on six months fixed deposit and Rs.18,000/- on current account.
(b) Draw from Bank for office use Rs. 2,000/-.
(c) Received from Singh a treasury order for Rs. 1,000/-.
(d) Paid salaries by Cheque Rs. 1,500/-.
(e) Received from Khan a postal order for Rs. 20/- and paid the same into Bank.
(f) Received from Lal in cash Rs. 980/- after deduction of 2% cash discount.
(g) Received cash from Chanadar Rs. 1,480/- and allowed him discount Rs. 20/-.
(h) Sold goods for cash Rs. 950/- and out of that paid Rs. 800/- into Bank.

3 UNIT-3 LEDGER

10. Enter the following transactions in Journal and post them in ledger accounts.

March 16	1	Sales to Ram		Rs
,,	2	Sales to Ratan	.....	1,100
,,	3	Purchases returned to Ram	.....	300
,,	4	Received from Ratan	.....	100
,,	5	Purchases from Ratan	.....	800
,,	6	Advertisement	.....	210
,,	7	Paid rent	.....	100
,,	8	Sales	.....	1,200
,,	9	Purchases from Satish	.....	400
,,	10	Purchases of Machinery	.....	1,000
,,	11	Received from Ram	.....	500
,,	12	Received from Ratan	.....	400
,,	13	Deposited into Bank	.....	800
,,	14	Sales	.....	300
,,	15	Drawn from bank	.....	400
,,	16	Paid salary	.....	800
,,	17	Paid wages	.....	400
,,	18	Deposited into bank	.....	300
,,	19	Sales	.....	500
,,	20	Advertisement	.....	100

11. Journalise the following transactions and post them in ledger accounts.

Oct	1	Sale of goods		Rs
,,	2	Purchases from Ram	.....	8,100
,,	3	Purchases of Machine	.....	3,000
,,	4	Cash purchases from Ram	.....	300
,,	5	Cash purchases from Mohan	.....	400
,,	6	Received from Ram	.....	800
,,	7	Advertisement Expenses	.....	1,300
,,	8	Rent paid	.....	150
,,	9	Paid Insurance	.....	120
,,	10	Sales	.....	50
,,	11	Paid interest to Ram	.....	300
,,	12	Paid rent to Sham	.....	200
,,	13	Payment to Mohan	.....	100
,,	14	Paid wages	.....	200
,,	15	Received Commission	.....	100

12. Enter the following transactions in journal and prepare Cash and Bank accounts.

Aug.	1	Ahmed brought as capital	.....	25,000

			,, 2 Deposed in Bank ..... 20,000 ,, 3 Paid Rent ..... 200 ,, 4 Paid wages ..... 100 ,, 5 Purchases from Ganesh ..... 5,000 ,, 6 Purchases from Rakesh ..... 8,000 ,, 7 Brought from Bank ..... 12,000 ,, 8 Cash Purchases ..... 8,000 ,, 9 Travelling expenses ..... 200 ,, 10 Sales ..... 800 ,, 11 Goods returned to Ganesh ..... 1,000 ,, 12 Goods returned to Rakesh ..... 200 ,, 13 Goods sold to Madan ..... 800 ,, 14 Received from Madan ..... 800 ,, 15 Brought from Bank ..... 500 ,, 16 Paid rent ..... 100 ,, 17 Paid into Bank ..... 40 ,, 18 Post and Telegraph expenses ..... 400 13. From the following particulars prepare Madan's account and find out the balance. Oct 1 Sales to Madan ..... 100 ,, 2 Sales return from Madan ..... 20 ,, 3 Sales to Madan ..... 300 ,, 4 Payment to Madan ..... 200 ,, 5 Sales to Madan ..... 20 ,, 6 Purchases from Madan ..... 300 ,, 7 Purchases return to Madan ..... 10 ,, 8 Sales return from Madan ..... 25 ,, 9 Interest paid to Madan ..... 47 ,, 10 Cash sale to Madan 30
4	UNIT-4 SUBSIDARY BOOKS	Problems deleted	2. What transactions are entered in Sales and Sales Return Books? How are they posted? 8. Enter the following transactions in proper subsidiary books and post them in ledger accounts. Find the balances in Madan's and Hari's account and state what they reveal. Jan 1 Sales to Madan Rs ,, 1 Sales to Hari ..... 1,000 ,, 2 Hari returned Goods ..... 2,000 ,, 3 Madan returned Goods ..... 100 ,, 4 Purchases from Madan ..... 3,000 ,, 8 Goods returned to Madan ..... 200 ,, 19 Sales to Madan ..... 1,500 ,, 28 Sales to Hari ..... 2,500 ,, 29 Purchases from Hari ..... 3,000 ,, 30 Goods returned to Hari ..... 200 9. Enter the following transactions in proper subsidiary books and post them into ledger accounts. Jan 1 Purchases from bharath .... 2000 " 2 Sales to Ramesh . 1000 " 3 Returned goods to Bharath . 500 " 4 Ramesh returned goods . 200 " 5 Purchases from Raju . 1500

			” 6 Sales to kamal . 1300 ” 7 Purchases from Rashed . 500 ” 8 Goods Returned to Raju . 300 ” 9 Goods Retunred to Kamal . 100 ” 10 Sales to Asif . 2000
5	UNIT-5 CASH BOOK	• Three column Cash Book, • Petty cash Book	Short Answer Questions 4. What is petty cash book? 5. What is Contra Entry? Long Answer Questions 4. Enter the transactions given in question 13 in three column cash book and bring out cash and bank balance. (Ans: Cash Balance Rs 4,481 Bank Balance Cr. Rs. 1,900) 5. Enter the following transactions in cash and discount column cash book and prepare a separate bank account. Jan 1 Capital broght in business ..... 20,000 ,, 2 Deposited in bank ..... 15,000 ,, 3 Rent paid ..... 500 ,, 4 Advertisement paid ..... 200 ,, 5 Purchases paid by cheque ..... 1,200 ,, 6 Received from Ram ..... 300 ,, 6 Discount given to him ..... 10 ,, 7 Paid to sham by cheque ..... 190 ,, 7 Discount received ..... 10 ,, 8 Paid salary by cheque ..... 800 ,, 9 Sales ..... 1,200 ,, 10 Purchases cheque given ..... 1,000 ,, 11 Received from Sham ..... 780 ,, 11 Discount given to him ..... 20 ,, 12 Deposited into Bank ..... 300 ,, 13 Received from Sham ..... 250 ,, 13 Discount given to him ..... 20 6. Enter the following transactions given in question 16 in three columns cash book and bring out the balances. 8. Enter the following transactions in Analytical Petty Cash book and post them in ledger account. Jan 1 Received cash from petty payments ..... 200.00 ,, 2 Paid wages ..... 30.50 ,, 3 Postage ..... 12.25 ,, 4 Bus charges ..... 3.20 ,, 5 Travelling expenses ..... 15.40 ,, 6 Wages ..... 13.15 ,, 6 Purchases of Stationery ..... 4.20 ,, 7 Bus Charges ..... 5.40 ,, 7 Tea expenses ..... 10.30 ,, 17 Travelling expenses ..... 30.00 ,, 18 Tea expenses 12.00

,,	20	Telegram	..... 5.00
,,	25	Tea expenses	..... 12.00
,,	29	Sundry expenses	..... 12.00
,,	30	Rishaw charges	..... 8.00
,,	31	Stationery	..... 2.50
	31	Sundry expenses	5.00

9. Record the following transactions in Analytical Petty Cash Book and post them in ledger accounts.

				Rs.
2018 Jan	1	Received a cheque for petty payment	.....	500.00
,,	2	Paid wages	.....	20.00
,,	3	Paid for advertisement	.....	50.50
,,	4	Paid for Postage	.....	3.20
,,	5	Paid wages	.....	100.00
,,	6	Bus charges	.....	3.50
,,	7	Stationery	.....	12.00
,,	8	Printing Charges	.....	20.80
,,	9	Travelling expenses	.....	80.00
,,	10	Stationery	.....	30.00
,,	11	Wages	.....	10.00
,,	12	Postage	.....	11.40
,,	13	Travelling expenses	.....	12.50
,,	14	Tea Expenses	.....	3.00
,,	15	Auto rickshaw Charges	.....	5.00
,,	15	Sundry expenses	.....	3.00

10. Enter the following transactions in Cash book with Cash, Bank and dicount columns in the books of Govind and bring out the balances as at May 31-2018.

2018

				Rs.
May	1	Balance in cash Rs. 2000 and at bank	.....	1,450
,,	2	Cash sale investment deposited in bank	.....	8,000
,,	3	Issue cheque of Rs. 2,500 to Balkishan and received discount.	.....	30
,,		Paid as Wages	.....	
,,	4	Received cash Rs. 300 and cheque of Rs. 850 from Gopinath and we allowed him discount	.....	400
,,	8	Deposited in bank	.....	
,,		Drawn from Bank for office use	.....	
,,		Cash sales	.....	50
,,	10	Issued cheque for salary	.....	1,000
,,	21	Balance in cash Rs. 2000 and at bank	.....	150
,,	24	Cash sale investment deposited in bank	.....	750
,,	31	Issue cheque of Rs. 2,500 to Balkishan and received discount.	.....	200

11. Prepare three column Cash book and enter the following transaction.

Rs.

			a) Cash in hand Rs. 300 and cash at bank ..... 7,600 (b) Issued cheque for Purchase ..... 2,000 (c) Cash received for sales ..... 3,000 (d) Paid into Bank ..... 2,500 (e) Paid for Stationery in cash ..... 50 (f) Cash withdrawn from bank for office use ..... 500 (g) Paid salary in cash ..... 500 (h) Cash withdrawn from bank for personal use ..... 400 (i) Paid rent by Cheque ..... 200 (j) Paid Rao & Sons by cheque Rs. 675 in settlement of an account of ..... Received a cheque for cash sales of ..... 700 (k) Cash in hand Rs. 300 and cash at bank 450
6	UNIT-6 TRIAL BALANCE		2. How is a trial balance prepared? Explain with example? 4. What do you mean by agreement of trial balance? What does it is show? 6. From the following ledger balances in Madan's book, prepare the Trial balance. Madan's capital Rs. 20,000, Drawings Rs. 2,000, Sunday debtors Rs. 6,000, Sunday creditors Rs. 8,700, Bills payable Rs. 4,000, Bills receivable Rs. 8,000, Furniture &Fitting Rs. 300, Opening Stock Rs. 8,000, Cash Rs. 300, Cash at bank Rs. 1,200, Rent Rs. 200, Sales Rs. 25,000, Purchases Rs. 15,000, Salary Rs. 8,000, Sales return Rs. 200, Purchases return Rs. 3,000, Machines Rs, 5,000, Loose tools Rs. 4,800, Travelling expenses Rs. 1,500, Discount given Rs. 300, Discount received Rs. 100 7. Taking following ledger balances, prepares the trial balances. Capital Rs. 1,24,000, Drawings Rs. 6,000, Sunday creditors Rs. 43,000, Bills payable Rs. 4,000, Sunday debtors Rs. 51,000, Bills receivable Rs. 5,000, Loan advance to Mohan Rs. 10,000, Fixture and Fittings Rs, 4,500, Opening stock Rs. 47,000, Cash Rs. 900, Cash at State Bank of India Rs. 12,500, Overdraft with Andhra Bank Rs. 6,000, Purchases Rs. 50,000, Duty and Clearing charges Rs. 3,500, Sales Rs. 28,000, Salary Rs. 9,500, Return from customers Rs. 1,000, Return to creditors Rs. 1,100, Commission and travelling expenses Rs. 4,700, Rent Rs. 2,000, Discount received Rs. 4,000, Trade expense Rs. 2,500.
7	UNIT-7 FINAL ACCOUNTS		Short Answer Questions 3. What are fixed and floating assets Long Answer Questions 3. What are usual items debited and credited to trading account 6. Following balances are taken from the books of Mohan. Prepare Tradingand Profit & Loss Account and Balance sheet for the year ended on Dec - 31 - 2018.

Building	42,800	Sales	3,00,000
Machinery	18,000	Capital	2,00,000
Purchases	1,51,000	Creditor	80,100
Opening stock	1,00,050	Bills Payable	21,000
Salary	18,000		
Wages	40,000		
Drawing	50,000		
Import Duty	15,000		
Carriage Inward	4,500		
Insurance	2,800		
Advertisement	8,000		
Interest	6,800		
Debtors	1,10, 000		
Discount	12,800		
Sales return	3,000		
Post and Telegraphs	4,200		

Commission	3,700		
Bank Balance	9,200		
Cash in Hand	1,250		
	6,01,100		6,01,100

The Closing stock is of Rs. 2,00,500

2. The following balances are taken from the books of Shashibhushan for the year ended on December, 31-2018. Prepare the final accounts.

Cash in Hand	1,000	Machinery & Plant	60,000
Capital	1,00,000	Sales	2,00,000
Purchases	12,000	Furniture and Fitting	15,000
Bills Payable	22,000	R.D.D.	1,000
Opening Stock	35,000	Bills Receivables	20,000
Debtors	50,000	Rent & Taxes	10,000
Creditors	24,000	Salary	20,000
Wages	16,000	Machinery & Plant	60,000

The following adjustments are necessary :

(a). Rs. 200 for rent and takes, Rs. 300 for wages and Rs. 4,000 for salary are outstanding (b) Closing stock is of Rs. 40,000. (c) Depreciate Plant and MAchinery at 5 percent, (d) Calculate 10 percent depreciation on furniture and fittings. (e) The reserve for Doubtful debts should be 2.5 percent on debtors.

3. Prepare Trading and Profit & Loss Account and Balance sheet from the following particulars. Journal entries are not necessary for adjustments.

TRIAL BALANCE AS ON 31st December, 2018

Particulars	**Debit Amt. Rs.**	**Credit Amt. Rs.**
Purchases	16,000	-
Discount	1,300	-
Wages	6,500	-
Salaries	2,000	-
Travelling expenses	500	-
Carriage Inwards	275	-
Insurance	150	-

8	UNIT-8 BASIC FUNDAMENTALS OF COMPUTERS	• History of Computer, • Milestones in Computer History • Classification of computers • Operating system concepts • Features of windows	Short Answer Questions 2. What are the types computers based on purpose? 3. What are the types computers based on operation? Long Answer Questions 3. What is operating system? List different types of operating system.

INSURANCE & MARKETING - FIRST YEAR
PAPER-III: PRINCIPLES OF INSURANCE

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 The Conceptual Framework	1.2) pearls 1.3) Classification of risk, hazards 1.6) Importance of insurance industry	2. What are the pearls? 4. What is meant by hazards? 5. What insurance industry?	3. Explain the classification of the risks
2	UNIT-2 The business of insurance	2.1) Managing risks 2.2) Retention 2.5) Funds of and insurer	2. What is retention? 3. What is managing insurance?	1. Explain about managing risks? 2. Write about the funds of an insurer?
3	UNIT-3 The Insurance Contract	3.2) Importance of the principles of insurable interest 3.4) The insurance contract	5. What is insurance contract	2. Write briefly about personal and non personal contract
4	UNIT-4 Insurance products	4.1) Growing popularity of ULIPS, Annuities , features of annuities 4.2) Loss of profit, Boiler and pressure plant, Aviation Insurance	2.Define linked policy 3.What is ment by annuities 5. What is Hut Insurance?	5. Explain briefly about boilers and pressure plant, aviation insurance
5	UNIT-5 Insurance terminology	5.1)Under the terms that apply to life and non life insurance, Insurance official	4. Who is insurance official ?	NILL
6	UNIT-6 The Insurance market	6.1) Specialized insurance companies	NILL	3. Explain the ten general principles of insurance market?
7	UNIT-7 Regulations	7.4)Claims processers in respect of General Insurance policy 7.6) Income Tax Act 7.7) Indian Railways act 1989	4. Write briefly about general insurance act 1972	7. Write about income tax 1961 9. Write about railway act & work man compensation act 1923?

8	UNIT-8 The insurance customer	8.1) Retail Individual 8.2) Understand the different types of customer and how they differ 8.4) Importance of ethical behavior	1. Explain different types of insurance customers	Nil
9	UNIT-9 Risk Management	9.2) Loss Reduction Techniques 9.3) Risk retention for individuals	1. What is ment by risk retention	Nil

INSURANCE & MARKETING - SECOND YEAR
PAPER – 1: RETAIL MARKETING - I

Sl.No.	Unit No. Name of the Unit	Topic/Sub Topic to be Deleted in Details Heads	Two Marks Questions Deleted	Six Marks Questions Deleted
1	UNIT – I : MARKETING	1. Channel of Distribution 2. Multiple Shops 3. Mail order business	2. What is branching? (N.R) 5. Define sales promotions. (N.R) 7. What is meant by multiple store? 9. What is mail order business?	2. What is channel of Distribution? 3. Explain the different types of channel of distribution. 6. Explain the feature of Multiple shop? 7. Explain the characteristics of mail order business?
2	UNIT – II : TYPES OF RETAILERS	1. Malls 2. Cooperative Stores	2. Define Mall. 4. What is meant by cooperative stores?	2. Define Mall. Explain its features. 3. Explain the feature of cooperative society.
3	UNIT – III : STORES LAYOUT & DESIGN	1. Factors influencing the location of stores 2. Special Considerations	3. What is meant by customer flow?	4. What are the special requirements to maintain a business smoothly?
4	UNIT – IV : BUYING PORT FOLIO	1. Standardization and Grading	2. Write the basis of standardization.	3. Write the advantages of standardization. 4. Write the advantages and importance of grading. 5. Write the types of grading.
5	UNIT – V : PRICING & PROMOTION	1. Advertising Techniques	5. What is meant by advertisement technique? 6. Mention any four examples of promotional tactics. 7. Define bribe.	3. What are the techniques used by advertise to promote their products.

6	UNIT – VI : MERCHANDISE CONTROL	1. Types of inventory systems	4. What is meant by inventory turnover ratio?	4 Explain briefly about Review Systems. 5. Explain briefly about Inventory Turnover Ratio.
7	UNIT – VII : PACKING & DELIVERY	1. Document used in Selling	3. List out documents used in selling. 4. What is meant by Cash Memo?	3. Mentions the contents of Cash Memo.
8	UNIT – VIII : SOCIAL MARKETING	1. Goods Marketing 2. Service Marketing	2. What is meant by goods marketing? 3. What is meant by service marketing?	2. Explain the characteristics of Service Marketing? 3. Explain the deference between Goods and Services.

INSURANCE & MARKETING - SECOND YEAR
PAPER-II ACCOUNTANCY-II

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 DEPRECIATION	• Diminishing Balance Method **Exercise:-** 6. On 1st January 2016 a firm purchased a machine for A 30.000. Assuming the depreciation is charged @10% on diminishing balance method. Prepare machinery account for three years. (Ans. Balance A 21,870) 7. A company purchased a plant worth A 25.000 on 31.3.2016 depreciation is calculate @10% per annum, under diminishing balance method. Show the machinery accounts up to 31st December 2018. (Ans. Balance A 18,731) 8. A company purchased a plant a worth A 25,000 on 01.7.2016 is calculated @ 10% per annum. Under diminishing Balance Method. Show the machinery account up to 31st Dec 2019. (Ans. Balance A 17,313) 9. Lee & Co. purchased a second hand machine costing A 45,000 on 1st Jan. 2016 and spent Rs. 5,000 on its repairs. The depreciation is charged @ 15% p.a. On diminishing balance method. Prepare machinery account for the first four years. (Ans. Balance A 26,100) **Sales of Asset** 10. Machinery bought on 1st Jan 2016 for A 20,000 has become obsolete and sold on 31st Dec, 2019 for A 13,000. Calculate the profit or loss assuming depreciation is charged @ 15% p.a . on straight line method. (Ans. Profit A 5,000) 11. Machinery purchased on 1.7.2016 for A 10,000 was sold on 31.12.2018 for A 5,000. Calculate the profit or loss of sale assuming depreciation is charged @ 10% per annum under fixed installment method. (Ans. Loss A 2,500) 12. Furniture worth A 10,000 was purchased as on 1.1.2016. The furniture was sold on 31.12.2018 for A 6,000. Find the profit or loss on the sale of furniture charge depreciation @ 10% p.a under diminishing balance method. (Ans. Loss A 561) 13. A second hand machine was purchased for A 12,000 on 1.1.2016 and A 3,000 spent towards repairs. On 30.6.2019 the machine became unsuitable and was sold for A 10,000. Charge depreciation @ 15% on Diminishing Balance Method. Show the machinery account.	Nil	2. How is the depreciation calculated in the diminishing Balance Method? 5. Distinguish between fixed installment and Diminishing Balance Method?

(Ans. Loss. A 3,520)

14. Furniture worth A 20,000 was purchased on 1.1.2016 and on 1.4.2017 additional furniture worth A 8000 was purchased and A 2,000 was spent on its perfection. On 31.12.2017 furniture purchased on 1.1.2016 was sold for Rs. 15,000. Prepare the furniture account up to 31.12.2018 charging depreciation @ 12% p.a. as per diminishing balance method.

2 UNIT-2 Accounts of Non-Trading Concern

- Balance Sheet

NIL

2. What is opening Balance Sheet? With purpose it is prepared?

8. From the following Receipts and Payments account for the year ending 31.3.2019. Prepare an income and expenditure account for the period ending 31.3.2019 and Balance Sheet as on that date.

Dr. **Cr.**

Receipts	**Rs.(**A)	**Payments**	**Rs.(**A)
To Donations received	35,000	By Salaries	37,500
To Subscriptions	1,15,000	By Help to poor students	37,000
To Life membership fee	50,000	By Expenses on free	34,500
To Legacy	75,000	By Postage and Stationery	3,500
To Interest received	4,000	By Furniture	50,000
		By Investments	75,000
		By Cash in hand	41,500
	2,79,000		2,79,000

Additional Information :

1. Subscription outstanding for the year A 5,000.
2. Salaries unpaid A 5,000.
3. Help to poor students promised but unpaid A 16,000.
4. Expenses of dispensary outstanding A 3,000.
5. Postage and Stationary expenses yet to be paid A 4,000.

(Ans: Surplus : A 18,500, B/S Total : A 1,71,500)

10. The Receipts and Payments account of the Hyderabad Friends Club for the period ending 31.3.2019 is given below.

Subscription fee outstanding for the year 2018-2019 Rs. 150. Salaries unpaid for the year Rs.85. From the above particulars prepare an Income and Expenditure account of the club for the year ended 31.3.2019 and the balance sheet in that date.

Dr. **Cr.**

Receipts	**Rs.(**A)	**Payments**	**Rs.(**A)
To Donation received	25,000	By Buildings	20,000
To Reserve Fund (Being life member fee received)	2,000	By Furniture	1,050
To Match fund	5000	By Tournament expenses from match fund	450
Revenue Receipts :		**Revenue Payments :**	
To Subscriptions (Including Rs. 50 for 2019-20)	1,600	By Salaries	900
To Lockers Rent	50	By Cricket	300
To Interest on securities	50	By Tennis	270
To Cricket	200	By Insurance (paid upto 31st Dec. 2019)	180
To Sundries	25	By Gardening	85
To Tennis	175	By Printing	15
To Billiards	100	By Telephone	125

		By Sundries	75
		By Investments (at cost)	9,000
		By Blance c/d	1,750
	34,200		34,200

(Ans : Excess of Income over expenditure A 400/- Balance Sheet Total : A 32,085)

11.Tarnaka Sports Club's Receipts and Payments account for the year ending 31.3.2019 is given here under.

Additional Information :

1. Subscriptions receivable for 2017-2018 were A 1000/- and for 2018-2019 A 1,050.
2. Games equipment in the beginning was Rs.1,000/- and at the end A 1,250 /-
3. Provide depreciations at 10% 0n grass cutting machine .

Prepare Income and Expenditure for the year ending 31.3.2019 and opening and closing balance sheet.

Dr. **Cr.**

Receipts	**Rs.(**A)	**Payments**	**Rs.(**A)
To Cash in hand	250	By Salary to workmen	2,000
To Cash in Bank	2,250	By Grass cutting machine	1,000
To Subscription	6,750	By Rent	450
To Tournament fund	2,500	By Games expenditure	3,500
To Life membership fee	1,500	By Tournament expenditure	1,000
To Entrance fee	250	By Office expenditure	2,250
To Donation for pavilion	4,000	By Games equipment	1,500
To Sale of grass	200	By Balance c/d	
		Cash in Hand	750
		Cash at Bank	5,250
	17,700		17,700

(Ans: Deficit A. 2,300. Balance Sheet total A 9,200)

12.Prepare Income and Expenditure account and balance sheet of Hyderabad Club from the particulars is given below for the year ending 31.3.2019.

Receipts and Payments account as on 31.3.2019

Dr. **Cr.**

Receipts	**Rs.(**A)	**Payments**	**Rs.(**A)
To Balance b/d	1,200	By Salaries	6,500
To Subscriptions (Including A 400 2019-20)	6,400	By Rent	1,200
		By Printing & Stationery	180
To Interest on investment (Investment cost A 40,000)	2,500	By Postage	50
		By Cycle purchased	800
To Bank Interest	50	By Govt. Bonds	1,000
To Sale of furniture	500	By Balance c/d	920
	10,650		10,650

Additional Information

1. Subscription received included A 200 of 2017-2018.
2. Rent paid included A 100 for March 2019 monthly rent is Rs.100.
3. Subscriptions due for 2018-2019 A 300.
4. Salaries Payable sold was A 600.
5. Cost of furniture sold was A 640.

(**Ans :** Deficit : A 20 capital fund 41,940 Balance Sheet total A 43,020).

3	UNIT-3 Partnership Accounts-I	• Sacrificing ratio	2. X and Y were partners in a firm. They shared Profit and Losses in the ratio 3:1; Z was admitted on 1-1-2019 & the new profit sharing ratio is 5:1:4. Find the sacrificing ratio. 4. Calculate Goodwill by 3 years purchase of average profits. Profit for 2016-2017, 2017-2018 & 2019 were A 509,000, A 75,000, A 65,000 & A 20,000.	6. X and Y were sharing profits in the positions of 2/3 and 1/3 showed the following as their Balance Sheet on 31-12-2019. **Dr.** **Cr.** **Liabilities** / **Amount Rs.(**A) / **Assets** / **Amount Rs.(**A) Sundry Creditors 29,950 / Buildings 25,000 Bills payable 3,000 / Plant and Machinery 17,500 Capital Accounts / Stock 10,000 X 15,000 / Sundry Debtors 4,850 Y 10,000 25,000 / Cash in hand 600 57,950 / 57,950 They agreed to admit Z into partnership on the following terms (a) Z was to bring A 7,5000 as his Capital & A 3,000 as goodwill for ¼ share in the future profits of the firm. (b) That the Value of stock, Plant & Machinery were to be reduced by 5%. (c) That a reserved of A 375 was to be created in respect of sundry debtors. (d) That the Building account was to be appreciated by 10%. (e) That the Good will was to be retained in the business. Prepare profit & Loss Adjustment Account, the Capital Account , & the new balance sheet of the firm. **(Ans : Revaluation Profit A.750 ; Capital A/c Balance X – A 17,500; Y – A 11,250; Z – A 7,500; Balance sheet Total A 69, 200)** 7. On 31-12-19 the Balance Sheet of equal Partner P,Q and R is given below. **Balance Sheet** **Liabilities** / **Amount Rs.(**A) / **Assets** / **Amount Rs.(**A) Sundry Creditors 19,600 / Buildings 41,000 Bills payable 3,000 / Furniture 3,200 Capital Accounts / Stock 25,200 P 35,000 / Sundry Debtors 32,000 Q 30,000 / Cash in hand 4,200 R 18,000 83,000 1,05,600 / 1,05,600 They admitted Mr. 'S' on the following conditions. (a) ' S' has to bring A 24,000 towards Good will and A 30,000 as Capital for his 1/4th Share. (b) ½ (half) of the Good Will be taken away by the old Partners, from the business. (c) Depreciation @ 5% to be Provided on Stock & Furniture. (d) 5% provision for Bad debts Reserve on debtors required. (e) Buildings is to be valued at A 59,000/- Prepare Profit and Loss adjustment account, Capital Account and Balance Sheet as on 1-1-2020 **(Ans : Revaluation Profit – A 14,980, Capital A/C Balance P- A 43,993; Q - A 37,993; R- A 26,994; S- A 30,000; Balance Sheet Total A 1,62,580.)**
4	UNIT-4 Partnership Accounts-II	• Gaining Ratio	Nil	1) X,Y,Z were partners sharing profits in the ratio of ½,$^{1}/_{6}$,$^{1}/_{3}$/ Their Balance Sheet on 31-12-2019 was as follows. **Liabilities** / **Amount Rs.(**A) / **Assets** / **Amount Rs.(**A) Sundry Creditors 20,500 / Buildings 50,000

				Bills Payable 10,000 / Capital Accounts / X 25,000 / Y 20,000 / Z 35,000 80,000 / Reserve fund 12,000 / 1,22,500 Plant and Machinery 25,000 / Furniture 2,500 / Stock 22,500 / Debtors 20,000 / - Reserve 1,000 19,000 / Cash 3,500 / 1,22,500 Z retires, so the following adjustment were agreed upon for ascertainment of the payment be made to him (1) Appreciate the Buildings by 10% and Stock by 15%. (2) Depreciate Plant by 10% and furniture by 7 ½ %. (3) Reserve for Doubtful debts to be made up to A 1,500. (4) Create Goodwill with A 20,000 (5) The amount pay able to should be transferred to Loan account. (6) It is assumed that goodwill credited to retiring partner is being reduced from X and Y's Capital Balance Sheet. *(Ans : Revaluations profit – A 5,187; Z's Loan A/c – A 47,396 Balance Sheet Total – A 1,27,687)*
5	UNIT-5 Hire Purchase and Installment purchase system	• Installment Method	13. State what journal entries will be passed in the books of buyer and seller under Installment purchase system?	**Problems:** 1. The Hyderabad Transport company purchased motor car from the Tata motor co. on hire purchase agreement on 1st January 2016 paying cash A 10,000 as down payment and agreeing to pay further three installment of A 10,000 each on 31st December each year. The cash price of the car is A37,250 and the Tata Motor Company charges interest at 5 percent p.a. the Hyderabad Transport Company writes off 10 percent p.a. as depreciation on the reducing installment system. Journalize these transaction in the books of both the parties. **(Interest 2016,** A **1,363; 2017** A **931 & 2018** A **456)** 2. On 1st January 2016 Messrs. Ram & CO. took from Auto car Ltd. Delivery of a Motor Van on hire purchase system. A 2,000 being paid on delivery and the balance in five installment of A 3,000 each payable annual on 31st December. The vendor company charges 5 percent p.a. interest on yearly balances. The cash down value of the van is A 15,000. Show the necessary ledger account in the books of Ram & Co. the company provides 10% p.a. depreciation according to reducing Installment system. **(Ans. Interest 1st year, A 650, Second year A 533, 3rd year A 409, 4th year A 280 and 5th year A128)** 4. A company purchased a motor cycle on hire purchase system on 1st January 2016. The first installment of A 6,000 was paid immediately and the balance by four equal installment of A 6,000 was each to be paid on the last date of each year. The vendor charged 5% per annum interest on the unpaid balance. The cash price of the press on delivery was A 27,300. Depreciation is to charged at 10% on the diminishing balance of the asset. Draw up Vendor's Account, Motor cycle account , interest account and depreciation account in the books of the buyer. **(Ans. Interest A 1,065, A 818, A 559 and A 258)** 5. Rohita Purchased a machine on hire purchase system , the cash price of which was A 14,6000. A 11,400 were paid at the time of contract on 1st July 2016 and the balance was to paid by half-yearly installment of A 800 plus interest at 5 percent p.a. Depreciation charged by Ashaaz is 10 percent p.a. on diminishing balance method. Accounts are closed on 30th June. Prepare machinery account, hire vendor account , interest account and depreciation account in rohita's Ledgers. **(Ans. Interest A 80, A 60, A 40 and A 20)** 4. Muneer purchased an asset for A 60,000 payment to be made year. Rate and three installment of A 18,000 each at the end of each depreciates asset at 10% p.a. on written down value

				method. Due to financial difficulties Muneer could not pay installment after the first installment and the selling company took possession of the asset. The selling company after spending A 1,500 on repairs of the asset sold it away for A38,000. Prepare the necessary ledger accounts in the books of both the parties. **(Ans. Loss on default transferred to Profit and Loss Account A13,950. Seller's account transferred to asset account A 34,650, Profit on resale A 1,850)** 6. Lallu purchased a Lorry from Kishen for A 1,50,000 payable A50,000 down and the balance in four annual equal installments for A 25,000 each at the end of each year, together with interest @ 10% p.a. The lorry is depreciated at 20% p.a. on the reducing balance system. Lallu pays cash down and three successive installment but fail to the last installment. Consequently Kishens reclaims the lorry. He spends, A 5,000 on repair and sell it for A50,000. Show the ledger account in the books of Lallu **(Ans. Loss on default A 33,940)**
6	UNIT-6 Company Accounts-I	• Issue share with Premium, • Issue share with Discount, • Forfeiture of shares	Nil	**Exercises** 1. PQR limited issued 10,000 shares of A 10 each payable A 2 on application A 5 on allotment and the remaining balance on call. Applications were received for 9,000 shares and the shares were duly allotted. All cash due on allotment and call was received .Write the journal entries in the books of company and prepared cash book. 3. Reliance limited invite applications for 60,000 shares at A 100 each at premium of A 10 per share. The share were payable as follows, on application A 30, on allotment A 60 including premium, on call A 20. Application were received for 50,000 shares. Allotment money was received for 38,000 shares. No calls were made till to date. Write journal entries. **Problems** 3. A limited company was formed on January 1, 2019 with an authorized capital A 3,00,000 divided into 1,000 shares of A 100 each. On the same date, the company issued a prospectus asking for subscriptions to 900 shares payable A 25 per share on applications A 40 on allotment and the remainder on a call. All share were applied for and allotted and the call cash due on allotment and call was received. Give the necessary entries. 5. Base Informatics Limited issued 5,000 equity share of A 10 each at premium of A 2 per share payable A 2 on application A 5 on allotment (including premium) A 3 on first call and balance on final call. The shares were all subscribed and amount received on calls except the first call on 1,000 shares and final calls on 1,500 shares. Give cash book and journal entries 6. Monica Ltd., invite applications for 20,000 shares of A 100 each at a premium of A 10 per share. The share were payable as follows On application A 20 On Allotment A 40 (including premium) On First Call A 30 On Final Call A 20 Give Journal entries
7	UNIT-7 Company Accounts-II		Nil	3. From the following balances prepare Trading Account and Profit & Loss Account, Profit and Loss Appropriation A/c for the year ended 31st March 2019. [illegible]

		Rs. (A)
Purchases	--	5,69,842
Stock on 1-4-2018	--	68,892
Freehold Premises	--	55,026

				Productive wages -- 25,090 Salaries -- 22,060 Bad Debts -- 476 Repairs to Building -- 5,056 Interest on Bank overdraft -- 1,260 Plant and Machinery -- 80,140 Printing and Stationery -- 33,400 Director's Fees -- 6,400 Auditor's Fees -- 3,000 Rates and Taxes -- 7,576 Debtors -- 45,000 Sundry office expenses -- 1,052 Share capital (25000 shares of A 10) -- 2,50,000 Purchase returns -- 5,500 Sales -- 1,91,800 Rents from property -- 12,260 P&L Credit balance -- 10,000 Discount received -- 4,000 Commission received -- 5,000 The following adjustments have to be made before closing the accounts (a) Value of closing stock is A 1,40,200 (b) Depreciation on Plant and Machinery has to be written off at 10% per annum, (c) Provide for Bad and Doubtful Debts at 5 percent. **(Ans. Gross Profit 168,175, Net Profit A 96,641, Surplus A 108891)**
8	UNIT-8 Company Accounts-III		Nil	**Exercise No. 3** Ramada Co. Ltd was registered with an authorised Capital of A 10,00,000 divided into 10,000 ordinary shares of A 50 each and 5,000 10% reference shares of A 100 each. The following Trial balance was extracted from the books of the company as on 31st December 2019 Prepare balance sheet as on 31 December 2019. Plant and Machinery 2,85,000 Lease hold premises 7,00,000 Calls in Arrears on ordinary shares 5,000 Sundry Debtors 3,00,000 Prepaid advertisement expenses 1,40,000 Furniture and fixtures 29,000 Cash in hand 1,000 Ordinary shares capital (8,000 shares fully called up) 4,00,000 Preference Shares 5,00,000 Sundry Creditors 1,42500 Profit and loss adjustment account (Surplus) 1,14,000 Bank overdraft 25,000 Debentures 5,00,000 **Adjustments :** 1. Depreciate Plant and Machinery at 10% 3. Closing stock amounted to A 2,50,000 **Balance Sheet Total - 16,76,500**

INSURANCE & MARKETING - SECOND YEAR
PAPER – 3: PRINCIPLES OF GENERAL INSURANCE

S No.	Unit No. Name of the Unit	Topic/Sub Topic to be Deleted in Details Heads	Two Marks Questions Deleted	Six Marks Questions Deleted
1	UNIT – I : PRINCIPLES OF GENERAL INSURANCE	1. Rate Making for Life insurance 2. Other acts relating to General Insurance	3. Rate Making for Life insurance	3 Explain Other acts relating to General Insurance.
2	UNIT – II : FIRE INSURANCE	2.3 Tariff system 2.5 Rules of cancellation of policy	2. What is Tariff System?	3 What are the cancellation of policy?
3	UNIT – III : MARINE INSURANCE	Increased Value Insurance		2 Explain the Increased value Insurance?
4	UNIT – IV : MOTOR INSURANCE	1. Types of Motor Insurance (R) 2. Motor Tariff – documents – Underwriting	2. Motor Tariff.	3 Explain Motor Insurance Policies. (R)
5	UNIT – V : PERSONAL ACCIDENT INSURANCE	1. Raising		3 Explain about Risk Groups.
6	UNIT – VI : HEALTH INSURANCE	1. Medi claim Policies	3. What is Medi claim Policy?	
7	UNIT – VII : OVERSEAS MEDICAL POLICY	1. Fidelity Guarantees	3. Fidelity Guarantees.	2 Explain about claim Procedure of fidelity guarantee.
8	UNIT – VIII : BANKERS BLANKET & JEWELLERS BLOCK POLICIES	1. Pedal Cycle Insurance 2. Plate Glass Insurance 3. Blood Stock Insurance	1. What is Pedal Cycle Insurance? 2. Plate Glass Insurance. 3. Blood Stock Insurance.	

VOCATIONAL CURRICULUM-2020

(For the Academic year 2020-21)

[70% CONTENT IN VIEW OF COVID-19 PANDEMIC]

RETAIL MANAGEMENT

(COURSE CODE: 215)

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

Dr. A. Ashok I.A.S
COMMISSIONER

INTERMEDIATE EDCATION
Government of Telangana
Nampally, Hyderabad- 500001
Phone: 040-24655915

Fore word

In any developing society with a booming population, Vocational Education occupies an important position for generating large scale employment opportunities. Viewed in this context the importance of Vocational Education for our country cannot be over emphasized. Vocationalization of Secondary Education was introduced in 1988 at the Intermediate level. Recently, the Government of India has developed a National Skills Qualification Framework for establishing a clear path for vocational education from the school level to the highest level. The Department of Intermediate Education has recently framed a new curriculum to bring greater value to the system of vocational education. The primary aim of this reform is to prepare the students with employable skills for absorption in organized sectors and in few cases, even for self-employment.

State Institute of vocational education and Board of Intermediate Education, Telangana have reviewed the curriculum of vocational courses of second year from the academic year 2019-20 in order to reorient them for their practical approach. Greater emphasis is now being placed on Laboratory work and on the job training.

Simultaneously, The State Institute of Vocational Education and the department of Intermediate Education are presently making efforts to upgrade the quality of infrastructure in the colleges to meet the challenges of the changed curriculum. I am confident that the revised curriculum of second year for Vocational Courses would prove to be beneficial to the students in the vocational stream and help them train in need based productive courses leading to gainful employment.

Sd/- Dr. A.Ashok
COMMISSIONER OF INTERMEDIATE EDUCATION

ANNUAL SCHEME OF INSTRUCTION AND EXAMINATION FOR RETAIL MANAGEMENT
FIRST YEAR

Part-A		Theory		Practicals		Total	
		Periods	**Marks**	**Periods**	**Marks**	**Periods**	**Marks**
1.	English	150	50	0	0	150	50
2.	General Foundation course	150	50	0	0	150	50
	Part-B						
3.	**Paper-1** Business Organization	135	50	135	50	270	100
4.	**Paper-II** Accountancy & Computers- I	135	50	135	50	270	100
5.	**Paper-III** Retail Marketing	135	50	135	50	270	100
6.	**Part-C OJT**	0	0	365	100	365	100
	Total	**705**	**250**	**770**	**250**	**1475**	**500**

SECOND YEAR

Part-A		Theory		Practicals		Total	
		Periods	**Marks**	**Periods**	**Marks**	**Periods**	**Marks**
1.	English	150	50	0	0	150	50
2.	General Foundation course	150	50	0	0	150	50
	Part-B						
3.	**Paper-1** Retail Management	110	50	115	50	225	100
4.	**Paper-II** Accountancy & Tally - II	65	50	160	50	225	100
5.	**Paper-III** Elements of Salesmanship	110	50	115	50	225	100
6.	**Part-C OJT**	-	-	450	100	450	100
7.	**Total**	**630**	**250**	**795**	**250**	**1425**	**500**
TOTAL 1st YEAR AND 2nd YEAR MARKS 1000							

EVALUATION OF ON THE JOB TRAINING:

The "On the Job Training" shall carry 100 marks for each year and pass marks is 50. During on the job training the candidate shall put in a minimum of 90 % of attendance.
The evaluation shall be done in the last week of January.

Marks allotted for evaluation:

S.No	Name of the activity	Max. Marks allotted for each activity
1	Attendance and punctuality	30
2	Familiarity with technical terms	05
3	Familiarity with tools and material	05
4	Manual skills	05
5	Application of knowledge	10
6	Problem solving skills	10
7	Comprehension and observation	10
8	Human relations	05
9	Ability to communicate	10
10	Maintenance of dairy	10
	Total	100

NOTE: The On the Job Training mentioned is tentative. The spirit of On the Job training is to be maintained. The colleges are at liberty to conduct on the job training according to their local feasibility of institutions & industries. They may conduct the entire on the job training periods of (365) I year and (450) II year **either by conducting classes in morning session and send the students for OJT in afternoon session or two days in week or weekly or monthly or by any mode which is feasible for both the college and the institution**. However, the total assigned periods for on the job training should be completed. The institutions are at liberty to conduct On the Job training during summer also, however there will not be any financial commitment to the department.

SYLLABUS

RETAIL MANAGEMENT

FIRST YEAR

PART B – VOCATIONAL SUBJECTS

PAPER – I: BUSINESS ORGANISATION (THEORY& PRACTICALS)

TIME SCHEDULE, WEIGHTAGE & BLUE PRINT

S.No	NAME OF THE UNIT	No. Of Periods		Weightage in marks	Short answer questions	Essay/ Problem questions
		Theory	Practical			
01	Basic Concepts	15	15	10	2	1
02	Sole proprietorship, Joint Hindu family	20	20	8	1	1
03	Partnership	15	15	8	1	1
04	Joint stock company	20	20	10	2	1
05	Incorporation of Joint stock company	20	15	8	1	1
06	Co-operative societies	15	15	8	1	1
07	Aids to Trade - Banking & Insurance services	10	15	8	1	1
08	Aids to Trade - Transport, Warehousing & Advertisement	20	20	8	1	1
	Total	135	135	68	10	08

Note: The question paper contains two sections.

Section – A of question paper contains 10 questions carries 2 marks each. The student has to answer all questions.

Section – B of question paper contains 8 questions carries 6 marks each. The student has to answer five questions.

COURSE CONTENTS:

1. **Basic Concepts** – Business organization and its scope – Business, Profession, Industry, Trade, types and ~~aids to trade~~, Classification of Industries, Forms of Business organization.
2. **(a). Sole trader** – Characteristics - merits and demerits of sole trader – **Joint Hindu Family** – Karta – ~~merits and Demerits~~ – Schools of Joint Hindu Family.
   (b). Self -Employment, Entrepreneurship, Small Business, Private sector, Government Sector, CRM Practices
3. **Partnership** – Characteristics – merits and demerits – ~~Partnership deed~~ – Types of partners – ~~Rights and duties of partners~~.
4. **Joint Stock Company**– Characteristics, merits – demerits, ~~kinds of companies~~, Promoter.
5. **Incorporation of Joint Stock Company** – Procedure of promotion and incorporation of Joint stock Company – Memorandum of Association – Articles of association – ~~Prospectus~~ – Golden rule of framing prospectus.
6. **Co-operative societies –** Characteristics – ~~Types of co-operative societies~~ – merits and demerits
7. **Aids to Trade -** Banking and Insurance Services **–** Definition of bank and insurance – ~~Different types of banks~~ – Functions of commercial banks – Advantages of insurance – Principles of insurance – ~~Types of insurance~~ – RBI and its Functions
8. **Aids to Trade -** Transport, Warehousing & Advertisement **–** Advantages of transport – Types of transport ~~Importance of warehousing~~ – ~~types of warehousing~~ – Need and importance of advertisement – Print media – outdoor media – Importance of Advertising to different types of companies

References:

1. Jones & Mathew: Organization Theory, designed change – Vikas Publishers
2. P.N.Reddy – Principles of Business Organizations – S. Chand Publications
3. Nathan S.Collier - A Different types of Business Organizations – Wiley Publications

FIRST YEAR
PART B – VOCATIONAL SUBJECTS
PAPER – II: ACCOUNTANCY & COMPUTERS – I (THEORY& PRACTICALS)
TIME SCHEDULE, WEIGHTAGE & BLUE PRINT

S.No	NAME OF THE UNIT	No. Of Periods		Weightage in marks	Short answer questions	Essay /Problem questions
		Theory	Practical			
01	INTRODUCTION TO ACCOUNTANCY	15	05	10	2	1
02	JOURNAL	15	10	8	1	1
03	SUBSIDIARY BOOKS	10	10	8	1	1
04	LEDGER	25	10	8	1	1
05	CASH BOOK	10	15	8	1	1
06	RECTIFICATION OF ERRORS &TRIAL BALANCE	15	10	8	1	1
07	FINAL ACCOUNTS	20	20	8	1	1
08	Basic fundamentals of computer	25	55	10	2	1
		135	135	68	10	08

Note: The question paper contains two sections.
Section – A of question paper contains 10 questions carries 2 marks each. The student has to answer all questions. **Section – B** of question paper contains 8 questions carries 6 marks each. The student has to answer five questions.

COURSE CONTENTS:

1. **Introduction to Accountancy** – Definition of Accountancy and Book keeping – Objectives- Merits and demerits – Accounting concepts – ~~Conventions~~ – Single entry system – Double entry system – Advantages – Accounting Cycle – Accounting Standards – IFRS – Concept & Need.
2. **Journal** –Types of Accounts – Rules of Debit and Credit – Journal – Journal entries (including Problems) – Functions of Debit and Credit
3. **Subsidiary books** – Types of subsidiary books – Purchase book – purchase returns book – Sales book – Sales returns book – Bills receivable book – Bills payable book- Journal proper (including Problems)
4. **Ledger** – Meaning Classification of Ledger – posting the transactions into Accounts –Balancing the Accounts (including Problems)
5. **Cash Book** – Types of cash book – Simple or single column cash book – Two column cash book – ~~Three column cash book – Petty cash book~~ - (including Problems)
6. **Rectification of errors &Trial balance** – Rectification of Errors – one side & two side Importance of trial balance – Preparation of trial balance – (including Problems)
7. **Final Accounts** – Preparation of Trading account, Profit & Loss account and Balance sheet with adjustments (including Problems)
8. **Basic Fundamentals of computers** – Fundamentals of Computers - Types of Computers - Generation of computers – Block Diagram – Memory – CPU - Advantages of computers - Input, output devices – Operating system – MS.WORD – MS EXCEL - MS POWERPOINT.

References:-

1. P.C.Tulsian – Financial Accounting & Analysis – Tata Mcgraw Hill Publications
2. S.N.Maheswari – Financial Accounting & Analysis – Vikas Publications
3. V.K.Goyal – Financial Accounting – EXCEL Books
4. E.Balaguruswamy- Fundamentals of Computers Tata C Graw Hill Education Pvt, Ltd.,
5. E.Balaguruswamy- Fundamentals of Computers Tata C Graw Hill Education Pvt, Ltd.,

RETAIL MANAGEMENT
FIRST YEAR
PART B – VOCATIONAL SUBJECTS
PAPER – III: RETAIL MARKETING
TIME SCHEDULE , WEIGHTAGE & BLUE PRINT

S.No	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
01	INTRODUCTION	15	10	2	1
02	Retail Marketing Mix	15	8	1	1
03	Merchandising Management	20	8	1	1
04	Store Layout and Design	10	8	1	1
05	Retail Selling Skills	20	8	1	1
06	Customer Relationship Management	15	8	1	1
07.	Health Safety and Hygiene in Retailing	20	8	1	1
08.	Business Communication	20	10	2	1
		135	68	10	08

Note: The question paper contains two sections.
Section – A of question paper contains 10 questions carries 2 marks each. The student has to answer all questions. **Section – B** of question paper contains 8 questions carries 6 marks each. The student has to answer five questions.

COURSE CONTENTS:

Unit 1: Fundamentals of Retailing

Session 1: Meaning and Basics of Retailing
- Identify the Basics of Retailing0
- Classification of retailers

Session 2: Retail Formats
- Understand the concept ―Retail Format‖
- Types of retail formats

Session 3: Functions of Retailer- General and Modern Trade
- Understand the functions of Retailers
- Identify the duties and responsibilities of retailers

Session 4: Trends in Retailing
- Identify the Segments for Urban and Rural areas
- Find out the Driving forces in Indian retailing

Unit 2: Retail Marketing Mix

Session 1: Product Mix
- Acquainted with the concept of Marketing Mix
- Features of Product Mix
- ~~Product Life Cycle~~

Session 2: Price Mix
- Identify the Price Mix features and its importance
- Identify the methods of Pricing in retailing

Session 3: Promotion Mix
- Identify the concept of Promotion Mix and its importance
- Identify the objectives and elements of promotion Mix

Session 4: Place Mix
- Understand the concept of Place Mix, its importance and process
- Find out the objectives and features of place mix
- Describe the various modes of transportation and its objectives

Unit 3: Merchandising Management
Session 1: Definition of Merchandise - Describe the benefit of merchandising - Understand how merchandising helps in high product visibility Session 2: Functions of Merchandising - Identify the steps in determining the right assortment of Merchandise. Session 3: Visual Merchandising - Identify the basic aspects of visual merchandising - Evaluate the impact of display of merchandise Session 4: Roles and Responsibilities of Merchandiser - Planning and preparation display of products
Unit 4: Retail Store Layout and Design
Session 1: Types of Retail Location - Classify the different Locations of retail store. Session 2: Store Layout - Identify the steps in store layout Session 3: Design decision - Identify the elements of store design decision. - Describe the elements of store planning and design Session 4: Functions of Retail Store Associate - Identify the major functions and responsibility of store associate
Unit 5: Retail Selling Skills Session 1: Methods of Selling - Identify the Methods of selling in Retail. - Find out the sales promotion activities in store Session 2: Selling Process - Identify the potential customers. - Receive and greet the customers Session 3: Salesmanship (Duties of Sales Personnel) - Maintain the availability of products for sale to customers in a retail environment. Session 4: Qualities of Goods Sales Person for Handling Queries - Describe the process of objections handling in the retail
Unit 6: Customer Relationship Management
Session 1: CRM Process - Describe concept of CRM - Describe the importance of CRM - Learn to improve customer relationship Session 2: Duties and Responsibilities of Customer Services Associate - Check the storage and care of stock available to customers Session 3: Customer Retention Strategies - Identify concept of customer retention and various customer retention strategies Session 4: Handling Customer Grievances - Discuss ways to respond to customer grievances - Identify how to reward customer loyalty

Unit 7: Health Safety and Hygiene in Retailing
Session 1: Health Care - Describe the health care activities and health care rights in retail organizations - Identify the responsibilities of employers and employees for workplace health and safety Session 2: Personal Grooming - Describe the skills required for personal grooming - Enlist the work related injuries and reporting them to supervisor Session 3: Hazards at Workplace - Learn about hazardous products, preventive measures for using such products - State various emergencies and escape routes free from obstructions Session 4: Safety Measures at Workplace - Practice safety measures and tips to control injuries, violence, harassment, shoplifting and robbery.
Unit 8: Business Communication
Session 1: Elements of Communication - Framing of question and sentence - Identify elements of communication cycle Session 2: Forms of Communication & Communication Equipments - Demonstrate effective use of verbal and nonverbal communication skills - Identify the types of communication, barriers to effective communication Session 3: Elements of Business communication - Describe the importance of organizational culture in business communication - Communicate Effectively with Customers - Describe the qualities that the team member should possess Session 4: Preparation of Project Report - Describe Project Work/ Assignment - Outline the preparation of project report

References:-

1. Mahapatra Arun – The Art of Retailing – The Lotus Press Publications and Distributors
2. Gibson & Vedamini – Retail Management – Functional Principals and Practices – JAICO Publishing House, Mumbai
3. Swapna Pradhan – Retailing Managament, Texts an Cases – McGraw Hill Publivations, New Delhi

RETAIL MANAGEMENT
SECOND YEAR
PAPER – I: RETAIL MANAGEMENT
TIME SCHEDULE, WEIGHTAGE & BLUE PRINT

S.No	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
01	Essential of Retailing	15	8	1	1
02	Inventory Management in Retailing	10	8	1	1
03	Security and Housekeeping Supervision	20	10	2	1
	in Retailing				
04	Retail sales supervision	10	8	1	1
05	Supply Chain Management for Retailing	10	8	1	1
06	E-commerce	10	8	1	1
07	Event Management in Retailing	20	10	2	1
08	Billing and Accounting Procedures in	15	8	1	1
	Retailing				
		110	68	10	08

Note: The question paper contains two sections.
Section – A of question paper contains 10 questions carries 2 marks each. The student has to answer all questions.
Section – B of question paper contains 8 questions carries 6 marks each. The student has to answer five questions.

UNIT-1 Essential of Retailing

Session -1: Retail organization
1. Concept and importance of retail organization
2. Structure and culture of retail organization

Session -2. Retail procedure
1. Various process and procedure in a retail organization

Session -3: challenges in Indian retail
1. Challenges of Indian retail

Session -4: ~~Driving force of retail business~~
1. Select the driving forces in Indian retailing
2. Retail trend in India

Unit-2: Inventory Management in Retail

Session -1 Types of inventory
1. concept of inventory and its types
2. methods of inventory in retail

Session -2 Inventory Management
1. Objective of Inventory Management
2. Benefits of Inventory management

Session-3 inventory control
1. Concept of Inventory Control
2. Methods of Inventory Control

Session-4: Duties and Responsibilities of Inventory Supervisor
1. Functions of Inventory Supervisor
2. Roles and Responsibilities of Inventory Supervisor

Unit-3: security and housekeeping supervision in retail

Session -1 security function

1. identify the various security points
2. The roles and functions of security/ personnel.

Session-2:safety and surveillance equipment

1. Describe the work ethics and values at work place
2. Identify the safety rules and regulation in retail stores

Session-3. Material and equipment handling

1. describe the competences required for material handling in house keeping
2. examine the process of material handling

Session-4~~. Roles and responsibilities of housekeeping supervisor.~~

1. Functions of housekeeping supervisor
2. Responsibilities of housekeeping supervisor

Unit-4 Retail sales supervision

Session-1: Role of supervisor

1 Establish customer needs
3. Display of products at retail

Session-2. ~~Sale and delivery of products~~

1. Product sales process
2. Delivery of products to customers

Session-3: Maintenance of stores area

1. Maintenance and cleaning of store area
2. Effective communication with stake holders

Session-4: Roles and Responsibility of Sales Supervisor

1. Functions of sales supervisor
2. Responsibilities of Sales Supervisor

Unit-5: **Supply Chain Management in Retailing**

Session: 1: Introduction to SCM

1. Concepts and Importance of SCM
2. Advantage, Limitations of SCM

Session-2: Principles of SCM

1. Identify the principles of SCM
2. Parameters of direct and indirect distribution

Session-3: Participants in the process of SCM

1. Types of intermediaries
2. Channels distribution and their services for consumer goods

Session: 4 ~~Steps in Supply chain management~~

1. Identify steps in scm
2. Components needs in the process of scm

UNIT-6: E-COMMERCE

Session-1. Introduction to e retailing

1. Introduction to e retailing
2. Advantages of e retailing

Session-2: E- marketing

1. Concept and importance of e marketing
2. Differentiate e marketing v/s traditional marketing

Session-3: Telemarketing

1. concept and advantages of telemarketing
2. categories the telemarketing activities

Session-4: Internet Business 1. concept and objectives of internet business 2. discuss various issues on internet business
Unit-7: Event management in retailing
Session:1; procedures of events 1. planning and designing an event 2. execution of an event Session-2. Documentation require to conduct an event 1. Monitoring of records of an event 2. Feedback from customers of an event Session; 3. ~~Logistics and standard operating procedure~~ 1. Legal aspects of sop 2. Statutory aspects of sop Session-4: supervising events 1. how to conduct a successful event
Unit-8: Billing and Accounting Procedure in Retailing
Session; 1 Billing Procedure 1. Basic Concept of Billing in retail 2. Various mode of payments in billing process. Session-2: Fundamentals of Accounting 1. Fundamental and procedures of accounts 2. Accounting books like, journals and ledgers Session-3: Trading, Profit And Loss Accounts 1. preparation of trading account 2. Preparation of profit and loss account. Session-4; Balance Sheet 1. Preparation of Final Accounts

SECOND YEAR
PAPER –II: ACCOUNTANCY– II (THEORY & PRACTICALS)

TIME SCHEDULE, WEIGHTAGE & BLUE PRINT

S.No	NAME OF THE UNIT	No. Of Periods		Weightage in marks	Short answer questions	Essay/ Problem questions
		Theory	Practical			
01	DEPRECIATION	05	10	8	1	1
02	ACCOUNTS OF NON-TRADING CONCERNS	15	20	10	2	1
03	PARTNERSHIP ACCOUNTS – I	15	20	10	2	1
04	PARTNER SHIP ACCOUNTS - II	15	15	8	1	1
05	HIRE PURCHASE AND INSTALMENT PURCHASE SYSTEM	10	15	8	1	1
06	COMPANY ACCOUNTS – I (Tally)	10	15	8	1	1
07	COMPANY ACCOUNTS – II (Tally)	10	15	8	1	1
08	COMPANY ACCOUNTS – III (Tally)	15	20	8	1	1
		95	130	68	10	08

Note: The question paper contains two sections.

Section – A of question paper contains 10 questions carries 2 marks each. The student has to answer all questions.

Section – B of question paper contains 8 questions carries 6 marks each. The student has to answer five questions.

COURSE CONTENTS:

1. **DEPRECIATION** – Meaning and need of depreciation – Causes of depreciation – Methods of depreciation – Simple problems on depreciation (Straight line and ~~diminishing balance method)~~
2. **ACCOUNTS OF NONTRADING CONCERNS –** Distinction between capital and revenue expenditure – Receipts and payments account – Income and expenditure account
3. **PARTNERSHIP ACCOUNTS –** I – Problems on Profit and Loss appropriation account – Admission of partner
4. **PARTNER SHIP ACCOUNTS –** II – Problems on retirement of partner
5. **HIRE PURCHASE AND INSTALMENT PURCHASE SYSTEM –** Features of Hire purchase and Instalment purchase system - Difference between Hire purchase and instalment purchase system – Simple problems in Hire purchase system (only ledger accounts)
6. **Company Accounts – I –** Meaning of company – Meaning of Share capital – Classification of share capital – Types of shares – Issue of shares at par, premium, discount
7. **Company Account – II –** Company final accounts – Trading account, Profit and Loss account & Profit and Loss appropriation account with simple adjustments
8. **Company Account – III –** Company final accounts – Simple problems on Balance sheet contents without adjustments

References:-

1. M.C.Sukla and S.C Gupta – Advanced Accounts – S.Chand& Co.
2. S.N.Maheswari – Introduction to Accountacy – Vikas Publishing House
3. Jagadish. R. Raiyani – Financial Ratios and Financial Statement Analysis – New Century Publications

RETAIL MANAGEMENT
SECOND YEAR
PART B – VOCATIONAL SUBJECTS
PAPER –III: ELEMENTS OF SALESMANSHIP
TIME SCHEDULE, WEIGHTAGE & BLUE PRINT

Unit-1: Introduction

Concept of Salesmanship, Changing Roles and Functions of a Salesman. Importance of ~~Personal Selling~~ In the Context of Competitive Environment. Types of Selling.

Unit-2: Salesman Career.

Career Counselling & Guidance. - Types Of Salesman – Retail, Whole Sale, Specialized Sales Man. - Duties, Responsibilities, Opportunities And Growth In The Sales Field. - Qualities: Physical, Mental, Psychological, Social and Cultural - Rewards In Selling: Financial and Non-Financial (Incentives) - Sources of Recruitments of Sales Force - Methods Of Training Salesmen.

Unit-3: Product Knowledge

Importance Of Complete Product Knowledge-Major Areas Of Knowledge-Manufacturers How Used, Life Of Products, Guarantee Price, How Other Customer Liked It Etc. Sources Of Product Information: Published Sources and un Published Sources, Packing, Labelling And Other Specification Enclosure Etc.

Unit-4: Buyer Behaviour

Introduction - Classification of Buyer-Industrial, Government and Ultimate Consumers. Buying Motives- Rational and Emotional Factors Influencing Purchase of A Product. ~~Shopping behaviour~~-Frequency, Place and Unit of Purchase.

Unit-5: Identification Of Potential Customers.

Analysis and consumer profile-age, sex, income, educational, cultural and linguistic background etc. - Methods of Identifying Customer Perceptions Influencing Decision Regarding Purchase of Product - Finding Out Customer's Needs, Problems And Potentialities.

Unit-6: Sales Presentation.

Introduction - Planning For Sales Presentation Setting Objectives For The Sales Planning, Sales Talk, Supporting Evidence Etc. - Steps In Sales Presentation - Establishing Report, Introducing Product By Highlighting Benefits And Providing Information Relating To Product Futures And Benefits.

Unit-7: Objections

Objections Regarding Price, Quality, Compensative Disadvantages, Genuineness - methods/Techniques To Be Followed To Overcome Objections

Unit –8: Specialised Categories Of Salesman

Auction Salesman Conductor - Insurance Agent - Real Estate Dealer - ~~Investment Salesman~~ Export Salesman - Maintenance Service Salesman - Mail Order Sales - Mobile Salesman/Door To Door - Travel Agency Salesman/Tourism - Health Care (Hospital) Agent.

References:-

1. George Shinn- An Introduction to Professional Selling – Tata Mc Graw Hill
2. Gupta V.D – Sales Management in the Indian Respective – Prentice Hall of India
3. Tyagi CL and Kumar A – Sales Management – Atlantic Publishers.

MODEL QUESTION PAPERS

RETAIL MANAGEMENT
FIRST YEAR
PAPER – I: BUSINESS ORGANISATION (THEORY)

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**

ii) Each question carries two marks

1. Define Trade.
2. What is an Industry?
3. What is Joint Hindu Family firm?
4. Define Partnership.
5. Define joint stock company.
6. Who is a promoter?
7. Define Articles of Association.
8. Define co-operative society.
9. Define a Bank.
10. What is print media?

SECTION –B

Note: i) Answer all questions **5 x 6 = 30**

ii) Each question carries six marks

11. What are the different types of trades.Explain briefly?
12. State the merits of sole trading business.
13. What are the demerits of partnership firm of organization?
14. What are the characteristics of a joint stock company?
15. What do you understand by “Memorandum of Association”? Describe it’s contents?
16. What are the important characteristics of a co-operative society?
17. Write the important functions of commercial banks?
18. What are the advantages of insurance?
19. Write briefly about different types of transport?
20. Write briefly about the need and importance of advertisement.

I YEAR

PAPER – I I: ACCOUNTANCY & COMPUTERS – I (THEORY)

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**

ii)Each question carries two marks

1. Define Accountancy ?
2. Who is Debtor?
3. What is Journal ?
4. Define Ledger?
5. What is Purchase Book?
6. What is Drawings?
7. What is cash book?
8. What is Debit Note?
9. What is a Computer?
10. What is a Scanner?

SECTION –B

Note: i) Answer all questions **5 x 6 = 30**

ii)Each question carries six marks

11. What are the Accounting Concepts ? Explain some of them?
12. List out any five input and output devices in detail.
13. Prepare the Single column cash book from the following transactions

2019		Rs
March 1	Cash Balace	15000
March 5	Cash Purchases	25000
March 15	Cash Sales	35000
March 20	Cash Deposited into Bank	12000
March 28	Cash Withdrawn from Bank	5000
March 30	Drawings	2000

14. Explain different types of Accounts.
15. Explain the different types of cash book.
16. Explain the importence of Cash Book.
17. Give proforma of an account. Explain how entries are made into it?
18. Explain the characteristics of computer.
19. Enter the following transactions in the sales book and post them in ledger account.

2020		Rs.
January 1	Sold goods to naveen	6000
January 5	Sales to gopal	12000
January 8	Sold goods to Ajay	2800
January 15	Goods sold to Vasu	15000
January 20	Sales to Krishna	6000
January 25	Sales to Ramesh	5000
January 26	Sold goods to Manish	8000

20. Prepare the Final Accounts from the following balances:

Opening Stock	Rs. 15000
Purchases	Rs. 9000
Wasges	Rs. 6000
Carriage Inward	Rs. 5000
Factory Rent	Rs. 1000
Sales	Rs. 45000
Closing Stock	Rs. 70000

FIRST YEAR

PAPER – III: RETAIL MARKETING (THEORY)

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**

1) What is Telemarketing?

2) What is Product Mix?

3) What are the principles of visual merchandising?

4) Define Layout.

5) How to improve customer service?

6) What is Goal setting?

7) Write importance of CRM.

8) List out the unsafe working conditions.

9) What are elements of communication cycle?

10) What is project report?

SECTION –B

Note: i) Answer all questions **5 x 6 = 30**

ii)Each question carries six marks

11) What are the Trends in Retail Marketing?

12) Explain the Pricing Objectives.

13) List out the functions of visual merchandising.

14) Explain the formalities required for store layout.

15) How to identify the potential customer?

16) Explain the characteristics of top performing sales people

17) How to reward customer loyalty?

18) Describe the skills required for personal grooming

19) How to communicate effectively with customers?

20) Explain the types of communication.

PAPER – I: RETAIL MANAGEMENT (THEORY)

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**

ii) Each question carries two marks

1 Define Retail Organization.
2 what is Retailing?
3 Define Inventory.
4 What is Housekeeping?
5 Define customer Needs.
6 Expand SCM.
7 What is E-Retailing?
8 What is Event Management?
9 What is journal?
10 What is Ledger?

SECTION –B

Note: i) Answer all questions **5 x 6 = 30**

ii) Each question carries six marks

11) What are the challenges in Indian retail?

12) What are the types of inventory and explain them?

13) Explain the types of security guards.

14) How to display the products in Retail?

15) Explain the advantages of SCM.

16) Explain the customer needs and Expectations.

17) How to plan and Design of an Event?

18) Explain various types of Accounts.

19) Explain the functions of Accounting.

20) Explain the Event plan of fresher's day in your college

RETAIL MANAGEMENT
SECOND YEAR
PAPER – II: ACCOUNTANCY - II (Theory)

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**
ii)Each question carries two marks

1. Define Depreciation.
2. What is Receipts and Payments account?
3. What is Equity Shares?
4. What is Balance Sheet?
5. What is Divident?
6. What is Closing Stock?
7. What is Capital Expenditure?
8. What is Income and Expenditure account?
9. What is Hire Purchase System?
10. What is Prliminary expenses?

SECTION – B

Note: i)Answer any five questions **5 x 6 = 30**

ii) Each question carries Six marks

11. Furniture is purchased for Rs. 35000/-. It is decided to depreciate the asset on staright line method at 10% per annum. Show the Furniture account for 5 years.
12. Prepare the Receipts and Payments account from the following particulars.

	Rs
Cash in hand	5000
Cash at bank	12000
Subscription Received	40000
Donations Received	32000
Investment purchased	12000
Sundry expenses	2000
Rent Paid	500

13. A and B are carrying business in a partnership sharing profit & Losses in the ratio of 2:3. Their Balance sheet as at 31.12.2020.

Balance Sheet

Liabilities	Amount Rs.	Assets	Amount Rs
Sundry Creditors	50,000	Cash in Hand	30,000
Capital Accounts:		Cash at Bank	20,000
A 280000		Sundry Debtors	1,00,000
B 420000	7,00,000	Stock	2,00,000
		Furniture	50,000
		Buildings	3,50,000
	7,50,000		7,50,000

On that date they admit "C" on to partnership and given him 1/4th share in the future profit on the following terms.

(a) "C" is to bring in Rs. 3,00,000 as his capital and Rs. 1,00,000 as good will which sum is to remain in the business.
(b) Stock and furniture are to be reduced in value by 10%
(c) Buildings are to be appreciated by Rs. 50,000
(d) A provision of 5% to be created on sundry Debtors for doubtful debts.

Prepare the ledger accounts and show the opening Balance Sheet of the new firm.

14. On 1st January 2020 the Directors of Wipro Limited has issued 1,00,000 shares at Rs. 10 per share. The share amount payable is as follows Rs. 2.50 on applications, Rs. 3.00 on allotment, Rs. 2.50 on first call and final call. Applications were received for 90,000 shares. Write journal entries.
15. How is the depreciation calculated in the fixed installment method.
16. Discuss the difference between receipts and payments account and income and expenditure account.
17. Mythil, Mayuri and Mounica are partners sharing profits and losses equally. Their Balance Sheet on 31st march 2019 is given below.

Liabilities	Amount Rs.	Assets	Amount Rs
Sundry Creditors	20,000	Cash at Bank	18,000
Reserve Fund	18,000	Debtors	30,000
Capital accounts		Stock	24,000
Mythili 50,000		Machinery	40,000
Mayuri 40,000		Buildings	46,000
Mounica 30,000	1,20,000		
	1,58,000		1,58,000

On the above date, Mounica decided to retired from the firm on the following conditions.

(a) Goodwill of the firm be valued at Rs. 24,000
(b) Depreciate stock & Machinery by 10%
(c) Buildings will be appreciated to Rs. 56,000
(d) Provide 5% on the debtors towards reserve for doubtful debts.

Prepare Revaluation Account, Capital Account and New Balance Sheet

18. What is opening Balance Sheet? With purpose it is prepared.
19. The following Trial Balance of Wipro Ltd was extracted from their books on 31st december 2020.

Particulars	Rs.	Particulars	Rs.
Purchases	3,04,000	Share Capital	1,44,000
Plant and Machinery	28,800	Return Outwards	14,400
Stock in trade on 1.1.2020	25,600	Sales	4,00,200
Salaries	14,400	Discount	4,480
Carriage outwards	2,000	P&L A/c (Credit balance)	25,000
Carriage inwards	8,000		
Discount allowed	5,600		
Return inwards	12,800		
Insurance	4,000		
Dividends	20,000		
Interim dividends	22,400		
Rate & Taxes	6,400		

You are required to prepare the Trading and P&L Appropriation account for the year ended 31.12.2020, in doing so take the following adjustments into account.

(a) Plant and machinery is to be depreciated by 10%

(b) Stock in trade on 31st Dec 2020 is Rs. 28,800.

20. From the following particulars prepare Balance Sheet 31.12.2020

Particulars	Rs.
Share Capital	4,00,000
Building and Machinery	8,60,000
General Reserve	50,000
Loans	5,50,000
Sundry Debtors	1,00,000
Debentures	25,000
Bank balance	1,10,000
Bills Payable	1,50,000
Bills receivable	80,000
Sundry creditors	50,000
Goodwill	25,000
Preliminary expenses	50,000

RETAIL MANAGEMENT
SECOND YEAR
PAPER – III: ELEMENTS OF SALESMANSHIP (THEORY)

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**
ii) Each question carries two marks

1) Define Salesmanship.

2) Define Speciality Salesman.

3) Define Product Knowledge.

4) What is Buyer Behaviour?

5) Define Customer.

6) What is Sales Presentations?

7) What is meant by Objection?

8) What is Export Salesman?

9) What is Telemarketing?

10) Write about Middlemen?

SECTION-B. 6*5=30

NOTE: I) Answer any five of the following
ii) Each question carries six marks.

11) Explain the fundamental of selling.

12) Write different types of salesman.

13) Write duties and responsibilities of salesman.

14) Write the importance of product knowledge.

15) Explain the buying motives.

16) Explain the classification of customers

17) Write the objectives and techniques of sales presentation.

18) Explain the reasons for customer objection.

19) Explain the Salesman Qualities.

20) Write the following

a) Auction Salesman

b) Insurance Agent.

30% DELETED CONTENT IN VIEW OF COVID-19 PANDEMIC
RETAIL MANAGEMENT

COURSE CODE: 215 **FIRST YEAR**

PAPER-I BUSINESS 0RGANISATION

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 Basic concepts	1.2 Characteristics of Business 1.7 Aids to Trade	1. Define the term Business.	2. What are the different aids to trade? Explain briefly?
2	UNIT-2 Forms of business organization	2.6 Merits of Joint Hindu family 2.7 Demerits of Joint Hindu family	NILL	4. State the merits of 'Joint Hindu Family Firm'? 5. State the demerits of 'Joint Hindu Family Firm
3	UNIT-3 Partnership	3.4 Partnership Deed 3.6 Rights of partners 3.7 Duties of partners	2. What is partnership deed?	4. What are the duties of partners? 5. What are the rights of partners?
4	UNIT-4 Joint stock company	4.4 Kinds of companies	2. Define a private company? 3. Define a public company? 4. What is a government company?	4. Discuss various kinds of companies briefly?
5	UNIT-5 Incorporation of Joint Stock Company	5.4Prospectus – objects-contents	3. Prospectus.	4. Define company "prospectus"? State its contents briefly.
6	UNIT-6 Co-Operative societies	6.2 Types of Co-operative societies	2. What is a consumer cooperative society? 3. What is producer cooperative society? 4. What is a cooperative farming society? 5. What is a cooperative housing society?	4. Explain the various types of cooperative societies.
7	UNIT-7 Aids to Trade-I Banking and Insurance Services	7.3 Different Types of Banks 7.7 Types of Insurance	3. What is a commercial bank? 4. What is an exchange bank? 5. Expand NABARD, ADB.	4. Write the important principles of insurance? 5. What are three main types of insurance? Explain briefly about them.
8	UNIT-8 Aids to Trade-II	8.3 Importance of Warehousing 8.4 Types of ware housing	1. What is a public warehouse? 2. What is a bonded warehouse?	3. Explain the importance of warehousing.

	Transport, Warehousing and Advertisement			4. Write briefly about different types of warehousing?

RETAIL MANAGEMENT - FIRST YEAR
PAPER-II: ACCOUNTANCY & COMPUTERS

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Exercise Questions deleted
1	UNIT-1 Introduction to Accountancy	• Accountancy conventions	2. What are the important accounting conventions? Discuss some of them
2	UNIT-2 JOURNALS		**Long Answer Questions** 1. Journalise the following Transactions 2018 Jan. 2018 1 Started business with ..... 20,000 ,, ,, Deposited into Bank ..... 3,000 ,, ,, Purchase of furniture ..... 3,000 ,, 5 Payment of rent ..... 500 ,, ,, Purchases of goods ..... 1,200 ,, ,, Purchase from Ram ..... 4,000 ,, ,, Purchases from Mohan ..... 3,000 ,, ,, Received from Bank ..... 8,000 ,, ,, Payment to Mohan ..... 3,000 ,, ,, Sale of goods ..... 8,000 ,, ,, Purchases ..... 300 ,, ,, Sales ..... 800 Jan. 10 Sales to Satish ..... 800 ,, ,, Sales to Rajesh ..... 300 ,, ,, Received commission ..... 100 ,, ,, Interest Paid ..... 120 ,, ,, Advertisement Expenses ..... 40 ,, 12 Sales to Satish ..... 800 ,, ,, Payment of Salary ..... 304 ,, ,, Wages Paid ..... 200 ,, 12 Received from Satish ..... 800 ,, ,, Paid to ram ..... 1000 ,, ,, Cash Sales ..... 2000 9. Enter the following transactions in the journal of Hanuman Rs 1. Purchases Return to hari ..... 2,000 2. Sales ..... 50 3. Paid wages to Ashok ..... 50 4. Paid rent to Kamal ..... 500 5. Received Interest ..... 150 6. Advertisement ..... 300 7. Insurance ..... 120 8. Received from Satish 500

			9. Paid to Ram ..... 200 10. Paid for interest ..... 250 11. Paid for Commission ..... 50 12. Received Commission ..... 40 10.For the following write journal entries in the book of Karunaker: (a) Deposited with bank Rs 6,000/- on six months fixed deposit and Rs.18,000/- on current account. (b) Draw from Bank for office use Rs. 2,000/-. (c) Received from Singh a treasury order for Rs. 1,000/-. (d) Paid salaries by Cheque Rs. 1,500/-. (e) Received from Khan a postal order for Rs. 20/- and paid the same into Bank. (f) Received from Lal in cash Rs. 980/- after deduction of 2% cash discount. (g) Received cash from Chanadar Rs. 1,480/- and allowed him discount Rs. 20/-. (h) Sold goods for cash Rs. 950/- and out of that paid Rs. 800/- into Bank.
3	UNIT-3 LEDGER		10. Enter the following transactions in Journal and post them in ledger accounts. March 16 1 Sales to Ram Rs ,, 2 Sales to Ratan ..... 1,100 ,, 3 Purchases returned to Ram ..... 300 ,, 4 Received from Ratan ..... 100 ,, 5 Purchases from Ratan ..... 800 ,, 6 Advertisement ..... 210 ,, 7 Paid rent ..... 100 ,, 8 Sales ..... 1,200 ,, 9 Purchases from Satish ..... 400 ,, 10 Purchases of Machinery ..... 1,000 ,, 11 Received from Ram ..... 500 ,, 12 Received from Ratan ..... 400 ,, 13 Deposited into Bank ..... 800 ,, 14 Sales ..... 300 ,, 15 Drawn from bank ..... 400 ,, 16 Paid salary ..... 800 ,, 17 Paid wages ..... 400 ,, 18 Deposited into bank ..... 300 ,, 19 Sales ..... 500 ,, 20 Advertisement ..... 100 11. Journalise the following transactions and post them in ledger accounts. Oct 1 Sale of goods Rs ,, 2 Purchases from Ram ..... 8,100 ,, 3 Purchases of Machine ..... 3,000 ,, 4 Cash purchases from Ram ..... 300 ,, 5 Cash purchases from Mohan ..... 400 ,, 6 Received from Ram ..... 800 ,, 7 Advertisement Expenses ..... 1,300 ,, 8 Rent paid ..... 150 ,, 9 Paid Insurance ..... 120 ,, 10 Sales ..... 50 ,, 11 Paid interest to Ram ..... 300 ,, 12 Paid rent to Sham ..... 200 ,, 13 Payment to Mohan ..... 100 ,, 14 Paid wages 200

			,, 15 Received Commission ..... 100 12. Enter the following transactions in journal and prepare Cash and Bank accounts. Aug. 1 Ahmed brought as capital ..... 25,000 ,, 2 Deposed in Bank ..... 20,000 ,, 3 Paid Rent ..... 200 ,, 4 Paid wages ..... 100 ,, 5 Purchases from Ganesh ..... 5,000 ,, 6 Purchases from Rakesh ..... 8,000 ,, 7 Brought from Bank ..... 12,000 ,, 8 Cash Purchases ..... 8,000 ,, 9 Travelling expenses ..... 200 ,, 10 Sales ..... 800 ,, 11 Goods returned to Ganesh ..... 1,000 ,, 12 Goods returned to Rakesh ..... 200 ,, 13 Goods sold to Madan ..... 800 ,, 14 Received from Madan ..... 800 ,, 15 Brought from Bank ..... 500 ,, 16 Paid rent ..... 100 ,, 17 Paid into Bank ..... 40 ,, 18 Post and Telegraph expenses ..... 400 13. From the following particulars prepare Madan's account and find out the balance. Oct 1 Sales to Madan ..... 100 ,, 2 Sales return from Madan ..... 20 ,, 3 Sales to Madan ..... 300 ,, 4 Payment to Madan ..... 200 ,, 5 Sales to Madan ..... 20 ,, 6 Purchases from Madan ..... 300 ,, 7 Purchases return to Madan ..... 10 ,, 8 Sales return from Madan ..... 25 ,, 9 Interest paid to Madan ..... 47 ,, 10 Cash sale to Madan 30
4	UNIT-4 SUBSIDARY BOOKS	Problems deleted	2. What transactions are entered in Sales and Sales Return Books? How are they posted? 8. Enter the following transactions in proper subsidiary books and post them in ledger accounts. Find the balances in Madan's and Hari's account and state what they reveal. Jan 1 Sales to Madan Rs ,, 1 Sales to Hari ..... 1,000 ,, 2 Hari returned Goods ..... 2,000 ,, 3 Madan returned Goods ..... 100 ,, 4 Purchases from Madan ..... 3,000 ,, 8 Goods returned to Madan ..... 200 ,, 19 Sales to Madan ..... 1,500 ,, 28 Sales to Hari ..... 2,500 ,, 29 Purchases from Hari ..... 3,000 ,, 30 Goods returned to Hari ..... 200 9. Enter the following transactions in proper subsidiary books and post them into ledger accounts. Jan 1 Purchases from bharath .... 2000 " 2 Sales to Ramesh . 1000

			” 3 Returned goods to Bharath . 500 ” 4 Ramesh returned goods . 200 ” 5 Purchases from Raju . 1500 ” 6 Sales to kamal . 1300 ” 7 Purchases from Rashed . 500 ” 8 Goods Returned to Raju . 300 ” 9 Goods Retunred to Kamal . 100 ” 10 Sales to Asif . 2000
5	UNIT-5 CASH BOOK	• Three column Cash Book, • Petty cash Book	Short Answer Questions 4. What is petty cash book? 5. What is Contra Entry? Long Answer Questions 4. Enter the transactions given in question 13 in three column cash book and bring out cash and bank balance. (Ans: Cash Balance Rs 4,481 Bank Balance Cr. Rs. 1,900) 5. Enter the following transactions in cash and discount column cash book and prepare a separate bank account. Jan 1 Capital broght in business ..... 20,000 ,, 2 Deposited in bank ..... 15,000 ,, 3 Rent paid ..... 500 ,, 4 Advertisement paid ..... 200 ,, 5 Purchases paid by cheque ..... 1,200 ,, 6 Received from Ram ..... 300 ,, 6 Discount given to him ..... 10 ,, 7 Paid to sham by cheque ..... 190 ,, 7 Discount received ..... 10 ,, 8 Paid salary by cheque ..... 800 ,, 9 Sales ..... 1,200 ,, 10 Purchases cheque given ..... 1,000 ,, 11 Received from Sham ..... 780 ,, 11 Discount given to him ..... 20 ,, 12 Deposited into Bank ..... 300 ,, 13 Received from Sham ..... 250 ,, 13 Discount given to him ..... 20 6. Enter the following transactions given in question 16 in three columns cash book and bring out the balances. 8. Enter the following transactions in Analytical Petty Cash book and post them in ledger account. Jan 1 Received cash from petty payments ..... 200.00 ,, 2 Paid wages ..... 30.50 ,, 3 Postage ..... 12.25 ,, 4 Bus charges ..... 3.20 ,, 5 Travelling expenses ..... 15.40 ,, 6 Wages ..... 13.15 ,, 6 Purchases of Stationery ..... 4.20 ,, 7 Bus Charges ..... 5.40 ,, 7 Tea expenses 10.30

,,	17	Travelling expenses	.....	30.00
,,	18	Tea expenses	.....	12.00
,,	20	Telegram	.....	5.00
,,	25	Tea expenses	.....	12.00
,,	29	Sundry expenses	.....	12.00
,,	30	Rishaw charges	.....	8.00
,,	31	Stationery	.....	2.50
	31	Sundry expenses		5.00

9. Record the following transactions in Analytical Petty Cash Book and post them in ledger accounts.

				Rs.
2018 Jan	1	Received a cheque for petty payment	.....	500.00
,,	2	Paid wages	.....	20.00
,,	3	Paid for advertisement	.....	50.50
,,	4	Paid for Postage	.....	3.20
,,	5	Paid wages	.....	100.00
,,	6	Bus charges	.....	3.50
,,	7	Stationery	.....	12.00
,,	8	Printing Charges	.....	20.80
,,	9	Travelling expenses	.....	80.00
,,	10	Stationery	.....	30.00
,,	11	Wages	.....	10.00
,,	12	Postage	.....	11.40
,,	13	Travelling expenses	.....	12.50
,,	14	Tea Expenses	.....	3.00
,,	15	Auto rickshaw Charges	.....	5.00
,,	15	Sundry expenses	.....	3.00

10. Enter the following transactions in Cash book with Cash, Bank and dicount columns in the books of Govind and bring out the balances as at May 31-2018.

2018

				Rs.
May	1	Balance in cash Rs. 2000 and at bank	.....	1,450
,,	2	Cash sale investment deposited in bank	.....	8,000
,,	3	Issue cheque of Rs. 2,500 to Balkishan and received discount.	.....	30
,,		Paid as Wages	.....	
,,	4	Received cash Rs. 300 and cheque of Rs. 850 from Gopinath and we allowed him discount	.....	400
,,	8	Deposited in bank	.....	
,,		Drawn from Bank for office use	.....	
,,		Cash sales	.....	50
,,	10	Issued cheque for salary	.....	1,000
,,	21	Balance in cash Rs. 2000 and at bank	.....	150
,,	24	Cash sale investment deposited in bank	.....	750
,,	31	Issue cheque of Rs. 2,500 to Balkishan and received discount.	.....	200

11. Prepare three column Cash book and enter the following transaction.

			Rs.
a)	Cash in hand Rs. 300 and cash at bank	.....	7,600
(b)	Issued cheque for Purchase	.....	2,000
(c)	Cash received for sales	.....	3,000
(d)	Paid into Bank	.....	2,500
(e)	Paid for Stationery in cash	.....	50
(f)	Cash withdrawn from bank for office use	.....	500
(g)	Paid salary in cash	.....	500
(h)	Cash withdrawn from bank for personal use	.....	400
(i)	Paid rent by Cheque	.....	200
(j)	Paid Rao & Sons by cheque Rs. 675 in settlement of an account of	.....	
	Received a cheque for cash sales of	.....	700
(k)	Cash in hand Rs. 300 and cash at bank	.....	450

6 UNIT-6
TRIAL BALANCE

2. How is a trial balance prepared? Explain with example?
4. What do you mean by agreement of trial balance? What does it is show?
6. From the following ledger balances in Madan's book, prepare the Trial balance.
Madan's capital Rs. 20,000, Drawings Rs. 2,000, Sunday debtors Rs. 6,000, Sunday creditors Rs. 8,700, Bills payable Rs. 4,000, Bills receivable Rs. 8,000, Furniture &Fitting Rs. 300, Opening Stock Rs. 8,000, Cash Rs. 300, Cash at bank Rs. 1,200, Rent Rs. 200, Sales Rs. 25,000, Purchases Rs. 15,000, Salary Rs. 8,000, Sales return Rs. 200, Purchases return Rs. 3,000, Machines Rs, 5,000, Loose tools Rs. 4,800, Travelling expenses Rs. 1,500, Discount given Rs. 300, Discount received Rs. 100
7. Taking following ledger balances, prepares the trial balances.
Capital Rs. 1,24,000, Drawings Rs. 6,000, Sunday creditors Rs. 43,000, Bills payable Rs. 4,000, Sunday debtors Rs. 51,000, Bills receivable Rs. 5,000, Loan advance to Mohan Rs. 10,000, Fixture and Fittings Rs, 4,500, Opening stock Rs. 47,000, Cash Rs. 900, Cash at State Bank of India Rs. 12,500, Overdraft with Andhra Bank Rs. 6,000, Purchases Rs. 50,000, Duty and Clearing charges Rs. 3,500, Sales Rs. 28,000, Salary Rs. 9,500, Return from customers Rs. 1,000, Return to creditors Rs. 1,100, Commission and travelling expenses Rs. 4,700, Rent Rs. 2,000, Discount received Rs. 4,000, Trade expense Rs. 2,500.

7 UNIT-7
FINAL ACCOUNTS

Short Answer Questions
3. What are fixed and floating assets
Long Answer Questions
3. What are usual items debited and credited to trading account
6. Following balances are taken from the books of Mohan. Prepare Tradingand Profit & Loss Account and Balance sheet for the year ended on Dec - 31 - 2018.

Building	42,800	Sales	3,00,000
Machinery	18,000	Capital	2,00,000
Purchases	1,51,000	Creditor	80,100
Opening stock	1,00,050	Bills Payable	21,000
Salary	18,000		
Wages	40,000		
Drawing	50,000		
Import Duty	15,000		
Carriage Inward	4,500		
Insurance	2,800		
Advertisement	8,000		
Interest	6,800		
Debtors	1,10, 000		
Discount	12,800		

Sales return	3,000		
Post and Telegraphs	4,200		
Commission	3,700		
Bank Balance	9,200		
Cash in Hand	1,250		
	6,01,100		6,01,100

The Closing stock is of Rs. 2,00,500

2. The following balances are taken from the books of Shashibhushan for the year ended on December, 31-2018. Prepare the final accounts.

Cash in Hand	1,000	Machinery & Plant	60,000
Capital	1,00,000	Sales	2,00,000
Purchases	12,000	Furniture and Fitting	15,000
Bills Payable	22,000	R.D.D.	1,000
Opening Stock	35,000	Bills Receivables	20,000
Debtors	50,000	Rent & Taxes	10,000
Creditors	24,000	Salary	20,000
Wages	16,000	Machinery & Plant	60,000

The following adjustments are necessary :

(a). Rs. 200 for rent and takes, Rs. 300 for wages and Rs. 4,000 for salary are outstanding (b) Closing stock is of Rs. 40,000. (c) Depreciate Plant and MAchinery at 5 percent, (d) Calculate 10 percent depreciation on furniture and fittings. (e) The reserve for Doubtful debts should be 2.5 percent on debtors.

3. Prepare Trading and Profit & Loss Account and Balance sheet from the following particulars. Journal entries are not necessary for adjustments.

TRIAL BALANCE AS ON 31st December, 2018

Particulars	**Debit Amt. Rs.**	**Credit Amt. Rs.**
Purchases	16,000	-
Discount	1,300	-
Wages	6,500	-
Salaries	2,000	-
Travelling expenses	500	-
Carriage Inwards	275	-
Insurance	150	-

8	UNIT-8 BASIC FUNDAMENTALS OF COMPUTERS	• History of Computer, • Milestones in Computer History • Classification of computers • Operating system concepts • Features of windows	Short Answer Questions 2. What are the types computers based on purpose? 3. What are the types computers based on operation? Long Answer Questions 3. What is operating system? List different types of operating system.

RETAIL MANAGEMENT - FIRST YEAR

PAPER-III RETAIL MARKETING

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	Unit-1 FUNDAMENTALS OF RETAILING	1) Assembling 2) Segments for Urban and Rural Areas	3. What is Assembling	6. Identify the segments for urban and rural areas?
2	Unit-2 RETAIL MARKETING MIX	1) Transportation (modes) 2) Product Life Cycle	NILL	7. Describe the various mode of Transportation and its objectives 1) Explain the concept of Product Life Cycle.
3	Unit-3 MERCHANDISING MANAGEMENT	1) Ethical & Legal issues in buying merchandising 2) Kinds of Merchandiser 3) Inventory Turn Over Ratio	2. what is meant by Inventory Turnover Ratio	2.Discuss Various ethical and legal issues in buying merchandising
4	Unit-4 RETAIL STORE LAYOUT & DESIGN	1) Developing the stores	--------	2.What are the points to be remember while developing the stores
5	Unit. 5 RETAIL SELLING SKILLS	1) Retail Selling Acronyms	3) How to ascertain the needs of customer interest	--------
6	Unit. 6 CUSTOMER RELATIONSHIP MANAGEMENT	1) Duties and Responsibilities + skills and specifications	-------	1) -------- 4) How to receive and check incoming delivering
7	Unit.7 HEALTH SAFETY HYGIENE IN RETAIL	1) Food Techniques 2) Hazards and safety measures at work place	3) How to identify the food Techniques	4) How to work related injuries and reporting them to supervisor 6) State various emergencies and escape router free from Objections 8) Explain how to make the store attractive to customers and unattractive to robberies
8	Unit.8 BUSINESS COMMUNICATION	1) Forming of Question and sentence	7) What is Assignment?	2) How to Frame questions and sentence for communicating with customer

				6) Describe the qualities that the team member should possess?

RETAIL MANAGEMENT - SECOND YEAR
PAPER-I : RETAIL MANAGEMENT

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 ESSENTIALS OF RETAILING	1.4] Driving forces of retail business in India	Nil	4. What are the driving forces of retail business
2	UNIT-2 INVENTORY MANAGEMENT IN RETAILING	Stock valuation and recording	Nil	Nil
3	UNIT-3 SSECURITY AND HOUSE KEEPING	Duties and responsibilities of housekeeping supervisor	3. what is material handing	Nil
4	UNIT-4 RETAIL SALES SUPERVISION	4.2] sale and delivery of products Transforming the organization and the store	--------	--------
5	UNIT. 5 SUPPLY CHAIN MANAGEMENT	5.4} Steps in SCM	6. What is out sourcing/ partnership in SCM?	6. Explain 5 basic components included steps in SCM.
6	UNIT. 6 E- COMMERCE	Common security measures	6. What are the content management (CMC) component?	5. Explain the difference between E-Marketing and Traditional marketing.
7	UNIT.7 EVENT MANAGEMENT IN RETAILING	7.3) Logistics and standard operation (SPO)	-------	6.Explain the tips in mind when organizing an event
8	UNIT.8 BILLING AND ACCOUNTING PROCEDURE IN RETAILING	-----	----- -	2. Explain retail Vs whole sale billing?

RETAIL MANAGEMENT - SECOND YEAR
PAPER-II : ACCOUNTANCY-II

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 DEPRECIATION	• Diminishing Balance Method **Exercise:-** 6. On 1st January 2016 a firm purchased a machine for A 30.000. Assuming the depreciation is charged @10% on diminishing balance method. Prepare machinery account for three years. (Ans. Balance A 21,870) 7. A company purchased a plant worth A 25.000 on 31.3.2016 depreciation is calculate @10% per annum, under diminishing balance method. Show the machinery accounts up to 31st December 2018. (Ans. Balance A 18,731) 8. A company purchased a plant a worth A 25,000 on 01.7.2016 is calculated @ 10% per annum. Under diminishing Balance Method. Show the machinery account up to 31st Dec 2019. (Ans. Balance A 17,313) 9. Lee & Co. purchased a second hand machine costing A 45,000 on 1st Jan. 2016 and spent Rs. 5,000 on its repairs. The depreciation is charged @ 15% p.a. On diminishing balance method. Prepare machinery account for the first four years. (Ans. Balance A 26,100) **Sales of Asset** 10. Machinery bought on 1st Jan 2016 for A 20,000 has become obsolete and sold on 31st Dec, 2019 for A 13,000. Calculate the profit or loss assuming depreciation is charged @ 15% p.a . on straight line method. (Ans. Profit A 5,000) 11. Machinery purchased on 1.7.2016 for A 10,000 was sold on 31.12.2018 for A 5,000. Calculate the profit or loss of sale assuming depreciation is charged @ 10% per annum under fixed installment method. (Ans. Loss A 2,500) 12. Furniture worth A 10,000 was purchased as on 1.1.2016. The furniture was sold on 31.12.2018 for A 6,000. Find the profit or loss on the sale of furniture charge depreciation @ 10% p.a under diminishing balance method. (Ans. Loss A 561) 13. A second hand machine was purchased for A 12,000 on 1.1.2016 and A 3,000 spent towards repairs. On 30.6.2019 the machine became unsuitable and was sold for A 10,000. Charge depreciation @ 15% on Diminishing Balance Method. Show the machinery account.	Nil	2. How is the depreciation calculated in the diminishing Balance Method? 5. Distinguish between fixed installment and Diminishing Balance Method?

(Ans. Loss. A 3,520)

14. Furniture worth A 20,000 was purchased on 1.1.2016 and on 1.4.2017 additional furniture worth A 8000 was purchased and A 2,000 was spent on its perfection. On 31.12.2017 furniture purchased on 1.1.2016 was sold for Rs. 15,000. Prepare the furniture account up to 31.12.2018 charging depreciation @ 12% p.a. as per diminishing balance method.

2 UNIT-2 Accounts of Non-Trading Concern

- Balance Sheet

NIL

2. What is opening Balance Sheet? With purpose it is prepared?

8. From the following Receipts and Payments account for the year ending 31.3.2019. Prepare an income and expenditure account for the period ending 31.3.2019 and Balance Sheet as on that date.

Dr. **Cr.**

Receipts	**Rs.(**A)	**Payments**	**Rs.(**A)
To Donations received	35,000	By Salaries	37,500
To Subscriptions	1,15,000	By Help to poor students	37,000
To Life membership fee	50,000	By Expenses on free	34,500
To Legacy	75,000	By Postage and Stationery	3,500
To Interest received	4,000	By Furniture	50,000
		By Investments	75,000
		By Cash in hand	41,500
	2,79,000		2,79,000

Additional Information :

1. Subscription outstanding for the year A 5,000.
2. Salaries unpaid A 5,000.
3. Help to poor students promised but unpaid A 16,000.
4. Expenses of dispensary outstanding A 3,000.
5. Postage and Stationary expenses yet to be paid A 4,000.

(Ans: Surplus : A 18,500, B/S Total : A 1,71,500)

10. The Receipts and Payments account of the Hyderabad Friends Club for the period ending 31.3.2019 is given below.

Subscription fee outstanding for the year 2018-2019 Rs. 150. Salaries unpaid for the year Rs.85. From the above particulars prepare an Income and Expenditure account of the club for the year ended 31.3.2019 and the balance sheet in that date.

Dr. **Cr.**

Receipts	**Rs.(**A)	**Payments**	**Rs.(**A)
To Donation received	25,000	By Buildings	20,000
To Reserve Fund (Being life member fee received)	2,000	By Furniture	1,050
To Match fund	5000	By Tournament expenses from match fund	450
Revenue Receipts :		**Revenue Payments :**	
To Subscriptions (Including Rs. 50 for 2019-20)	1,600	By Salaries	900
To Lockers Rent	50	By Cricket	300
To Interest on securities	50	By Tennis	270
To Cricket	200	By Insurance (paid upto 31st Dec. 2019)	180
To Sundries	25	By Gardening	85
To Tennis	175	By Printing	15
To Billiards	100	By Telephone	125

		By Sundries	75
		By Investments (at cost)	9,000
		By Balance c/d	1,750
	34,200		34,200

(Ans : Excess of Income over expenditure A 400/- Balance Sheet Total : A 32,085)

11. Tarnaka Sports Club's Receipts and Payments account for the year ending 31.3.2019 is given here under.

Additional Information :

1. Subscriptions receivable for 2017-2018 were A 1000/- and for 2018-2019 A 1,050.
2. Games equipment in the beginning was Rs.1,000/- and at the end A 1,250 /-
3. Provide depreciations at 10% 0n grass cutting machine .

Prepare Income and Expenditure for the year ending 31.3.2019 and opening and closing balance sheet.

Dr. **Cr.**

Receipts	**Rs.(**A)	**Payments**	**Rs.(**A)
To Cash in hand	250	By Salary to workmen	2,000
To Cash in Bank	2,250	By Grass cutting machine	1,000
To Subscription	6,750	By Rent	450
To Tournament fund	2,500	By Games expenditure	3,500
To Life membership fee	1,500	By Tournament expenditure	1,000
To Entrance fee	250	By Office expenditure	2,250
To Donation for pavilion	4,000	By Games equipment	1,500
To Sale of grass	200	By Balance c/d	
		Cash in Hand	750
		Cash at Bank	5,250
	17,700		17,700

(Ans: Deficit A. 2,300. Balance Sheet total A 9,200)

12. Prepare Income and Expenditure account and balance sheet of Hyderabad Club from the particulars is given below for the year ending 31.3.2019.

Receipts and Payments account as on 31.3.2019

Dr. **Cr.**

Receipts	**Rs.(**A)	**Payments**	**Rs.(**A)
To Balance b/d	1,200	By Salaries	6,500
To Subscriptions (Including A 400 2019-20)	6,400	By Rent	1,200
		By Printing & Stationery	180
To Interest on investment (Investment cost A 40,000)	2,500	By Postage	50
		By Cycle purchased	800
To Bank Interest	50	By Govt. Bonds	1,000
To Sale of furniture	500	By Balance c/d	920
	10,650		10,650

Additional Information

1. Subscription received included A 200 of 2017-2018.
2. Rent paid included A 100 for March 2019 monthly rent is Rs.100.
3. Subscriptions due for 2018-2019 A 300.
4. Salaries Payable sold was A 600.
5. Cost of furniture sold was A 640.

(**Ans :** Deficit : A 20 capital fund 41,940 Balance Sheet total A 43,020).

3	UNIT-3 Partnership Accounts-I	• Sacrificing ratio	2. X and Y were partners in a firm. They shared Profit and Losses in the ratio 3:1; Z was admitted on 1-1-2019 & the new profit sharing ratio is 5:1:4. Find the sacrificing ratio. 4. Calculate Goodwill by 3 years purchase of average profits. Profit for 2016-2017, 2017-2018 & 2019 were A 509,000, A 75,000, A 65,000 & A 20,000.	6. X and Y were sharing profits in the positions of 2/3 and 1/3 showed the following as their Balance Sheet on 31-12-2019. **Dr.** **Cr.** **Liabilities** / **Amount Rs.(**A) / **Assets** / **Amount Rs.(**A) Sundry Creditors 29,950 / Buildings 25,000 Bills payable 3,000 / Plant and Machinery 17,500 Capital Accounts / Stock 10,000 X 15,000 / Sundry Debtors 4,850 Y 10,000 25,000 / Cash in hand 600 57,950 / 57,950 They agreed to admit Z into partnership on the following terms (a) Z was to bring A 7,5000 as his Capital & A 3,000 as goodwill for ¼ share in the future profits of the firm. (b) That the Value of stock, Plant & Machinery were to be reduced by 5%. (c) That a reserved of A 375 was to be created in respect of sundry debtors. (d) That the Building account was to be appreciated by 10%. (e) That the Good will was to be retained in the business. Prepare profit & Loss Adjustment Account, the Capital Account , & the new balance sheet of the firm. **(Ans : Revaluation Profit A.750 ; Capital A/c Balance X – A 17,500; Y – A 11,250; Z – A 7,500; Balance sheet Total A 69, 200)** 7. On 31-12-19 the Balance Sheet of equal Partner P,Q and R is given below. **Balance Sheet** **Liabilities** / **Amount Rs.(**A) / **Assets** / **Amount Rs.(**A) Sundry Creditors 19,600 / Buildings 41,000 Bills payable 3,000 / Furniture 3,200 Capital Accounts / Stock 25,200 P 35,000 / Sundry Debtors 32,000 Q 30,000 / Cash in hand 4,200 R 18,000 83,000 1,05,600 / 1,05,600 They admitted Mr. 'S' on the following conditions. (a) ' S' has to bring A 24,000 towards Good will and A 30,000 as Capital for his 1/4th Share. (b) ½ (half) of the Good Will be taken away by the old Partners, from the business. (c) Depreciation @ 5% to be Provided on Stock & Furniture. (d) 5% provision for Bad debts Reserve on debtors required. (e) Buildings is to be valued at A 59,000/- Prepare Profit and Loss adjustment account, Capital Account and Balance Sheet as on 1-1-2020 **(Ans : Revaluation Profit – A 14,980, Capital A/C Balance P- A 43,993; Q - A 37,993; R- A 26,994; S- A 30,000; Balance Sheet Total A 1,62,580.)**
4	UNIT-4 Partnership Accounts-II	• Gaining Ratio	Nil	1) X,Y,Z were partners sharing profits in the ratio of ½,$^{1}/_{6}$,$^{1}/_{3}$/ Their Balance Sheet on 31-12-2019 was as follows. **Liabilities** / **Amount Rs.(**A) / **Assets** / **Amount Rs.(**A)

				Sundry Creditors 20,500 Bills Payable 10,000 Capital Accounts X 25,000 Y 20,000 Z 35,000 80,000 Reserve fund 12,000 1,22,500 Buildings 50,000 Plant and Machinery 25,000 Furniture 2,500 Stock 22,500 Debtors 20,000 - Reserve 1,000 19,000 Cash 3,500 1,22,500 Z retires, so the following adjustment were agreed upon for ascertainment of the payment be made to him (1) Appreciate the Buildings by 10% and Stock by 15%. (2) Depreciate Plant by 10% and furniture by 7 ½ %. (3) Reserve for Doubtful debts to be made up to A 1,500. (4) Create Goodwill with A 20,000 (5) The amount pay able to should be transferred to Loan account. (6) It is assumed that goodwill credited to retiring partner is being reduced from X and Y's Capital Balance Sheet. *(Ans : Revaluations profit – A 5,187; Z's Loan A/c – A 47,396 Balance Sheet Total – A 1,27,687)*
5	UNIT-5 Hire Purchase and Installment purchase system	• Installment Method	13. State what journal entries will be passed in the books of buyer and seller under Installment purchase system?	**Problems:** 1. The Hyderabad Transport company purchased motor car from the Tata motor co. on hire purchase agreement on 1st January 2016 paying cash A 10,000 as down payment and agreeing to pay further three installment of A 10,000 each on 31st December each year. The cash price of the car is A37,250 and the Tata Motor Company charges interest at 5 percent p.a. the Hyderabad Transport Company writes off 10 percent p.a. as depreciation on the reducing installment system. Journalize these transaction in the books of both the parties. **(Interest 2016,** A **1,363; 2017** A **931 & 2018** A **456)** 2. On 1st January 2016 Messrs. Ram & CO. took from Auto car Ltd. Delivery of a Motor Van on hire purchase system. A 2,000 being paid on delivery and the balance in five installment of A 3,000 each payable annual on 31st December. The vendor company charges 5 percent p.a. interest on yearly balances. The cash down value of the van is A 15,000. Show the necessary ledger account in the books of Ram & Co. the company provides 10% p.a. depreciation according to reducing Installment system. **(Ans. Interest 1st year, A 650, Second year A 533, 3rd year A 409, 4th year A 280 and 5th year A128)** 4. A company purchased a motor cycle on hire purchase system on 1st January 2016. The first installment of A 6,000 was paid immediately and the balance by four equal installment of A 6,000 was each to be paid on the last date of each year. The vendor charged 5% per annum interest on the unpaid balance. The cash price of the press on delivery was A 27,300. Depreciation is to charged at 10% on the diminishing balance of the asset. Draw up Vendor's Account, Motor cycle account , interest account and depreciation account in the books of the buyer. **(Ans. Interest A 1,065, A 818, A 559 and A 258)** 5. Rohita Purchased a machine on hire purchase system , the cash price of which was A 14,6000. A 11,400 were paid at the time of contract on 1st July 2016 and the balance was to paid by half-yearly installment of A 800 plus interest at 5 percent p.a. Depreciation charged by Ashaaz is 10 percent p.a. on diminishing balance method. Accounts are closed on 30th June. Prepare machinery account, hire vendor account , interest account and depreciation account in rohita's Ledgers. **(Ans. Interest A 80, A 60, A 40 and A 20)**

				4. Muneer purchased an asset for A 60,000 payment to be made year. Rate and three installment of A 18,000 each at the end of each depreciates asset at 10% p.a. on written down value method. Due to financial difficulties Muneer could not pay installment after the first installment and the selling company took possession of the asset. The selling company after spending A 1,500 on repairs of the asset sold it away for A38,000. Prepare the necessary ledger accounts in the books of both the parties. **(Ans. Loss on default transferred to Profit and Loss Account A13,950. Seller's account transferred to asset account A 34,650, Profit on resale A 1,850)** 6. Lallu purchased a Lorry from Kishen for A 1,50,000 payable A50,000 down and the balance in four annual equal installments for A 25,000 each at the end of each year, together with interest @ 10% p.a. The lorry is depreciated at 20% p.a. on the reducing balance system. Lallu pays cash down and three successive installment but fail to the last installment. Consequently Kishens reclaims the lorry. He spends, A 5,000 on repair and sell it for A50,000. Show the ledger account in the books of Lallu **(Ans. Loss on default A 33,940)**
6	UNIT-6 Company Accounts-I	• Issue share with Premium, • Issue share with Discount, • Forfeiture of shares	Nil	**Exercises** 1. PQR limited issued 10,000 shares of A 10 each payable A 2 on application A 5 on allotment and the remaining balance on call. Applications were received for 9,000 shares and the shares were duly allotted. All cash due on allotment and call was received .Write the journal entries in the books of company and prepared cash book. 3. Reliance limited invite applications for 60,000 shares at A 100 each at premium of A 10 per share. The share were payable as follows, on application A 30, on allotment A 60 including premium, on call A 20. Application were received for 50,000 shares. Allotment money was received for 38,000 shares. No calls were made till to date. Write journal entries. **Problems** 3. A limited company was formed on January 1, 2019 with an authorized capital A 3,00,000 divided into 1,000 shares of A 100 each. On the same date, the company issued a prospectus asking for subscriptions to 900 shares payable A 25 per share on applications A 40 on allotment and the remainder on a call. All share were applied for and allotted and the call cash due on allotment and call was received. Give the necessary entries. 5. Base Informatics Limited issued 5,000 equity share of A 10 each at premium of A 2 per share payable A 2 on application A 5 on allotment (including premium) A 3 on first call and balance on final call. The shares were all subscribed and amount received on calls except the first call on 1,000 shares and final calls on 1,500 shares. Give cash book and journal entries 6. Monica Ltd., invite applications for 20,000 shares of A 100 each at a premium of A 10 per share. The share were payable as follows On application A 20 On Allotment A 40 (including premium) On First Call A 30 On Final Call A 20 Give Journal entries

7	UNIT-7 Company Accounts-II		Nil	3. From the following balances prepare Trading Account and Profit & Loss Account, Profit and Loss Appropriation A/c for the year ended 31st March 2019.

		Rs. (A)
Purchases	--	5,69,842
Stock on 1-4-2018	--	68,892
Freehold Premises	--	55,026
Productive wages	--	25,090
Salaries	--	22,060
Bad Debts	--	476
Repairs to Building	--	5,056
Interest on Bank overdraft	--	1,260
Plant and Machinery	--	80,140
Printing and Stationery	--	33,400
Director's Fees	--	6,400
Auditor's Fees	--	3,000
Rates and Taxes	--	7,576
Debtors	--	45,000
Sundry office expenses	--	1,052
Share capital (25000 shares of A 10)	--	2,50,000
Purchase returns	--	5,500
Sales	--	1,91,800
Rents from property	--	12,260
P&L Credit balance	--	10,000
Discount received	--	4,000
Commission received	--	5,000

The following adjustments have to be made before closing the accounts

(a) Value of closing stock is A 1,40,200

(b) Depreciation on Plant and Machinery has to be written off at 10% per annum,

(c) Provide for Bad and Doubtful Debts at 5 percent.

(Ans. Gross Profit 168,175, Net Profit A 96,641, Surplus A 108891)

8	UNIT-8 Company Accounts-III		Nil	**Exercise No. 3** Ramada Co. Ltd was registered with an authorised Capital of A 10,00,000 divided into 10,000 ordinary shares of A 50 each and 5,000 10% reference shares of A 100 each. The following Trial balance was extracted from the books of the company as on 31st December 2019 Prepare balance sheet as on 31 December 2019.

Plant and Machinery	2,85,000
Lease hold premises	7,00,000
Calls in Arrears on ordinary shares	5,000
Sundry Debtors	3,00,000
Prepaid advertisement expenses	1,40,000
Furniture and fixtures	29,000
Cash in hand	1,000
Ordinary shares capital (8,000 shares fully called up)	4,00,000
Preference Shares	5,00,000
Sundry Creditors	1,42500

				Profit and loss adjustment account (Surplus) 1,14,000 Bank overdraft 25,000 Debentures 5,00,000 **Adjustments :** 1. Depreciate Plant and Machinery at 10% 3. Closing stock amounted to A 2,50,000 **Balance Sheet Total - 16,76,500**

RETAIL MANAGEMENT - SECOND YEAR
PAPER-III ELEMENTS OF SALESMENSHIP

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	**Unit-1 INTRUDUCTION TO SALESMENSHIP**	1.3. Personal Selling	2. Write about Personal selling.	4. Write the importance of personal selling
2	**Unit-2 SALEMEN CAREER**	2.5 Training of sale men	-	
3	**Unit-3 PRODUCT KNOWLEDGE**		4.What is questionnaire system	----------
4	**Unit-4 BUYER BEHAVIOUR**	4.4 Shopping Behavior	5 Define Pricing	3.Write the shopping behavior buyers
5	**Unit. 5 IDENTIFICATION OF POTENTIAL CUSTOMERS**	5.4 Customer influence decision regarding purchase of product	---------	
6	**Unit. 6 SALES PRESENTATION**		-------	---------
7	**Unit.7 OBJECTIONS**	_____	-------	_____
8	**Unit.8 SPECIALISED CATEGORIES OF SALEMAN**	8.2 Investment sales men Types of Alternative investment brokers	3 What is investment salesmen	_____

VOCATIONAL CURRICULUM-2020

(For the Academic year 2020-21)

[70% CONTENT IN VIEW OF COVID-19 PANDEMIC]

AUTOMOBILE ENGINEERING TECHNICIAN

[COURSE CODE: 317]

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

A. Ashok I.A.S
COMMISSIONER

500001

INTERMEDIATE EDCATION
Government of Telangana
Nampally, Hyderabad-

Phone: 040-24655915

Fore word

In any developing society with a booming population, Vocational Education occupies an important position for generating large scale employment opportunities. Viewed in this context the importance of Vocational Education for our country cannot be over emphasized. Vocationalization of Secondary Education was introduced in 1988 at the Intermediate level. Recently, the Government of India has developed a National Skills Qualification Framework for establishing a clear path for vocational education from the school level to the highest level. The Department of Intermediate Education has recently framed a new curriculum to bring greater value to the system of vocational education. The primary aim of this reform is to prepare the students with employable skills for absorption in organized sectors and in few cases, even for self-employment.

State Institute of vocational education and Board of Intermediate Education, Telangana have reviewed the curriculum of vocational courses in order to reorient them for their practical approach. Greater emphasis is now being placed on Laboratory work and on the job training.

Simultaneously, The State Institute of Vocational Education and the department of Intermediate Education are presently making efforts to upgrade the quality of infrastructure in the colleges to meet the challenges of the changed curriculum. I am confident that the revised curriculum and the new text books would prove to be beneficial to the students in the vocational stream and help them train in need based productive courses leading to gainful employment.

Commissioner of Intermediate Education
Government of Telangana

S No.	Contents	Page No.
I	**Introduction**	5
II	**Objectives of the Course**	6
III	**Skills to be provided**	6
IV	**Job Opportunities** a) Wage Employment b) Self-Employment	6
V	**Scheme of Instruction and Examination**	7
	SYLLABUS	
VI	**First year Intermediate** **Theory** Paper I : Work Shop Technology Paper II : Basic Mechanical and Electrical Engineering Paper III: Auto Power Plant **Practicals** Paper I : Workshop Practice Paper II : Engineering Drawing and Auto-Cad Paper III: Automobile Engine Lab	10
VII	**Second Year Intermediate** **Theory** Paper I : Auto Transmission And Electrical Systems Paper II : Auto Chassis And Body Engineering Paper III: Auto Servicing And Maintenance **Practicals** Paper I :Auto Transmission And Electrical Systems Lab Paper II : Auto Chassis And Body Engineering Lab Paper III: Auto Servicing And Maintenance Lab	22
VIII	**Model Question Papers**	32
IX	**List of Equipment** a) Collaborating Institutions for curriculum transaction b) On – the – Job Training Sites	38
X	**Teaching staff and their Qualification**	40
XI	**Vertical Mobility**	40
XII	**Reference Books**	40
XIII	**Equivalency of Papers**	41
XIV	**List of Participants**	42

Introduction

Automobile Industry is one of the most important and rapidly growing industries in the world.In India, it is bound to become one of the major industries. Day by day the number of vehicles are increasing on the road as per the public need.More and latest luxurious vehicles are being introduced by the multinational companies to our country. In India there are quite a number of companies producing different motor vehicles both light and heavy ,two,three and four wheeler. Hence a large number of persons apart from automobile engineers are responsible for the design, planning, production and sale of vehicles.Craftsmen as well as a large number of middle level technicians are required on theshop floor. Hence there is dire need of middle level technicians to the rapidly growing automobile industry for servicing,repair and maintenance of the automobile. So this gap can be fulfilled through the vocational education at +2 level by training the youth in this course. And also the growing importance for good maintenance and timely servicing of vehicle leads to cut in carbon emission and to keep the vehicle pollution levels within the prescribed limits set by the Transport Authorities.The skill and techniques acquired during the course develops the required competency in performing the job effectively whether one is placed in a waged or self-employment.

This is the reason behind the competency based vocational curriculum developed by State Institute of Vocational Education, O/o the Commissioner of Intermediate Education, Telangana, Hyderabad & Board of Intermediate Education, Telangana, Hyderabad.

II. Objectives of the Course

1. To know about the use of various hand tools, gauges, instrumentsand special equipment.
2. To know the constructional features and functions of engine, clutch,gear box, propeller shaft, differential and rear axle, brakes, steeringand steering linkages, front axle, front suspension, rear suspension, Chassis.
3. To know the constructional features and functions of fuel injection pumps and feed pump.
4. To know about the properties and use of lubricating oil and maintenance schedule.
5. To know about servicing, minor engine tune-up and major enginetune-up.
6. To know traffic signs**.**

III. Skills to be provided

1.Should be able to use various hand tools, gauges, instruments andSpecial equipment.
2. Should be able to wash, clean the under chassis and to lubricatethe various points.
3. Should be able to implement the maintenance schedule.
4. Should be able to check the tightening of nuts as per the required torque
5. Should be able to overhaul the engine, clutch, propeller shaft, gearbox, rear axle, front axle steering assembly, suspension, braking system [Petrol & Diesel vehicles]
6. Should be able to overhaul fuel injection pump, feed pump, andinjectors.
8. Should be able to perform tyre rotation and repair.
9.Should be able to repair electrical system.
10.Should be able to mount the wheels.
11Should be able to carry out servicing, minor and major engine tune up.
12. Should be able to test the engine on dynamometer

IV. JOB OPPORTUNITIES

a) Wage Employment

1. Auto Mechanic
2. Vehicle Service Technician
3. Auto Fitter in Manufacturing Concern in Assembly Shop or
4. Spare Parts Sales Assistant / Manufacturers' Representative
5. Insurance Agent and Assistant to Loss Assessor
6. Laboratory Assistant
7. Auto Electrician

b) Self Employment

1.Automobile Mechanic
2. Diesel Fuel System Service Mechanic
3. Vehicle Operator
4. Spare Parts Salesman
5. Spare Parts Dealer

V. SCHEME OF INSTRUCTION AND EXAMINATION

ANNUAL SCHEME OF INSTRUCTION AND EXAMINATION

AUTOMOBILE ENGINEERING TECHNICIAN

FIRST YEAR

Part-A		Theory		Practicals		Total	
		Periods	Marks	Periods	Marks	Periods	Marks
1.	English	150	50	0	0	150	50
2.	General Foundation course	150	50	0	0	150	50
	Part-B						
3.	**Paper-I** Work Shop Technology	135	50	135	50	270	100
4.	**Paper-II** Basic Mechanical and Electrical Engineering.	135	50	135	50	270	100
5.	**Paper-III** Auto Power Plant	135	50	135	50	270	100
6.	**Part-C OJT**	0	0	365	100	365	100
	Total	**705**	**250**	**770**	**250**	**1475**	**500**

*on the Job Training for 1st year from 1stNovember to 31st December

SECOND YEAR

Part-A		Theory		Practicals		Total	
		Periods	Marks	Periods	Marks	Periods	Marks
1.	English	150	50	0	0	150	50
2.	General Foundation course	150	50	0	0	150	50
	Part-B						
3.	**Paper-I** Auto Transmission & Electrical Systems.	110	50	115	50	225	100
4.	**Paper-II** Auto Chassis and Body Engineering.	110	50	115	50	225	100
5.	**Paper-III** Auto Servicing & Maintenance.	110	50	115	50	225	100
Part-C							
6.	**OJT**	-	-	450	100	450	100
	Total	**630**	**250**	**795**	**250**	**1425**	**500**
TOTAL FIRST YEAR AND SECOND YEAR MARKS 1000							

*OJT Programme for 2nd year students from 1st August to 31st October.

EVALUATION OF ON THE JOB TRAINING:

The "On the Job Training" shall carry 100 marks for each year and pass marks is 50. During on the job training the candidate shall put in a minimum of 90 % of attendance.
The evaluation shall be done in the last week of January.

Marks allotted for evaluation:

S.No	Name of the activity	Max. Marks allotted for each activity
1	Attendance and punctuality	30
2	Familiarity with technical terms	05
3	Familiarity with tools and material	05
4	Manual skills	05
5	Application of knowledge	10
6	Problem solving skills	10
7	Comprehension and observation	10
8	Human relations	05
9	Ability to communicate	10
10	Maintenance of dairy	10
	Total	100

NOTE: The On the Job Training mentioned is tentative. The spirit of On the Job training is to be maintained. The colleges are at liberty to conduct on the job training according to their local feasibility of institutions & industries. They may conduct the entire on the job training periods of (365) First year and (450) Second year **either by conducting classes in morning session and send the students for OJT in afternoon session or two days in week or weekly or monthly or by any mode which is feasible for both the college and the institution**. However, the total assigned periods for on the job training should be completed. The institutions are at liberty to conduct On the Job training during summer also, however there will not be any financial commitment to the department.

SCHEME OF INSTRUCTION PER WEEK

	Part-A	**Theory**	**Practicals**	**Total**
1.	English	4	-	4
2.	General Foundation Course	4	-	4
	Part-B			
3.	Paper –I	4	4	8
4.	Paper-II	4	4	8
5.	Paper-III	4	4	8
6.	**Total**	**20**	**12**	**32**

AUTOMOBILE ENGINEERING TECHNICIAN
FIRST YEAR
PAPER I: WORK SHOP TECHNOLOGY
TIME SCHEDULE

Sl.No.	Major Unit	No. of Periods	Weightage	Short Questions	Long Questions
1	Engineering Materials & Safety Precautions	15	8	1	1
2	Fitting&Drilling	30	12	2	1 ½
3	Sheet Metal Work	20	10	2	1
4	carpentry	20	10	1	1
5	Forging &Welding	20	12	2	1 ½
6	Mechanical Working of Metals	15	8	1	1
7	Lathe Machine And Grinding	15	8	1	1
	Total	**135**	**68**	**10**	**8**

Detailed Syllabus:

S. No SYLLABUS

1. Engineering Materials.

Contents : Properties and uses of common Engineering Materials such as Cast Iron, Mild Steel, High Carbon Steel, Alloy Steel, Stainless Steel, Copper, ~~Brass, Tin~~ ,Zinc, Gunmetal, ~~Bronze~~, White metal, Aluminium. Non Metals: Wood, Plastic, Rubber. Importance of safety Precautions in Workshop

2. Fitting and Drilling

Contents: Cutting Tools - Chisels, Hacksaws, files, scrapers, DrillBits, reamers Taps, Dies and Sockets. Striking tools : Hammers, Holding Devices : Vices, Marking Tools & Miscellaneous tools; Checking & Measuring Instruments Calipers & Dividers ~~Drilling Machines~~ - Sensitive and Radial Drilling Machines Various ~~Fitting~~ and Drilling operations

3. Sheet Metal Work

Contents : Metals used for sheet metal work, sheet metal hand tools- measuring and cutting tools, stakes, Sheet metal operations - Shearing, bending, Drawing, Squeezing Sheet metal joints - Hem & Seam Joints, Fastening Methods - Riveting, soldering, Brazing and spot welding.

4. Carpentry

Contents: Marking & Measuring Tools, Cutting Tools, Saws, Chisels, planes, ~~Boring Tools~~, striking tools. Holding Devices & Miscellaneous Tools, Carpentry process, carpentry joints wood working Machines

5. Forging & Welding

Contents : Hand Tools, Heating Devices, Smith Operations, Machine Forging, ~~Forging hammers~~, Forging press, Welding : Arc welding & Gas Welding ,MIG and TIG Welding

6. Mechanical Working of Metals

Contents: Hot working process - Rolling, Piercing, Drawing, Spinning, Extrusion. Cold Working Process : Rolling, Bending, drawing, spinning Extrusion, squeezing, peening, Advantages and limitations of cold working & Hot working

7. Lathe & Grinding Machine

Contents : Lathe main parts, simple operations, ~~Grinding – working principle; Grinding wheel materials~~, ~~Applications of Grinding~~

AUTOMOBILE ENGINEERING TECHNICIAN
FIRST YEAR
PAPER II: BASIC MECHANICAL & ELECTRICAL ENGINEERING (THEORY)
TIME SCHEDULE

Sl.No.	Major Unit	No. of Periods	Weightage	Short Questions	Long Questions
1	Fundamentals of Thermodynamics	8	2	1	--
2	Laws of Perfect gases	10	8	1	1
3	Laws of Thermodynamics	6	2	1	--
4	Thermodynamic Processes	20	8	1	1
5	Fuels	12	6	--	1
6	Thermodynamic Cycles	20	8	1	1
7	Introduction to transmission of power	10	8	1	1
8	Fasteners	4	2	1	--
9	Units of Mechanical work, power, energy	10	8	1	1
10	Safety Precautions	4	2	1	--
11	Voltage,Electriccurrent,Ohms Law, Kirchhoff's Laws	12	8	1	1
12	Electrical measuring instruments	19	6	--	1
	Total	**135**	**68**	**10**	**8**

Detailed Syllabus:

1. Fundamentals of Thermodynamics

1.1. Definition for system, boundary, surroundings, working fluid and state of system
1.2. Types of thermodynamic systems, closed, open and isolated systems with examples
1.3. Properties of systems intensive and extensive with examples
1.4. Definitions for properties like pressure, volume, temperature, enthalpy, internal energy and their units.
1.5. Definitions for flow of work and specific heat

2. Laws of perfect Gases

2.1. Explanation of gas laws, Boyle's law, Charles's law, Avogadro's law, Joule's law and Renaults law.
2.2. Characteristic gas equation, universal gas equation, characteristic gas constant, universal gas constant.
2.3. Specific heat at constant pressure and constant volume for agas. Relation between two specific heats with characteristic gas constant
2.4. Simple problems on gas equations.

3. Laws of thermo dynamics:

Zeroth, first and second laws of thermo dynamics, simple problems on conversion of heat into work.

4. Thermodynamic processes:

4.1. Types of thermo dynamics processes, Constant volume, Constant pressure, isothermal, Adiabatic, polytrophic, equations, representing the processes

4.2. Equations for work done during the processes, calculation ofchange of internal energy.

4.3. Calculation of heat supplied or rejected during the processes

5. Fuels

5.1. Definition of fuels, types of fuels, solid, liquid and gaseous fuels and its uses

~~5.2. Calorific values (Higher & lower) of fuels~~

5.3. Fuels used in I.C. Engines

5.4. Requirements of good fuel

~~5.5. Octane number - Recardo Octane Number, Motor Octane Number~~

5.6. Cetane number

5.7. Alternative fuels– C N G, LPG and Electrical Energy

6. Thermodynamic cycles

~~6.1. Carnot Cycle~~

6.2. P-V & T-S diagram

6.3. Working of carnot cycle

6.4. Assumption made in carnot cycle

6.5. Efficiency of carnot cycle (without proof)

6.6. Otto cycle

6.7. Working.

6.8. P-V and T-S Diagrams

6.9. Efficiency of Otto cycle without proof

6.10. Diesel cycle

6.11. Working

6.12. P-V and T-S Diagrams

6.13. Efficiency of Diesel cycle without proof

6.14. Simple problems limited to efficiency

7. Introduction to Transmission of Power

7.1. Types of transmission of power in Engineering

7.2. Power transmitting media like belt, Chain, rope and gears

7.3. Expression for velocity ratio for belts (formula only)

7.4. Definition of the slip

7.5. Belt drives, open and cross belt drive

7.6. Tensions in tight and slack sides of a belt

7.7. Rope drive, chain drive, gear drive, simple gear drive, Compound gear drive and their applications.

7.8. Belt fastener.

7.9. Uses of Jockey pulley

8. Fasteners

8.1. Introduction
8.2. Screws
8.3. Nuts and Bolts
8.4. Rivets and Clamps

9. Units of Mechanical work, power and Energy

9.1. Definition of work, power and energy with S.I. units
9.2. Simple problems on work, power and energy

Electrical System

10. Safety Precautions

~~10.1. Precaution in handling tools~~
10.2. Causes of Electric shocks
10.3. Cure of electric shock-first aid, artificial respiration
10.4. Precaution against shock

11. Electric Current; Ohm's Law; Kirchhoff's laws

11.1. Electric Current, Voltage
11.2. Conductors, Semi-Conductors, Insulators
11.3. Conventional, Electric Current Flow Unit
11.4. Idea of Electric Potential unit
11.5. Definition Electrical Resistance Unit
11.6. Definition Specific Resistance Unit
11.7. Calculation of Resistance of conductor
11.8. Simple problems
~~11.9. Effect of temperature on resistance~~
~~11.10. Temperature co-efficient of resistance~~
11.11. Ohm's law and resistance calculations
11.12. Resistance in series and parallel combinations
11.13. Kirchhoff's laws
11.14. Kirchhoff's current & voltage laws
11.15. Electrical work, power & energy

12. Electrical measuring Instruments

12.1. Classification of electrical measuring instruments
12.2. Ammeters and voltmeters and their applications
~~12.3. Moving coil meters and moving iron~~
12.4. Method of connecting the Ammeters and Voltmeters
12.5. Multi Meter
12.6. Continuity tester
12.7. Measurement of Insulation resistance

Additions: 5.6. Cetane Number: RON & MON, 5.7. Alternative Fuels: CNG, LPG & Electrical Energy, 12.5; Multi MeterDeletions: 12.5:Wattmeter,12.6: Energy meter,12.7: Power factor meter,12.8:Megger.

AUTOMOBILE ENGINEERING TECHNICIAN
FIRST YEAR
PAPER III: AUTO POWER PLANT (THEORY)
TIME SCHEDULE

Sl.No.	Major Unit	No. of Periods	Weightage	Short Questions	Long Questions
1	Introduction to engines	7	2	1	---
2	Petrol Engines	21	8	1	1
3	Petrol engine fuel system	11	8	1	1
4	Diesel engines	22	10	2	1
5	Diesel engine fuel system	13	8	1	1
6	Lubrication system	17	8	1	1
7	Cooling system	15	8	1	1
8	Manifolds &Mufflers	12	8	1	1
9	Performance of I.C. Engines	17	8	1	1
	Total	**135**	**68**	**10**	**8**

Detailed Syllabus:

1. Introduction to Engines

1.1. Definition of Engine
1.2. Types of Engines
1.3. Function of I.C. Engines
1.4. Classification of I.C. Engines

2. Petrol Engines

~~2.1. Material used, function and constructional details of PetrolEngine components~~
2.2. Cylinder arrangement (in line, V-type, opposed-piston, opposedCylinder, radial) of Petrol Engines
2.3. Side valve and overhead valve operating mechanism, L,I,F,and T type valve arrangements, valve clearance, timing gears
2.4. Construction and working of 2 stroke and 4 stroke petrol engines
~~2.5. Comparison between 2 stroke and 4 stroke petrol engines~~
2.6. Valve timing diagram of 2 stroke and 4 stroke petrol engines
2.7. Firing order of multi cylinder engine

3. Petrol Engine Fuel System

3.1. Line diagram of petrol engine fuel system
3.2. Constructional details of fuel tank, fuel lines
3.3. Construction and working of fuel pumps
~~3.4. Requirements of an automobile carburetor~~
3.5. Air fuel ratios for different conditions
~~3.6. Arrangement of carburetors-down draught, up draught and side draught~~
3.7. Construction and working of Carter, Zenith, Solex and S.U.Carburetors
3.8. Petrol injection system in Modern Vehicles
3.9. Scavenging in Two stroke petrol engine

4. **Diesel Engines**
   4.1. Working principle of a 2 stroke and 4 stroke diesel engines
   4.2. Advantages and limitation of diesel engine over a petrol engine
   4.3. Valve timing diagram of 2 stroke and 4 stroke diesel engines
   4.4. Types of diesel engine combustion chambers i.e. direct injectionChamber, pre combustionchamber and turbulence chamber-Relativeadvantages and disadvantages

5. **Diesel Engine Fuel System**
   5.1. Line diagram of diesel engine fuel system
   5.2. Types of diesel fuel feed pump-construction & working
   5.3. Requirements of fuel injection system
   5.4. Types of fuel injection systems-Common Rail,Individual System
   5.5. Construction& working of F.I.P.
   5.6. Governing System Function - construction & working ofMechanical & pneumatic type governors
   5.7. Function of Injectors-Types of injectors and their construction& working.-Single hole, Multihole, & Pintlehole
   5.8. Super charger and Turbo charger

6. **Lubrication System**
   6.1. Types of lubricants
   6.2. Properties of lubricants & SAE number
   6.3. Requirements of lubrication for Automobiles
   6.4. Construction & working of different types of lubrication systemsi.e. Petroil (or) mist type, splash type, forced feed type.
   6.5. Function of Oil Filters
   6.6. Types of oil filtering systems i.e. full flow & by pass flow system
   6.7. Types of filtering elements, i.e. cartridge type, stack type, centrifugal type Etc,.
   6.8. Sludge formation in the lubricating oil-effect of sludge to the Lubrications systems
   6.9. Grades of lubricants used in engine, gear box, differential, steering gear box in different type of vehicles

7. **Cooling System**
   7.1. Necessity of cooling system in Automobiles
   7.2. Disadvantages of over cooling & under cooling
   7.3. Working of Air cooling system
   7.4. Construction and working of forced feed type with thermostat water cooling system
   7.5. Construction & working of water pump, radiator and their types
   7.6. Anti freezing and anti rusting additives
   7.7. Viscous fan

8. **Manifolds and Mufflers**
   8.1. Necessity of inlet and exhaust manifold
   8.2. Considerations for a good manifold design
   8.3. Types of manifolds-inlet & exhaust types
   8.4. Necessity air cleaner& filters, Types of air Cleaners, Construction and working principle of air cleaner
   8.5. Function of silencer, Construction and working principle of different types of silencers

9.0 Performance of IC Engines

9.1. Need for engine performance testing
9.2. Different types of engine powers i.e. BHP, IHP, FHP.
9.3. Different types of engine efficiencies i.e. break thermal efficiency, indicated thermal efficiency, volumetric efficiency
9.4. Specific fuel consumption, heat balance sheet, performance Curves

Additions: 5.8:Super Charger and Turbo Charger

Deletions: 6.4: Dry sump lubrication, 6.8: Necessarily of Crank case ventilation – Positive Ventilation.

AUTOMOBILE ENGINEERING TECHNICIAN
SECOND YEAR
PAPER I: AUTO TRANSMISSION & ELECTRICAL SYSTEMS (THEORY)

TIME SCHEDULE

Sl.No.	Major Unit	No. of Periods	Weightage	Short Questions	Long Questions
1	Clutch	8	8	1	1
2	Gear Box	8	6	1	1
3	Universal joints andpropeller shaft	6	8	1	½
4	Differential Unit	6	6	-	1
5	Front and Rear Axles	12	8	1	½
6	Wheels and Tires	10	2	1	-
7	Ignition System	10	8	1	1
8	Charging System	8	8	1	1
9	Starting System	10	2	1	½
10	Lighting, Horn and Wipers	12	2	1	-
11	Battery	12	8	1	1
12	Introduction to Basics of Automobile Electronics	8	2	0	½
	Total	**110**	**68**	**10**	**8**

Detailed Syllabus:

S.No	Syllabus
1.	**Clutch**
	1.1. Necessity of clutch in automobiles
	1.2. Construction and working of a single plate diaphragm clutch, multiplate, ~~centrifugal and semi-centrifugal clutch~~
2.	**Gear Box**
	2.1. Necessity of gear box in automobiles
	2.2. Construction and working of a ~~sliding mesh~~, constant mesh and synchro mesh gear box
3.	**Universal Joints and Propeller Shaft**
	3.1. Necessity of Universal Joints & Propeller Shaft
	3.2. Construction and working of cross or spider, yoke,~~ ball and Trunion~~, and constant velocity type, universal type
	3.3. Construction and working of enclosing type and hollow type propeller shaft
	3.5. Construction and working of slip joint, Hotchkiss drive, torque tube drive
4.	**Differential Unit**
	4.1. Necessity of differential
	4.2. Construction and working of a differential
	4.3. Differential lock and self-locking differential
5	**Front and Rear Axles**
	5.1. Necessity of Front & Rear axle
	5.2. Construction and working of live and dead axles
	5.3. Construction and working of different types of stub axles
	5.4. Construction and working of semi floating, three quarter floating and fully floating rear axles

6. Wheels and Tyres

6.1. Function of wheel & tyres
~~6.2. Construction and working of Disc and spoke wheel~~
~~6.3. Types of rims and their construction~~
6.4. Construction & properties of tyres
6.5. Different tyre tread pattern
6.6. Specifications of a tyre
6.7. Tyre rotation
6.8. Vulcanizing and Retreading

ELECTRICAL SYSTEMS

7. Ignition System

7.1. Introduction
7.2. Study of wiring of ~~Magneto ignition~~, Battery Coil Ignition and Electronic Ignition System

8. Charging System

8.1. Introduction
8.2. Construction and working of charging dynamo (D.C.Generator)
8.3. Working principle of cut-out
8.4. Voltage regulators-current regulators-construction and working
8.5.Construction& working of Alternator

9. Starting System

9.1. State the construction and working of a self starter (D.C.Motor)
9.2. Working principle of bendix drive with a sketch, folo through and sliding armature drive free
wheel unit
9.3. Solenoid construction and working

10. Lighting, Horn and Wipers

10.1. Introduction
10.2. Working of Head lamp, side or parking light, tail or stop light, dash light, direction signal light
~~10.3. Adjustments of head lights~~
10.4. Working of Dipper, Dim light, Door light & Destination board light
10.5. Horn circuit construction and working
10.6. Working of wiper
10.7 Dash Board Instruments
a) Fuel guage
b) Temperature Guage
c) Pressure Guage

11. Battery

11.1. Introduction
11.2 Types of Batteries:-Primary &Secondary Batteries
11.3. Parts of lead acid battery, alkaline Battery, and its functions
11.4 Electrolyte ratio- by weight & Volume
11.5 Chemical Reaction during discharge and charging battery.
11.5. Understand the ampere hour and watt-hour efficiency of the battery
11.6 Know the different methods of charging and trickle charging
11.7 Know the different methods of specific gravity test and voltage test, and testing of a lead-acid battery forfull charged and discharged condition
11.8 Cell damage testing:- sulphation, desulphat**ion**

12. Introduction to Basics of Automobile Electronics

12.1 Define of Diode
12.2 P and N Type
12.3 Different types of sensors used in Automobile (Engine Sensors and Chassis Sensors)

AUTOMOBILE ENGINEERING TECHNICIAN
SECOND YEAR
PAPER II: AUTO CHASISS AND BODY ENGINEERING (THEORY)
TIME SCHEDULE

S.No.	Major Unit	No. of Periods	Weight age	Short Questions	Long Questions
1	Introduction to automobile chassis, Frame and body	12	6	1	1
2	Steering System	18	7	1	1
3	Braking System	17	8	1	1
4	Suspension System	18	8	1	1
5	Seat, Door and Window Mechanism	7	6	1	½
6	Air Conditioning of Motor vehicles	10	8	1	1
7	Painting of Automobiles	8	8	1	1
8	Automobile Pollution	5	5	1	½
9	Legal Aspects of Motor Vehicles	5	7	1	1
10	Vehicle Safety Systems	10	05	1	-
	Total	**110**	**68**	**10**	**8**

Detailed Syllabus:

1. Chassis, Frame and Body

1.1. Introduction of Chassis frame
1.2. Layout of the Chassis and its main components
1.3. Functions of the Chassis frame
1.4. Types of Chassis frames
1.5. Various loads acting on the frame
1.6. State the different bodies used in automobiles
~~1.7. Explain the requirements of bodies for various types of vehicles~~
viz. private, commercial etc.

2. Steering System

2.1. Requirement of the vehicle steering System
2.2. Types of steering gearboxes,
~~2.3 Types of Steering Systems and Power Steering~~
2.4. Steering linkages
2.5 Under steering, over steering, & Turning radius
2.6. Ackerman's & ~~Davis Steering gear Mechanism~~
2.7. Steering geometry - Caster, Camber, King pin inclination, toe in and toe out
2.8 Wheel alignment, ~~Wheel balancing~~.
~~1. Static 2. Dynamic~~
2.9. Steering defects - wheel wobble and shimmy
2.10. List out the type of steering system used in various vehicles

3. Braking System

3.1. Explain Functions of brakes
3.2. Requirements of automobile brakes
3.3. Explain stopping time and stopping distance
3.4. Types of Braking systems - Disc and Drum braking system
3.5. Construction and working of Mechanical, hydraulic, and air brakes,-Bleeding of brakes in Hydraulic brakes
3.6. List out the types of brakes used in various vehicles

4. Suspension System

4.1. Requirements of a automobile suspension system

4.2. Types of suspension system - conventional and ~~Independent.~~ Types: Wishbone and Mc Pherson

4.3. Types of springs - Laminated spring, coil spring, helical spring

4.4. Need of Shock absorber - construction and working of different types of shock absorbers

4.5. Stabilizer bar and torsion bar

4.6. List out the type of suspension system used in various vehicles

5. Seat, Door and Window mechanism

5.1. Construction and working of door lock mechanism

5.2. Construction and working of manual window regulating mechanism

5.3. Construction and working of power window regulating mechanism

5.4. Construction and working of seat adjusting mechanism

6. Air Conditioning of motor vehicles

6.1. Necessity of automobile air conditioning

6.2. Construction and working of passenger car air conditioning

---

7. Painting of automobiles

7.1 Constituents of paints

7.2 Methods of painting

7.3 Painting Procedure

7.4 Reasons for failure of paint

8. Automobile Pollution

8.1. Effects of automobile pollution on environment and human beings

8.2. Types of automobile emissions

8.3. Treatment of exhaust gases by using catalytic convertors, EGR valve.

8.4. Measurement of percentage of pollutants from Petrol & Diesel vehicles with the help of exhaust gas analysers

8.5. Necessity of crank case ventilation-positive crank case ventilation

9. Legal aspects of motor vehicles

9.1. Traffic signs and signals

9.2. Registration requirements

~~9.3. Necessity of permits for commercial vehicles~~

9.4. Insurance coverage

9.5. Procedure for obtaining driving licenses

10. Vehicle Safety Systems

10.1 Airbags- Types and their Purpose

10.2 Anti-lock Braking System - Importance

10.3 Seat belt – Necessity.

AUTOMOBILE ENGINEERING TECHNICIAN
SECOND YEAR
PAPER III: AUTO SERVICING ANDMAINTANANCE (THEORY)
TIME SCHEDULE

Sl. NO	Major Units	No. of Periods	Weightage	Short Questions	Long Questions
1	Introduction of servicestation and garage	8	5	1	½
2	Major Equipment for aservice station	12	8	1	1
3	Automobile Engine Reconditioning Equipment	12	8	1	1
4	Reconditioning of brakes	8	5	1	1
5	Reconditioning of Diesel FuelInjection system	8	8	1	1
6	Servicing and maintenance	8	8	1	½
7	Servicing and maintenanceof two wheelers	18	8	1	1
8	Servicing and maintenanceof three wheelers	18	8	1	1
9	Servicing and maintenanceof four wheelers	18	10	2	1
	Total	**110**	**68**	**10**	**8**

Detailed Syllabus:

1. Introduction

1.1. Garage, Service Station and Specialist repair shop
1.2. Tools and equipment for a garage, service station and special list repair shop & Power tools
1.3 Layout of a typical garage,-service station and specialist repair shop

2. Major equipment for service station

Study the construction and working of the following equipment with aid of charts/original equipment
2.1. Car washing machine & Automatic Washing
2.2. Vehicle hoist
2.3. Air Compressor
2.4. Lubrication equipment - Grease guns - Hand and compressed air operated - High pressure lubrication

3. 3. 0Automobile Engine reconditioning equipment

Study the following processes with the help of Charts/Model/ Original Component
3.1. Degreasing Plant
3.2. De Carbonizing
3.3. Cylinder ridge removal
3.4. Cylinder Reboring and honning
3.5. Valve seat cutting and grinding
3.6. Valve refacing
~~3.7. Crank shaft grinding~~

4. **Reconditioning of Brakes**
   Study the construction and working of the following equipment with aid ofcharts/model/original components.
   4.1. Brake drum lathe
   4.2. Brake shoe riveting
5. **Reconditioning Diesel Fuel injection system**
   Study the following test procedures with the help of charts/ models/original component
   5.1. Fuel injection pump test bench (phasing and calibration tests)
   5.2. Fuel injector testing
6. **Servicing and Maintenance**
   6.1. General Procedure for servicing and maintenance of MotorVehicles
   6.2. Types of maintenance - periodic maintenance - break down maintenance - preventive maintenance - operation maintenance
   6.3 Types of servicing - cleaning of the motor vehicle and its components - greasing of motor vehicle
   6.3 Maintenance and its role in trouble shooting of –Automobile, advantage of good maintenance
7. **Servicing and maintenance of two wheelers**
   7.1 Daily, weekly and monthly maintenance or after every 2000 Km- General and periodical Check-up - Servicing
   7.2. Adjustment, dismantling, assembling and troubleshooting of 2 Wheelers
8. **Servicing and Maintenance of 3 Wheelers**
   8.1. General and Periodical maintenance of 3 wheelers
   8.2. Adjustment, dismantling, assembling and troubleshooting of three wheelers
9. **Servicing and Maintenance of Four Wheelers**
   Dismantling, over hauling and reassembling of the four wheeler
   ~~9.1. Engine~~
   9.2. Fuel System
   9.3. Lubrication System
   9.4. Cooling System
   9.5. Transmission System
   9.6. Ignition System
   9.7. Steering, brakes and suspension system
   9.8. Testing the engine with the help of engine analyser
   9.9. Alignment of wheels
   ~~9.10. Balancing of wheels~~

On The Job Training Programme Schedule For I year

Sl. No.	Name Of The Topic To Be covered		Duration
1	Engine	Overhauling: Dismantling, Cleaning, Inspection, repair or replacement and assembling.	197 periods
2	Cooling System	Servicing and repair	42 periods
3	Lubrication System	Servicing	42 periods
4.	Fuel Supply System	Servicing & Overhauling	84 periods
	Total		365 periods

On The Job Training Programme Schedule For II year

Sl. No.	Name Of The Topic To be covered	Description	Duration
1	Clutch	Servicing	25 periods
2	Gear Box All types	Servicing	42 periods
3	Universal Joint and Propeller Shaft	Servicing	7 Periods
4	Differential	Servicing	25 Periods
5	Wheels and tyres	Servicing	25 periods
6	Ignition System	Servicing	25 Periods
7	Alternator And D.C Generator	Servicing	40 Periods
8	Lighting System	Servicing	14 Periods
9.	Battery	Servicing	25 Periods
10	Brakes	Servicing	90 Perioda
11	Suspension System	Servicing	25 Periods
12.	Car A/C	Servicing	25 Periods
13	Painting	Servicing	25 Periods
14	Seat, Door and window	Servicing	25 Periods
15	Pollution Check	Servicing	16 Periods
16	Steering System	Servicing	16 Periods
		Total	450 periods

Note: O.J.T. Log Book has to be maintained day wise schedule for thework done
It is advised to conduct O.J.T. programme during the September to December of everyacademic year. However the colleges are at their liberty to conduct O.J.T. according to their need of feasibility of institution and industries.

MODEL QUESTION PAPERS
AUTOMOBILE ENGINEERING TECHNICIAN
FIRST YEAR
PAPER I: WORK SHOP TECHNOLOGY (THEORY)

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**

ii) Each question carries two marks

1. What are the properties of copper?
2. What is the purpose of chisel?
3. What is meant by striking tools?
4. Define seam in sheet metal work.
5. What is the purpose of mallet?
6. What is the use of pincer?
7. What is meant by upsetting?
8. Expand TIG?
9. What is hot extrusion?
10. Define knurling.

SECTION –B

Note: i) Answer all questions **5 x 6 = 30**

ii) Each question carries six marks

11. Classify the engineering materials.
12. Define file and explain it with a neat sketch.
13. Define chisel and explain it with a neat sketch.
14. Explain about any four important sheet metal operations.
15. Explain about any four carpentry processes.
16. Explain about any four smithy operations?
17. What are the advantages and disadvantages of hot working.
18. Draw a neat sketch of lathe machine and label the parts.
19. Explain brazing and soldering.
20. Explain about arch welding procedure.

MODEL QUESTION PAPERS
AUTOMOBILE ENGINEERING TECHNICIAN
FIRST YEAR
PAPER II: BASIC MECHANICAL & ELECTRICAL ENGINEERING (THEORY)

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**

ii) Each question carries two marks

1. Define system.
2. State the Boyles law.
3. State first law of thermodynamics.
4. Define constant pressure process.
5. Explain Otto cycle with P-V diagram.
6. Mention the types of gear drives.
7. Define screw.
8. Define energy and mention its units.
9. What are the commonly used tools of an electrician?
10. State Ohm's Law

SECTION –B

Note: i) Answer all questions **5 x 6 = 30**

ii) Each question carries six marks

11. Explain the Charles law with the help of P-V diagram.
12. Explain the constant volume process with P-V diagram.
13. Explain the types of solid fuels.
14. Explain Diesel cycle with P-V diagram.
15. Mention and explain the work, power , energy with their units.
16. What are the causes of electric shock?
17. Explain the kirchoff's laws?
18. Briefly explain the connecting of Ammeter and voltmeter.
19. What are the safety precautions while working on the electric job?
20. Briefly explain about working of Multimeter.

MODEL QUESTION PAPERS
AUTOMOBILE ENGINEERING TECHNICIAN
FIRST YEAR
PAPER III: AUTO POWER PLANT (THEORY)

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**

ii) Each question carries two marks

1. What is an engine?
2. Write the important parts of an engine.
3. Draw a line diagram of petrol engine fuel system.
4. Write the advantages of open combustion chamber.
5. Draw the valve timing diagram of two stroke diesel engine.
6. What is the use of governors?
7. What are the types of lubricants used in automobiles?
8. What is the purpose of air cooling system?
9. What is the use of muffler?
10. Define cubic capacity?

SECTION –B

Note: i) Answer all questions **5 x 6 = 30**

ii) Each question carries six marks

11. Write the construction and working of a two stroke petrol engine with neat sketch?
12. Explain the construction and working of fuel pump used in a petrol engine.
13. Discuss the advantages and limitations of a diesel engine over a petrol engine.
14. Explain the working of a fuel injector.
15. Mention the requirements of lubricants for automobiles.
16. Explain the necessity of cooling system.
17. Explain the construction of a silencer used in a vehicle.
18. Explain about BHP, IHP and FHP.
19. Write the construction and working of a four stroke diesel engine with neat sketch?
20. Briefly explain the construction of fuel injection pump.

MODEL QUESTION PAPERS
AUTOMOBILE ENGINEERING TECHNICIAN
SECOND YEAR
PAPER I: AUTO TRANSMISSION & ELECTRICAL SYSTEM

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**

ii) Each question carries two marks

1. What is the function of clutch?
2. What are the different types of gear boxes used in automobile?
3. What is Slip Joint?
4. What is the purpose of rear axle?
5. What is ply rating of tyres?
6. What is cut-out?
7. What is the function of starting motor?
8. What is the purpose of head lamp?
9. Define ampere – hour efficiency?
10. Define Diode.

SECTION –B

Note: i) Answer all questions **5 x 6 = 30**

ii) Each question carries six marks

11. Explain about construction and working of single plate clutch with a neat sketch.
12. Explain the construction and working of constant mesh gear box with a neat diagram.
13. Explain about Hotch Kiss Drive with a neat diagram.
14. Explain the construction and working of differential with a neat diagram.
15. Explain about any one type of live rear axle with a neat sketch.
16. Explain about tyre vulcanizing and retreading.
17. Explain the construction and working of battery ignition system with line diagram.
18. Explain the construction and working of D.C. generator with a neat diagram.
19. Explain the working of Bendix drive with a neat diagram.
20. Explain about horn system with neat sketch.

MODEL QUESTION PAPERS
AUTOMOBILE ENGINEERING TECHNICIAN
SECOND YEAR
PAPER II: AUTO CHASISS & BODY ENGINEERING LAB (THEORY)

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**

ii) Each question carries two marks

1. Define chassis.
2. What is the purpose of steering system?
3. What is king pin inclination?
4. What is the purpose of Brakes?
5. What is the purpse of stailbilzer?
6. How many types of door locking mechanisms are there?
7. What are the constituents of Paint?
8. Mention the types of automobile emission.
9. Draw any four cautionary traffic signs.
10. What is necessity of air bags ?

SECTION –B

Note: i) Answer all questions **5 x 6 = 30**

ii) Each question carries six marks

11. Mention various loads acting on chassis frame.
12. Briefly explain Rack and Pinion steering gear with neat sketch.
13. Briefly explain Ackerman steering principle with neat sketch.
14. Explain the hydraulic brakes with neat sketch.
15. Explain about a hydraulic shock absorber with neat sketch.
16. Briefly explain power operated window regulating mechanism.
17. Briefly explain the working of Automobile air conditioning.
18. Explain step by step process of Automobile paintings.
19. Explain the operation of Exhaust gas analyzer.
20. Explain the procedure for obtaining a driving license.

MODEL QUESTION PAPERS
AUTOMOBILE ENGINEERING TECHNICIAN
SECOND YEAR
PAPER III: AUTO SERVICING & MAINTENANCE

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**

ii) Each question carries two marks

1. What is garage?
2. What is the purpose of vehicle hoist?
3. What is de carbonizing?
4. What is brake drum lathe?
5. What is calibration?
6. What are the main components involved in the greasing of motorvehicle.
7. Write any two daily, weekly and monthly maintenance.
8. How to replace the Gear box oil?
9. What is wheel alignment?
10. What is the necessity of overhauling ?.

SECTION –B

Note: i) Answer all questions **5 x 6 = 30**

ii) Each question carries six marks

11. Explain the tools and equipment used in garage, service station and specialist repair shop.
12. Draw a layout of Garage.
13. Write about high pressure lubrication equipment with neat diagram.
14. Write about Cylinder re boring and honing.
15. Explain about brake shoe riveting machine with a neat diagram.
16. Write about the fuel injector tester.
17. Explain any one method of servicing.
18. Explain about dismantling and adjustment of any two wheeler.
19. Explain the procedures of removal of engine from chassis in 3wheelers.
20. Write about servicing of brakes.

VII. LIST OF EQUIPMENT

Measuring Instruments and Inspection Equipment

1. Outside caliper
2. Inside caliper
3. Vernier caliper
4. Depth gauge
5. Dial indicator
6. Try square
7. Straight edge
8. Steel top
9. Pair of V. blocks
10. Special gauge for crown wheel and pinion adjustment
11. Surface gauge
12. Magnifying glass
13. Steel almarah

Machines

1. Bench drill
2. Central lathe
3. Pedestal grinder
4. Arc welding Inverter type
5. Gas welding
6. Wire brush
7. Clipping Hammer
8. Cleaning Brush
9. Painting Brush
10. Floor Brush

Electrical Items

1. Heater
2. Soldering Iron
3. Inspection lamp
4. Electrical wire-
5. Insulation tape
6. Growler
7. Soldering flux
8. Voltmeter D.C. 25 volt
9. Hydrometer for Battery
10. Ammeter

Electrical Items

1. Battery Charger
2. High rage discharge tester for Battery

Hand Tools

1. Drill twist metric 3mm x 12mm x 1mm 2 sets
2. Taps and Dies complete set in box 1
3. B.A., B.S.W., Metric and AmericanHSS hand Reamer Shank
4. HSS hand Reamer Taper pin
5. Various types of chisels, files, scrapers, reamers,taps, dies,Hammers,

Safety Equipment

1. Goggles for Grinders
2. Goggles for welding
3. Welding glass shield/Eye shield
4. Overall
5. Rubber apron
6. Fire extinguisher foam type
7. Sand Bucket
8. Barrier cream 250 gms
9. First Aid Box
10. Stretcher
11. Padlocks
12. Metal Racks
13. Fire Extinguisher
14. Car washing machine (with water storage tank with pump etc)
15. cylinder reborimg machine
16. Honning machine
17. Wheel balancer
18. Battery Charger
19. Hydraometer
20. Multimeter
21. Crankshaft regrinding machine
22. Brake drum lathe
23. Brake shoe riveting machine
24. F.I.P test bench and Fuel injector testing machine

(A) SUGGESTED LIST OF COLLABORATING AGENCIES

1. Road transport corporations, workshops.
2. Dealers, service station and workshops.
3. Reputed automobile garages.
4. Manufacturing servicing firms like TATA, LEYLAND, AMBASSADOR, PREMIER, MARUTI, STANDARD, KINETIC, BAJAJ, YAMAHA, etc.
5. Small workshops/garages/service stations.
6. Government organizations having auto section.
7. Private organization garages.
8. Engineering Colleges and Polytechnics.

(B) On the Job Training Centres:

1. All Private and Government Automobile Workshops and ServiceStations (Two, Three and Four Wheelers)
2. All authorized Two, Three & Four Wheelers Service Stations
3. All Private and Government Transport Companies

X. TEACHING STAFF & THEIR QUALIFICATIONS

1. Vocational Junior Lecturer in A E T

Degree in Mechanical Engineering/Automobile Engineering (as per G.O.Ms.No.12 HE (I.E-2), Dept., dated 15.02.2001

XI. VERTICAL MOBILITY

a) Without Bridge Course:

Eligible for degree courses, B.A.,/B.Com.

b) With Bridge Course:

1. Eligible for all degree Courses (Except Biology i.e., B.A, B.Com. B.Sc, MPC, Comp.Science, etc.)
2. Eligible for direct polytechnic inII-Year inMechanical and Automobile Branchwithout Entrance Test.

XII. REFERENCE BOOKS:

1. Telugu Academy - Automobile Engineering Technician
2. Automobile Engineering - by G.B.S. Narang
3. Automobile Engineering - by R.B. Gupta
4. Automobile Engineering-Vol - I & II - by Kirpal Singh
5. The Automobile Engineering - by Harban Singh Rayatzz
4. Automotive Electrical Equipment - by P.L. Kohli
5. Elements of Technology - by B.L.Theraja
6. Automobile Electrical System by N.R Khatavate
7.Automobile Servicing and Maintenance by K. Ashraf Ali
8. Workshop Technology Vol-I & Vol-II by Hazra Chowdhary
9. Workshop technology by Raghuvamsi
10.Motor vehicle Act. And Rules 1961 ----- Central Government

XIII. LIST OF PARTICIPANTS

1.	**M.Nagaraju** Head of Automobile engineering GOVT. Polytechnic Masab tank, Hyderabad.
2.	**Prof. Sreeram Venkatesh** Professor of Mechanical Engineering Department Osmania University , Hyderabad.
3.	**K Siva Rama Krishna** J.L in A E T Govt. Jr. College, Chanchalguda, Hyderabad.
4.	**Verified & Corrected by** Dr. B. Anjaneya Prasad Prof of Mechanical Engineering JNTUH, Hyderabad
5.	**Co-ordinator:** Sri.K.Vishweshwar, S.I.V.E O/o The Commissioner of Intermediate Education Telangana, Hyderabad

Sd/- Dr A. Ashok
COMMISSIONER OF INTERMEDIATE EDUCATION

30% DELETED CONTENT IN VIEW OF COVID-19 PANDEMIC

AUTOMOBILE ENGINEERING TECHNICIAN

FIRST YEAR

PAPER-I: WORKSHOP TECHNOLOGY

S No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 Engineering Materials	1.7BRASS 1.8BRONZE 1.9TIN	1.ClassifyEngineeringmaterials	NILL
2	UNIT-2: Fitting and Drilling		3. Define scrappers. 7. What is the importance of holding devices. 8. Name different types of drilling machines.	
		2.7 DRILLINGMACHINES 2.8 DRILL FITTINGS		
3	UNIT-3: Sheet Metal Work	-	NILL	NILL
4	UNIT-4: Carpentry	PLANES and types of planes	3. Name different types of planes.	NILL
		BORING TOOLS AND TYPES of boring tools	-	
5	UNIT-5: Forging and Welding	5.5 FORGING HAMMERS	NILL	2. Name different types of machine forging hammers and explain about anyone them.
6	UNIT-6: Mechanical Working of Metals	NILL	1.Define hot and cold working 4.Define Peening	NILL
7	UNIT-7: Lathe Machine and Grinding	7.3 GRINDING MACHINES 7.4 GRINDING WHEEL MATERIALS 7.5 APPLICATIONS OF GRINDING	4. Explain the principle of grinding 5. Name grinding wheel materials	NILL

AUTOMOBILE ENGINEERING TECHNICIAN – FIRST YEAR
PAPER-II: BASIC MECHANICAL AND ELECTRICAL ENGINEERING

S No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 Fundamentals of Thermodynamics	NILL	7. What is the specific heat?	nill
2	UNIT-2: Laws of Perfect Gases	2.1.8 Universal gas constant and molar constant 2.2.3 Relation between two specific heats	6. What is universal gas constant?	NILL
3	UNIT-3: State Second law of Thermodynamics.	NILL	NILL	NILL
4	UNIT-4: Thermodynamic Processes	4.1.3 Constant Temperature Process (Isothermal Process) 4.1.5 Adiabatic Process or Isentropic process	3. Define Isothermal process. 4. Define Adiabatic process	3. Explain the constant temperature process with P- V diagram and write the formula for work done. 4. Explain the Adiabatic process with P-V diagram.
5	UNIT-5: Fuels	Calorific value of fuels - Gross or higher calorific value - Net or lower calorific value - Characteristics of gasoline, Octane number. RON - MON	5. Define calorific value. 6. Name the alternate fuels.	NILL
6	UNIT-6: Thermodynamic Cycles	Carnot cycle	3. Define Carnot Cycle and draw its PV Diagram	NILL
7	UNIT-7 Transmission of Power	NILL	NILL	NILL
8.	UNIT-8 Fasteners	NILL	NILL	NILL
9	UNIT-9 Units of Mechanical Work, Power and	NILL	NILL	NILL

	Energy			
10	UNIT10 Safety Precautions	10.1 Precautions In Handling Tools	4. What is artificial respiration?	NILL
11	UNIT11 Electric Current, Ohm's Law , Kirchoff's Laws	11.9 Effect Of Temperature On Resistance. 11.10 Temperature Coefficient Of Resistance.	4. Mention Kirchhoff's Point Law? 5. Mention Kirchhoff's Voltage Law?	NILL
12	Unit12 Electrical Measuring Instruments	12.3 Moving Coil Meters And Moving Iron Meters	2. Define Ammeter? 3. Define Voltmeter?	2. Differentiate moving coil moving Iron instruments?

AUTOMOBILEENGINEERINGTECHNICIAN-FIRSTYEAR
PAPER-III: AUTOPOWERPLANT

S No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 Introduction Engine	NILL	2. How the energy converts in an engine? 6. How the petrol engine and diesel engine can be identified? 9. What is meant by E.C. engine?	1. How the engines are classified? 3. Mention the difference of internal combustions and external combustion engines.
2	UNIT-2: Petrol Engines	2.1 MATERIALS USED FUNCTION AND CONSTRUCTIONAL DETAILS OF PETROL ENGINE. 2.5 COMPARISION BETWEEN TWO STROKE AND FOUR STROKE ENGINES	2. List out the materials used for the construction of various engine parts. 5. What type of valve operating mechanism is used in L type engine? 6. In which type of engine the side valve operating mechanism is used?	10. Explain about the valve timing diagram of a petrol engine. 13. Write short note on vibration damper.
3	UNIT-3: Petrol engine fuel system	3.4 REQUIREMENTS OF AN AUTOMOBILE CARBURETTOR 3.6 TYPES OF CARBURETTERS AND THEIR ARRANGEMENTS	-	4. What are the requirements of an automobile carburetor? 8. Explain the construction and working of Carter Carburetor 9. Write the constructional details of a Zenith Carburetor. 10. How a Solex carburetor work? 11. Explain the constructional details of a S.U. Carburetor.
4	UNIT-4: Diesel Engines		NILL	4. A diesel engine requires more compression ratio. Explain. 4. The power output of a diesel engine is more than that of a petrol engine. Explain.
5	UNIT-5: Diesel Engine Fuel feed system	NILL	5. Describe about the phasing and calibration of a fuel injection.	8. Explain the types of governor with neat sketch. 10. Mention the types of fuel injectors.

				11. Explain the construction and working of super charger.
6	UNIT-6: Lubrication system	NILL	NILL	8. Explain the filtering elements used in lubrication system. 9. How do you explain the crank case lubrication? 10. Write about sludge formation in lubrication.
7	UNIT-7: Cooling system	-	-	6. Explain the construction of water pump.
8	UNIT8 Manifolds and mufflers		2. What is the main criteria taken in the design of a manifold? 6. How the silencer of a vehicle is cleaned?	1. Explain the construction and working of the manifolds of an engine.
9	UNIT9 Performance of IC Engine	-	6. What is the need of performance testing of an engine? 10. What is meant by Specific Fuel Consumption?	-

AUTOMOBILE ENGINEERING TECHNICIAN - SECOND YEAR
PAPER-I: AUTO TRANSMISSION AND ELECTRICAL SYSTEM

S No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	Unit-1 : Clutch	3) Centrifugal Clutch 4) Semi Centrifugal Clutch 5) Single Plate Diaphragm Clutch	3) What is the purpose of Clutch? 5) Why is multi plate clutch sometimes used in heavy vehicles?	2) Explain about construction and working of centrifugal or semi centrifugal clutch with a neat sketch.
2	Unit-2: Gear Box	1)Sliding Mesh Gear Box	4) What is meant by constant mesh gear box? 5) Why sliding mesh gear box is not preferred?	1) Explain the construction and working of sliding mesh gear box with a neat diagram.
3	Unit-3: Universal Joint And Propeller Shaft	2) Ball And Trunion Type Universal Joint	5) What is Hollow type propeller shaft?	2) Explain about Ball and trunnion type universal joint with a neat diagram.
4	Unit-4: Differential Unit	NIL	1) What is meant by Differential?	Nil
5	Unit-5: Front And Rear Axle	NIL	3) What is stub Axle? 6) What are the types of rear axles? 7) Name different types of live rear axles.	Nil
6	Unit-6: Wheels And Tyres	6.2 Construction And Working Of Spoke Wheel 6.3 Types Of Rims	2) What is retreading?	2) Explain the construction of spoke wheel with a neat diagram.
7	Unit-7: Ignition System	ii) Magneto Ignition System	4) Draw the line diagram of magneto ignition system.	2) Explain the construction and working of magneto ignition system with a neat diagram.
8	Unit-8: Charging System	nil	Nil	Nil
9	Unit-9: Starting System	Sliding Armature Drive Free	Nil	3). Write about solenoid switch with a neat diagram.
10.	Unit-10: Lighting Horn And Wiper	10.5 dash board instruments 10.6 adjustment of head lights	5) What are the dashboard instruments?	3) Write the procedure for headlamp adjustment.
11.	Unit-11: Battery	Parts of alkaline battery 11.8 indicators of fully charged battery 11.9 testing methods of lead acid battery	2) What are the parts of lead acid battery? 5) What is secondary cell?	Nil
12	Unit-12: Introduction to		Nil	Nil

	Basics of Automobile Electronics	Nil		

AUTOMOBILE ENGINEERING TECHNICIAN - SECOND YEAR

PAPER-II: AUTO CHASSIS AND BODY ENGINEERING

S No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1: Chassis Frame and Body	1.7 REQUIREMENT OF BODIES FOR VARIOUS TYPES OF VEHICLE	3) What is the purpose of chassis frame?	3) Discuss about the requirements of different automobile bodies?
2	UNIT-2:Steering System	2.2.1 worm and wheel steering gear 2.2.2 worm and roller 2.2.3 worm and sector steering gear cam and lever steering gear 2.3 power steering 1)davis steering gear wheel balancing-static balance and dynamic balance	il	3) Briefly explain power steering with diagram.
3	UNIT-3:Braking System	MASTER CYLINDER WHEEL CYLINDER 3.6 BLEEDING OF BREAKS IN HYDRAULIC BRAKES	4) On which law the hydraulic brakes work?	3) Explain the master cylinder with neat diagram. 4) Explain the brake bleeding process with sketch.
4	UNIT-4:Suspension System	4.2.3 TYPES OF INDEPENDENT SUSPENSION SYSTEM 4.7 McPHERSON SUSPENSION SYSTEM	Nil	3) Explain the Wishbone arm independent suspension system with a neat sketch.
5	UNIT-5:Seat,Door and Window Mechanism	Nil	Nil	Nil
6	UNIT-6:Air Conditioning of Motor Vehicle	Nil	Nil	Nil
7	UNIT-7:Painting of Automobiles	Nil	2) Mention the methods of vehicle painting.	1) Explain the ingredients of painting.

8	UNIT- 8:Automobile Pollution	Nil	3) What is the purpose of exhaust gas analyzer?	4) Explain the necessity of positive crankcase ventilation.
9	UNIT-9:Legal aspects of Motor vehicles	9.3 NECESSITY OF PERMITS FOR COMMERCIAL VEHICLES	Nil	Nil
10.	UNIT-10:Vehicle Safety Systems	Nil	Nil	Nil

AUTOMOBILE ENGINEERING TECHNICIAN - SECOND YEAR

PAPER-III: AUTO SERVICING AND MAINTENANCE

S No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1:Garage,Servicestation and Specialist Repair Shop	1.1)types of garages A to d Differences between general garage ,service station and specialist repair shop	Nil	5) Draw a neat sketch of the specialist repair shop and label the parts?
2	UNIT-2:Major Equipment for Servicing Station	Nil	Nil	3) Write about air compressor with neat diagram. 5) Write about hand operated lubrication equipment with neat diagram.
3	UNIT-3:Automobile Engine Reconditioning	3.7 crank shaft grinding	Nil	2) Write about De carbonizing. 5) Explain Crank shaft grinding machine with a neat diagram.
4	UNIT-4:Reconditioning of Brakes	Nil	Nil	Nil
5	UNIT-5:Reconditioning of Diesel fuel injection system	Nil	5) What is spray test?	Nil
6	UNIT-6:Servicing and Maintenance	Nil	1) What are the types of maintenance? 4) What are the types of	Nil

			servicing?	
7	UNIT-7:Servicing and Maintenance of Two Wheelers	Nil	Nil	Nil
8	UNIT-8:Servicing and Maintenance of Three Wheelers	8.2 d) FUEL SYSTEM G) REAR SUSPENSION I)BATTERY(a TO g)	3) What is the procedure of air filter cleaning? 4) What are the oil grades used in the bajaj 3wheeler?	4) Write about service procedures of fuel system in 3 wheelers. 5) Explain about dismantling and assembling of rear suspension in 3 wheelers. 6) Write about care in using battery
9	UNIT-9:Servicing and Maintenance of Four Wheelers	9.1disassembling of an engine 9.5 free pedal play adjustment 9.7 overhauling of master cylinder 9.10 balancing of wheels	6) Write tune up procedure.	2) Explain the disassembling of the engine. 4) Explain free pedal play alignment. 6) Explain overhauling procedure of master cylinder. 7) Write about balancing of wheels.

VOCATIONAL CURRICULUM-2020

(For the Academic year 2020-21)

[70% CONTENT IN VIEW OF COVID-19 PANDEMIC]

Construction Technology
[COURSE CODE: 318]

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

Dr. A.Ashok I.A.S
COMMISSIONER

INTERMEDIATE EDCATION
Government of Telangana
Nampally, Hyderabad-500001
Phone: 040-24655915

Fore word

In any developing society with a booming population, Vocational Education occupies an important position for generating large scale employment opportunities. Viewed in this context the importance of Vocational Education for our country cannot be over emphasized. Vocationalization of Secondary Education was introduced in 1988 at the Intermediate level. Recently, the Government of India has developed a National Skills Qualification Framework for establishing a clear path for vocational education from the school level to the highest level. The Department of Intermediate Education has recently framed a new curriculum to bring greater value to the system of vocational education. The primary aim of this reform is to prepare the students with employable skills for absorption in organized sectors and in few cases, even for self-employment.

State Institute of vocational education and Board of Intermediate Education, Telangana have reviewed the curriculum of vocational courses in order to reorient them for their practical approach. Greater emphasis is now being placed on Laboratory work and on the job training.

Simultaneously, The State Institute of Vocational Education and the department of Intermediate Education are presently making efforts to upgrade the quality of infrastructure in the colleges to meet the challenges of the changed curriculum. I am confident that the revised curriculum and the new text books would prove to be beneficial to the students in the vocational stream and help them train in need based productive courses leading to gainful employment.

Commissioner of Intermediate Education
Government of Telangana

S No.	Contents	Page No.
I	**Introduction**	
II	**Objectives of the Course**	
III	**Skills to be provided**	
IV	**Job Opportunities** a) Wage Employment b) Self-Employment	
V	**Scheme of Instruction and Examination**	
	SYLLABUS	
VI	**First year** **Theory** Paper I : Construction Material & Construction practice Paper II : Surveying Theory Paper III: Engineering Mechanics **Practicals** Paper I :Testing Materials Laboratory Paper II :Survey Lab Paper III:Basic Engineering Drawing &Autocad	
VII	**Second Year** **Theory** Paper I : Estimating & costing Paper II : Highway engineering & Construction management Paper III: Water supply & Sanitary Eng. **Practicals** Paper I :Construction Practice Laboratory- I Paper II :Construction Practice Laboratory- II Paper III:Building Drawing	
VIII	**Model Question Papers**	
IX	**List of Equipment** a) Collaborating Institutions for curriculum transaction b) On – the – Job Training Sites	
X	**Teaching staff and their Qualification**	
XI	**Vertical Mobility**	
XII	**Reference Books**	
XIII	**Equivalency of Papers**	
XIV	**List of Participants**	

INTRODUCTION

The construction industry is playing a vital role in development of skilled people like Engineers, Architects who are available at designing and supervisory level. In general the construction worker does not have knowledge and skills. To improve quality in the work, to minimize the wastage of material and also to control the cost of construction, it becomes necessary to train the workers.

The course "Construction Technology" will be more useful to students to develop their career in construction industry. The course is designed to suit the construction industry requirement. The course is divided into two parts. Part one is core syllabus in which the students are given basic academic knowledge, part two is specialization in which the students are trained in particular areas of construction technology.

II OBJECTIVES OF THE COURSE

To train the students in various techniques in the construction of buildings and survey field, especially cost efficient techniques to develop competencies in assisting supervisors, engineers and contractors and prepare themselves for self-employment.

III SKILLS TO BE PROVIDED

1. Skills to prepare plans and estimate the cost of project.
2. Skills in testing and choosing good quality building materials
3. Skills are constructions of different items like, foundations, masonry works, columns beams slabs and finishing works.
4. Skills to provide water supply and sanitary, electrical installations and fittings in the buildings.
5. Skills maintenance of buildings and constructions repairs.
6. Skills in surveying field.
7. Preparation of building drawings in Auto cad.
8. Skills in Highways.

IV JOB OPPORTUNITIES

a) Wage employment :

1. Work as mason, carpenter, painter etc in construction industry.
2. Assistants under engineers and architects.
3. Contract jobs under contractors.

b) Self employment :

1. As a contractor for supplying of building materials
2. Execution of specialization works like painting, bar bending etc.
3. Execution of small works in Government Organizations as contractors.

V. SCHEME OF INSTRUCTION AND EXAMINATION

ANNUAL SCHEME OF INSTRUCTION AND EXAMINATION
CONSTRUCTION TECHNOLOGY
FIRST YEAR

Part-A		Theory		Practicals		Total	
		Periods	**Marks**	**Periods**	**Marks**	**Periods**	**Marks**
1.	English	150	50	0	0	150	50
2.	General Foundation course	150	50	0	0	150	50
	Part-B						
3.	**Paper-I** Construction Material & Construction practice	135	50	135	50	270	100
4.	**Paper-II** Surveying Theory	135	50	135	50	270	100
5.	**Paper-III** Engineering Mechanics	135	50	135	50	270	100
Part-C							
6.	**OJT**	0	0	365	100	365	100
	Total	**705**	**250**	**770**	**250**	**1475**	**500**

*on the Job Training for 1st year from 1st November to 31st December

SECOND YEAR

Part-A		Theory		Practicals		Total	
		Periods	**Marks**	**Periods**	**Marks**	**Periods**	**Marks**
1.	English	150	50	0	0	150	50
2.	General Foundation course	150	50	0	0	150	50
	Part-B						
3.	**Paper-I** Estimating & costing	110	50	115	50	225	100
4.	**Paper-II** Highway engineering & Construction management	110	50	115	50	225	100
5.	**Paper-III** Water supply & Sanitary Eng.	110	50	115	50	225	100
Part-C							
6.	**OJT**	-	-	450	100	450	100
	Total	**630**	**250**	**795**	**250**	**1425**	**500**
TOTAL FIRST YEAR AND SECOND YEAR MARKS 1000							

*OJT Programme for 2nd year students from 1st August to 31st October.

EVALUATION OF ON THE JOB TRAINING:

The "On the Job Training" shall carry 100 marks for each year and pass marks is 50. During on the job training the candidate shall put in a minimum of 90 % of attendance.
The evaluation shall be done in the last week of January.

Marks allotted for evaluation:

S.No	Name of the activity	Max. Marks allotted for each activity
1	Attendance and punctuality	30
2	Familiarity with technical terms	05
3	Familiarity with tools and material	05
4	Manual skills	05
5	Application of knowledge	10
6	Problem solving skills	10
7	Comprehension and observation	10
8	Human relations	05
9	Ability to communicate	10
10	Maintenance of dairy	10
	Total	100

NOTE: The On the Job Training mentioned is tentative. The spirit of On the Job training is to be maintained. The colleges are at liberty to conduct on the job training according to their local feasibility of institutions & industries. They may conduct the entire on the job training periods of (365) First year and (450) Second year **either by conducting classes in morning session and send the students for OJT in afternoon session or two days in week or weekly or monthly or by any mode which is feasible for both the college and the institution**. However, the total assigned periods for on the job training should be completed. The institutions are at liberty to conduct On the Job training during summer also, however there will not be any financial commitment to the department.

SCHEME OF INSTRUCTION PER WEEK

	Part-A	**Theory**	**Practicals**	**Total**
1.	English	4	-	4
2.	General Foundation Course	4	-	4
	Part-B			
3.	Paper –I	4	4	8
4.	Paper-II	4	4	8
5.	Paper-III	4	4	8
6.	**Total**	**20**	**12**	**32**

CONSTRUCTION TECHNOLOGY
FIRST YEAR
PAPER – I: CONSTRUCTION MATERIALS & CONSTRUCTION PRACTICE (THEORY)
TIME SCHEDULE

S.NO.	TOPICS	NO.OF PERIODS	WEIGHTAGE OF MARKS	NO. OF SHORT QUESTIONS	NO.OF ESSAY QUESTIONS
1	Stones	8	6	-	1
2	Bricks	8	6		1
3	Cement	18	8	1	1
4	Sand	2	2	1	
5	Mortar & Concrete	18	8	1	1
6	Miscellaneous Materials	10	2	1	
7	Foundations	12	8	1	1
8	Masonry	10	6		1
9	Lintels & Sunshades	5	2	1	
10	Floors	15	8		1
11	Roofs	15	8	1	1
12	Stairs & stair cases	7	2	1	
13	Surface finishing	5	2	1	-
14	Prefabricated members	2	2	1	-
	Total	**135**	**68**	**10**	**8**

OBJECTIVES: The Student understands the varieties of materials, availability of materials and Suitability of particular materials for particular construction activity.
Note: After completion of every Unit one/two assignments will be given to the students.

CONSTRUCTION MATERIALS & CONSTRUCTION PRACTICE

Detailed Syllabus:

1.	**Stones** • Introduction • Geological Classification of Rocks • ~~Types of stones – their uses~~ • ~~Dressing of stones~~ • ~~Types of surface finishes~~ • Types of aggregates – Coarse aggregate, Fine Aggregate ,Recycled Aggregate
2.	**Bricks** • Requirements of good brick earth • Manufacture of Bricks ➢ Preparation of brick earth ➢ Moulding ➢ Drying ➢ Burning • Field tests of bricks • Characteristics of good bricks • I.S. Specifications and Classification of Bricks . • Cement bricks, ~~Fly ash bricks, Hollow bricks~~

3.	**Cement** • Introduction • Chemical composition of Portland cement • ~~Manufacture of ordinary Portland cement~~ • Dry Process • ~~Wet Process~~ • Field tests of cement • Tests for cement as per I.S.code 1. Fineness test by sieving 2. Consistency test 3. Initial and Final setting times of Cement 4. Compressive strength test • Grades of Cement 1. Ordinary Portland cement (O.P.C) 2. Portland Pozzolona Cement (PPC) 3. Rapid hardening cement 4. White cement 5. Quick Setting Cement
4.	**Sand** • Sources of sand • Natural sand • Robo sand • Characteristics of good sand • Grading of sand • Bulking of sand
5.	**Mortars & Concrete** • Mortar & ~~Classification of Mortars~~ • Different proportions of mortars for various construction works • Defination of concrete • Ingredients of plain concrete- PCC , RCC • Different grades of concrete as per IS:456:2000 • Manufacturing of concrete o Batching o Mixing of concrete methods o Transporting of concrete methods o Placing of concrete o Compaction of concrete-use of vibrators o Curing of concrete – Methods • ~~Workability of concrete~~ o Slump cone test, Compaction Factor test • Different types of concretes o ~~Fibre Reinforced concrete~~ o Recycled Aggregate concrete

	~~o Self compacting concrete~~
6.	**Miscellaneous Materials** Timber, Metals, Asbestos, Plaster of Paris, WallPaper, PVC, Aluminium, Glass, ~~Adhesives~~
CONSTRUCTION PRACTICE	
7.	**Foundations:** • Definition & function of foundation • Functions of Foundations • Shallow and deep foundations (Definitions) ~~• Bearing capacity of soil~~ • Essential requirements of good foundation • Classification of foundations • Shallow foundation • Deep foundation ~~• Raft foundations~~
8.	**Masonry** • Stone masonry o Classification of stone Masonry ~~o Tools required for stone masonry~~ o Types of joints in stone masonry ~~o Important observations in stone masonry.~~ • Brick masonry • Types of brick masonry • English Bond - Flemish bond – Stretcher bond 1,1½, 2 Brick walls, T-Junctions • Cross Junctions, Light Weight block Masonry with special mortar. • Defects in brick masonry ~~• Tools required.~~ • Important observations in brick masonry.
9.	**Lintels and Sun-shades** • Types of Lintels • Definition of sun shade
10.	**Floors** • Requirement of good floors • Types of floors • Method of construction of Cement Concrete, Mosaic, ~~Terrazzo~~ and • ~~Marble floors~~, tile • Flooring, Dadoing – Water Proofing of Terraces

11	**Roofs** • General Requirements • Classification of Roofs
12	**Stairs and Staircases** • Technical terms • Characteristics of a good Stair • Types of Stairs - Straight, Quarter turn, half turn, Doglegged, Open well, Bifurcated and Spiral stairs.

13	**Surface Finishing**
	• Plastering
	  ○ Purpose
	  ○ Types of Plastering
	  ○ Procedure of plastering
	• Pointing
	  ○ Purpose
	  ○ Types of Pointing
	• Painting - External and Internal Painting
	• Method of Painting new and old surfaces - wood and metal surfaces, Masonry Surfaces and Textured Painting

14.	Cracks and general Maintenance in Buildings
15.	Prefabricated concrete members, prestressed concrete members: ~~Pretension members and Post tensioned members~~

Note : Latest Developments on this subject should be noted from time to time

CONSTRUCTION TECHNOLOGY
FIRST YEAR
PAPER - II : SURVEYING THEORY (THEORY)
TIME SCHEDULE

S.NO.	TOPICS	NO.OF PERIODS	WEIGHTAGE OF MARKS	NO. OF SHORT QUESTIONS	NO.OF ESSAY QUESTIONS
1	Introduction	10	2	1	-
2	Chain Surveying	25	14	1	2
3	Compass Surveying	25	16	2	2
4	Levelling	30	16	2	2
5	Theodolite Surveying	20	10	2	1
6	Advanced surveying instruments	25	10	2	1
	Total	**135**	**68**	**10**	**8**

NOTE: Calculators are permitted for Examinations.

OBJECTIVES:

The Student understands all the terminology in Civil Engineering branches i.e. Chain / Tape Surveying, Compass Serveying, Leveling, Theodolite,Total Station. andDistomat. The application of different instruments and advantages one over the other.

Detailed, Syllabus:

1.	**Introduction :**
	• Concept of surveying
	• Purpose of surveying
	• Linear and angular measurements
	• Classification of surveying.
	  o Plane and geodetic surveying
	  o Classification based on instruments
	  o Engineering surveys
	• Reconnaissance, preliminary location survey, final location survey.

2.	**Chain Surveying** • Purpose and principle of chain survey • Equipments used and their function - chains, arrows, tapes - ranging rods pegs - plumb bob - cross staff • Conventional signs. • Errors in chaining – • Corrections due to incorrect length of chain or tape. • Types of survey lines • Base line • Tie line • Check line • Fixing of survey stations • Types of survey stations. • Different operations in chain surveying - chaining – ranging setting out right angles chaining on sloped ground. • Principles used in chain Triangulation.

	• Recording field notes - field book - conventional signs. • ~~Obstacles in chain surveying.~~ • Calculation of Areas - Average Ordinate, Simpson, Trapezoidal methods.
3.	**Compass Surveying** • Purpose and Principle of compass survey - description, use and working of prismatic compass. • Concept of true meridian - magnetic meridian – Arbitrary meridian. • Bearing - Representation of Bearing WCB, Quadrantal Bearing. Conversion of whole circle bearing to quadrantal bearing and vice versa. • Compass traversing in field. • Local attraction - detecting and correcting bearings. • Calculation of included angles in compass traverse. • ~~Errors in compass surveying~~ - natural and instrumental.
4.	**Levelling** • Purpose of Leveling - Definition of terms, level surface, datum bench marks, types of bench marks. • Types of leveling instruments - dumpy level - component parts. - Relationship between fundamental lines of instrument. • ~~Types of Leveling staves~~ - description. • Temporary adjustments of dumpy level. • Field work - field book - reduction of levels by height of collimation method. Rise and fall method.
5.	**Theodolite Surveying** • Principles of Theodolite Surveying - component parts, technical terms - temporary adjustments • ~~Measurement of Horizontal angles~~ by repetition method and reiteration method , vertical angle. • Determination of heights and distances.
6.	**Advanced Surveying instruments** • Auto level. • Electronic Disto Meter. • Total Station • GPS & GIS. • Lidar survey

Note : Latest developments and modern techniques on this subject should be followed from time to time.

CONSTRUCTION TECHNOLOGY
FIRST YEAR
PAPER-III: ENGINEERING MECHANICS (THEORY)

TIME SCHEDULE

S.NO.	TOPICS	NO.OF PERIODS	WEIGHTAGE OF MARKS	NO. OF SHORT QUESTIONS	NO.OF ESSAY QUESTIONS
1	Systems of Measurements and Units	10	4	2	-
2	Forces and Moments	25	16	2	2
3	Centroid and Moment of Inertia	25	16	2	2
4	Simple stresses and strains	35	16	2	2
5	Shear Force and Bending Moment	40	16	2	2
	Total	**135**	**68**	**10**	**8**

NOTE: Calculators are permitted for Examinations.

Detailed Syllabus :

1	**Systems of Measurements and Units** • S.I. and M.K.S. System • F.P.S. System • Fundamental and Derived units • Units of Physical quantities used in Civil Engineering like length, area, volume, mass, force etc.
2.	**Forces and Moments** • Definition of Force, Moment, Resultant, Equilibrium and Moment of a couple • Resultant of forces at a point, parallelogram law, Triangle law of forces, polygon law of forces • Distinguish between scalar and vector quantities, co-planar and non-co-planar forces, parallel and non-parallel forces, like and unlike forces • Conditions of Equilibrium of rigid bodies
3.	**Centroid and Moment of Inertia** • Definition - Centroid, First moment of area, moment of inertia, Radius of gyration • Position of centroid of Rectangle, triangle, circle, semi circle. • Determine position of centroids of simple built up sections made of rectangle, triangle, circle, semi-circle. • Determine M.I. of simple and built-up sections, perpendicular axis theorem and parallel axis theorem
4.	**Simple stresses and strains** • Stress and strain - tensile, compressive and shear • Mechanical properties of materials - elasticity, plasticity, ductility,brittleness, malleability, stiffness, hardness, fatigue • Stress-strain curves for Mild steel, elastic limit, yield point, ultimate stress, breaking stress, working stress,. • Hooke's Law - Youngs modulus of elasticity, deformation under axial load • Longitudinal and lateral strain - poisson's ratio - Bulk modulus, Modulus of rigidity, relationship between elastic constants. (proof not required)
5.	**Shear Force and Bending Moment** • Types of beams - cantilevers, simply supported, over hanging -fixed and continuous beams • Calculation of S.F. and B.M. values at different sections for cantilevers, simply supported beams, under point loads and uniformly distributed loads - position andsignificance of points of contra flexure

Note : Latest developments on this subject should be noted from time to time

CONSTRUCTION TECHNOLOGY
SECOND YEAR
PAPER I:WATER SUPPLY & SANITARY ENGINEERING (THEORY)
TIME SCHEDULE

SL.NO.	UNITS	NO.OF PERIODS	WEIGHTAGE OF MARKS	NO. OF SHORT QUESTIONS	NO. OF ESSAY QUESTIONS
1	Water Distribution system	20	16	1	2
2	Appurtenances in the distribution system	15	8	2	1
3	Water Supply Plumbing systems in Buildings and Houses	25	16	2	2
4	Rain water harvesting	5	2	1	--
5	Sewerage system & SewerAppurtenances	20	8	2	1
6	Drainage and sanitation in Buildings	25	16	2	2
	Total	110	68	10	8

Detailed Syllabus:

1.	**Water Distribution System**
	• Introduction
	• Requirements of a good distribution system
	• Layouts of Distribution System
	  • Dead end system
	  • Grid iron system
	  • Ring system
	  • Radial system
	• Systems of Distribution
	  • Gravitational system
	  • Pumping system
	  • Combined system
	• Requirement of pipe materials
	  • Different types of pipes
	  • Laying and Testing
	  • Maintenance

2.	**Appurtenances in the distribution system**
	• Introduction
	• Pipe Fixtures
	  ○ Sluice valves
	  ○ Check valves or reflux valves
	  ~~○ Air valves~~
	  ~~○ Drain valves or Blow off valves~~
	  ~~○ Scour valve~~
	  ○ Water meter
	  ○ Fire Hydrants

3.	**Water supply plumbing systems in buildings and Houses**
	• Introduction
	• Plumbing System in Water Supplies
	• The House Water Connection
	• Stop Cocks
	• Water taps and Bib cocks
	• Pipe fittings
	• Storage of water in buildings
	  ○ Overhead Storage, Underground Storage tanks
	  ○ Types of tanks, RCC, GI and HDPE tanks
	  ○ General requirements of domestic water storage
	• Water piping systems in building (Standard Heights of Water points in Bathroom with reference to Finished Floor level)
	  ○ Piping system using direct supply
	  ○ Piping system using over head tanks
	  ○ Piping system using underground - overhead tank supply
	  ○ Pumped systems

4.	**Rainwater Harvesting**
	• Rain water Harvesting structures into the ground
	  ○ Collection of rain water
	  ○ Separation of fresh rain flush
	  ~~○ Filtration of rain water~~
	  ○ Storage of rain water
	  ○ Distribution of water
	• Rain water directed to Service wells
	• ~~Rain water harvesting by percolation pit method~~

5.	**Sewerage system & Sewer Appurtenances**
	• ~~Different Shapes of Cross Sections of Sewers~~ – Circular and Non- Circular
	• ~~Laying of Sewers~~ - setting out alignment of a sewer, excavation, checking the gradient, preparation of bedding, handling, lowering, laying and jointing, testing and back filling
	• Brief description, location, function and construction of
	  • Inspection Chambers and Manholes
	  • ~~Drop Manholes~~
	  • Street inlets
	  • ~~Catch basins~~
	  • Flushing tanks
	  • Regulators
	  • Inverted siphon
	• ~~Necessity of pumping sewage - location and component parts of pumping station~~

6.	**Drainage and sanitation in Buildings** • Introduction • Principles of Planning and design of House drainage • Aims of building drainage and its requirements - General layout of Sanitary fittings to a house, drainage arrangements for a single and multi storeyed buildings as per IS code of practice • ~~Sanitary fittings - traps,~~ water closets, flushing cisterns, urinals, inspection chambers, antisiphonage inspection.

CONSTRUCTION TECHNOLOGY
SECOND YEAR
PAPER-II: ESTIMATING & COSTING (THEORY)
TIME SCHEDULE

S.NO.	TOPICS	NO. OF PERIODS	WEIGHTAGE OF MARKS	NO. OF SHORT QUESTIONS	NO. OF ESSAY QUESTIONS
1	Introduction	**5**	**-**	**-**	**-**
2	Measurement of Materials and Works	**5**	**2**	**1**	**-**
3	Types of Estimates	**10**	**8**	**1**	**1**
4	Detailed and abstract estimate ofbuildings by using centre line method/long wall and short walls methods	**30**	**22**	**2**	**3**
5	Specifications and Analysis of Rates	**30**	**18**	**3**	**2**
6	Earthwork Calculations in road	**10**	**10**	**2**	**1**
7	Detailed estimates of 1. Gravel Road 2. Cement Concrete Roads Component parts of Septic tank with Soak pit.	**20**	**8**	**1**	**1**
	Total	**110**	**68**	**10**	**8**

Detailed Syllabus:

1.	**Introduction** • Definition of Estimation and costing • Need for Estimation and costing
2.	**Measurement of Materials and Works** • Units of measurement • Rules for measurement • Methods of measurement - Centre line method & Long and short wall method
3.	**Types of Estimates** • Preliminary or approximate estimate 3.1.1. Plinth area estimate 3.1.2. Cubic rate estimate 3.1.3. Estimate per unit base • Detailed Estimate 3.2.1. Stages of preparation 3.2.2 Detail measurements and calculation of quantities –Preparation of abstract Estimation 3.2.3 Tables for detailed estimate and abstract estimate • Problems in preliminary estimates

4.	**Detailed and abstract estimate of buildings by using centre line method/long and short walls method** • Single storied Residential building (Load bearing type structure) • ~~Single storied Residential building (Framed Structure)~~ • ~~School building with sloped roof~~ • ~~Two storied residential building (Framed Structure type)~~ • ~~Detailed estimate of compound wall and steps.~~ • ~~RCC Dog legged & Open well staircase~~
5.	**Specifications and Analysis of Rates** • Specifications for different items of work • Standard Schedules of Rates • Cost of materials at source and at site • Cost of Labour - Types of labour • Lead and Lift - Leads Statement • ~~Preparation of Unit rates for finished works~~ 1. Cement Concrete in foundation 2. R.C.C. Works 3. Brick masonry in cement mortar 4. C.R.S. masonry in cement mortar 5. Plastering in cement mortar 6. Pointing in cement mortar 7. Cement concrete flooring 8. Doors and windows - paneled and glazed
6.	**Earthwork Calculations in Road works** • Trapezoidal - Prismodial - Mid Ordinate - Mean sectional area rules • ~~Calculating the quantities in cutting and embakment.~~
7.	**Detailed Estimates of Roads** • Gravel Road • Cement Concrete Road ~~Component Parts of Septic Tank and Soap Pit~~

Note: Latest development on this subject should be followed from time to time

CONSTRUCTION TECHNOLOGY
SECOND YEAR
PAPER-III: HIGHWAY ENGINEERING & CONSTRUCTION MANAGEMENT (THEORY)
TIME SCHEDULE

S.NO.	TOPICS	NO. OF PERIODS	WEIGHTAGE OF MARKS	NO. OF SHORT QUESTIONS	NO. OF ESSAY QUESTIONS
1	Introduction of Highways	12	8	1	1
2	Highway Survey and Traffic Engineering	15	10	2	1
3	Highway Construction and Maintenance	20	14	1	2
4	Introduction of Construction Management	5	2	1	-
5	Construction Planning	15	8	1	1
6	Construction Labour	15	8	1	1
7	Inspection and Quality Control	5	2	1	-
8	Contracts	15	8	1	1
9	Tender and Tender Notice	08	8	1	1
	Total	**110**	**68**	**10**	**8**

Detailed Syllabus:

1.	**Introduction of Highways** • Importance of Transportation Engineering • Classification of Roads • Cross Section of Road Structure – Sub-grade - Sub base – Base and Wearing Course – Width of payment – Shoulder – ~~Formation Width – Right of Way~~ – Road Boundaries. • Road widths for different classification of Roads • Traffic lane width • ~~Camber – Recommended IRC values of Camber for different roads~~ • ~~Gradients - Types of Gradients~~ • ~~Super elevation necessity~~

2.	**Highway Surveys and Traffic Engineering** • Alignment • Factors influencing alignment of road in plain and hilly areas • ~~Surveys – Reconnaissance~~ – ~~Preliminary and Final location of surveys~~ • Road Junctions • Road Intersections- Square Junctions – Acute Junctions- T-Junctions – Y-Junctions – Staggered Junctions – Multiple Junctions • ~~Traffic Islands~~ Circular – Elliptical – Rhombus – Turbine – Tangent shape • Traffic Signs • ~~Types of Traffic signs~~ • ~~Pavement Marking~~ and Kerb Marking
3.	**Highway Constructions and Maintenance** • Purpose of Road Drainage • ~~Surface and subsurface drainage~~ • Typical Cross section of Highway in cutting and embankment • Water Bound Macadam roads – ~~materials used- maintenance of WBM road~~ – Machinery used in construction – construction procedure • Bitumen roads – types – ~~surface dressing~~ – interface treatments – seal coat – tack coat – prime coat – full grout and ~~semi grout~~ • Premix – methods – construction procedure • Cement concrete roads – Longitudinal joints - Transverse joints – Construction joints – construction of concrete roads – machinery used for construction

4.	**Introduction of Construction Management**
	• Construction in India
	• Classification of construction work
	• Stages in construction work
	• Construction team
	• Resources of Construction
	• Functions of Construction management
	• Scientific methods of construction management.
	  • CPM
	  • PERT

5.	**Construction Planning** • Job planning • Technical Planning • Pretender and Construction Planning - scheduling – • Procurement of Labour, material and equipment • Program of work.

6.	**Construction Labour** • Types of Labour • Labour welfare • Human relation • Labour Insurance • Payment of wages
7.	**Inspection and Quality Control** • Introduction • Functions of Inspection Department • Major items of controls
8.	**Contracts** • Introduction • Types of Contracts 1. Piece work contracts 2. Item rate contract 3. Percentage contract
9.	**Tender and Tender Notice** • Necessity of Tenders • Tender notice - EMD –Security Deposit • Opening and Scrutiny of Tenders • Acceptance of tenders

Note: All leading journals on Highways and Construction Management should be followed from time to time.

MODEL QUESTION PAPER
CONSTRUCTION TECHNOLOGY
FIRST YEAR
PAPER – I: CONSTRUCTION MATERIALS & CONSTRUCTION PRACTICE (THEORY)

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**
ii) Each question carries two marks

1. Write advantages of fly ash bricks.
2. State the classification of roofing tiles.
3. Define quick line.
4. Write chemical composition of Portland cement.
5. Define bulking of sand.
6. Write classification of motars.
7. Write defects in timber.
8. Write the uses of cast iron.
9. Write the functions of points.
10. Define thermocole.

SECTION –B

Note: i) Answer any FIVE questions **5 x 6 = 30**
ii) Each question carries six marks

11. Write and explain the geological classification.
12. State the important eight characteristics of good bricks used for construction heavy load bearing walls of a building.
13. Write types of flooring tiles and explain briefly.
14. Explain the manufacture of ordinary portland cement by dry process
15. Define water cement ratio and explain the procedure for placing of concrete.
16. Write types of vibrators and explain any one.
17. Write chemical composition of wrought iron and its properties.
18. Write ingredients of paint and characteristics of good paint.
19. Write general requirements of roof ?
20. Write the classification of the roofs and explain any one?

.

MODEL QUESTION PAPER
CONSTRUCTION TECHNOLOGY
FIRST YEAR
PAPER – II: SURVEYING THEORY (COMMON TO CT,BC& MT)

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**

ii) Each question carries two marks

1. Write purpose of surveying.
2. Write obstacles in chain surveying.
3. Define local attraction.
4. Convert the following W.C.B into R.B
   A. 135 degrees 30 minutes
   B. 210 degrees 15 minutes
5. Write the types of levelling instruments.
6. Define back sight and fore sight.
7. Define face left and face right observations.
8. Write the sketch showing 104 degrees 20 minutes 30 seconds in combination of main and verniear scale of theodolite
9. Write any four component parts of a total station.
10. Define distomat.

SECTION –B

Note: i) Answer any FIVE questions **5 x 6 = 30**

ii) Each question carries six marks

11. Explain the direct method of chaining on sloping ground.
12. The following of sets were taken from a chain line to a hedge Distance in mt.

0	20	40	60	80	100	120
12	10	8	6	4	5	7

Calculate the area in sq.mt enclosed by the chain line, the hedge and the end offsets by Simpson's rule

13. Draw a neat sketch of a prismatic compass and label the parts.
14. Determine the values of included angles in a closed compass traverse ABCD, conducted in the clockwise direction given the following fore bearing of the respective lines.

Line	fore bearing AB	40 degrees
BC	70 degrees	
CD	210 degrees	
DA	280 degrees	apply check

15. Write and explain about the temporary adjustments of a dumpy level.
16. The following consecutive readings were taken with a dumpy level 1.895,1.5,1.856,2.57,2.99,2.02,2.41,2.52 and 2.96 the level was shifted after fourth, and sixth readings. The RL of the first point was 100.00 mt. Rule out a page of a level book and apply the usual checks.
17. Explain determination of horizontal angle by repetition method in theodolite
18. Explain the procedure measuring horizontal distance by using total station.
19. Draw a neat sketch of transit Theodolite and mention its components/
20. Explain measurement of distance by total station?

MODEL QUESTION PAPER
CONSTRUCTION TECHNOLOGY
FIRST YEAR
PAPER –III: ENGINEERING MECHANICS (THEORY)

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**

ii) Each question carries two marks

1. Define derived units.
2. Define vector and give examples.
3. Write the characteristics of force.
4. Define triangular law of force.
5. Draw a position of a centroid for the following
   A. Triangle B. Trapezoidal
6. State the hooks law.
7. Define shear modulus.
8. Define long column
9. Write types of beams.
10. Define bending moment and shear force.

SECTION –B

Note: i) Answer any FIVE questions **5 x 6 = 30**

ii) Each question carries six marks

11. A). Explain law of parallelogram of forces with neat sketches.
    B). Two forces 30 kn and 20 kn acting at 60 degrees to each other. Calculate the resultant of forces.
12. Determine the position of centroid of an "I" section of

Top flange	120mm x 20mm
Web	20mm x 90mm
Bottom flange	110mm x 20mm

13. Find the moment of inertia of a given "T" section about xx axis passing through centroid.

Flange	110mm x 15mm
Web	20mm x 120mm

14. A circular bar 10mm diameter, 300mm long was tested in tension. The increase in its length was found to be 1.5mm while the decrease in its diameter was 0.03mm. Calculate the longitudinal strain, lateral strain, poission's ratio.
15. A steel rod 20mm dia is subjected to a pull of 3KN, what are the longitudinal and transverse strains if and Poisson's ratio is 0.3. ($E=21X10^4$ N/mm^2)
16. A steel rod 5 m long and of 4 cm diameter is used as a column, with one end fixed and the other free. Determined the crippling load by Eulers formula. Take . ($E=21X10^4$ N/mm^2)
17. A cantilever beam of span 5mt having point loads 10kn, 15kn at free end and 2mt from

fixed end. And also udl of 2KN/m acting 2mt from free end. Draw shear force and BMD. The sketch is shown.

18. A simple supported beam 4mt-span is subjects to a point load 10kn, 20kn and 30kn at 1mt, 2mt and 3mt from left hand support. Draw shear force bending moment. The sketch is shown.

19. Determine the moment of inertia of an I section about XX axis given that top flange 100mm x 10mm, web is 200mm x 10mm and bottom flange is 160mm x 10mm.

20. List and Explain different types of beams with neat sketches.

MODEL QUESTION PAPER

CONSTRUCTION TECHNOLOGY

SECOND YEAR

PAPER- I : WATER SUPPLY AND SANITARY ENGINEERIN

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer ALL questions **10 x 2 =20**

ii) Each question carries two marks

1. Name the different layouts of distribution system.
2. List any three types of pipe materials used as water mains.
3. Name any four types of valves.
4. What is the purpose of air valve.
5. Define the term "Water Main".
6. What is the function of Ferrule.
7. What is meant by rain water harvesting.
8. Write about filtration of rain water.
9. What is the function of trap.
10. Name any four sanitary fittings.

SECTION –B

Note: i) Answer any FIVE questions **5 x 6 = 30**

ii) Each question carries six marks

11. What are the requirements of a distribution system.
12. Discuss the methods of distribution of water supply.
13. Draw a neat sketch of check valve and write its functions.
14. Draw a neat sketch of sluice valve and explain.
15. What are the requirements of piping system in a building.
16. Draw the neat sketch of underground reservoir and explain.
17. Explain the importance of rain water harvesting.
18. How rain water is collected for filtration storage and distribution with the help of neat sketch.
19. Name the types of water closets and explain with neat sketches.
20. State any six principles of planning and design of house drainage.

CONSTRUCTION TECHNOLOGY
SECOND YEAR
PAPER- II: ESTIMATION & COSTING (THEORY)

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**
ii) Each question carries two marks

1. Write The Units Of Measurements For
   A. Earth Work
   B. Plastering
2. Write The Abstract Estimate Format
3. Estimate The Quantity Of Brick Work For A Wall Of Length 5 Mt Width 20 Cm And Height 2.8 Mt
4. Write The Center Line Method For A Single Room Taking Quantities.
5. Write The Specification For Plastering
6. Define Lead And Lift.
7. Estimate The Quantity Of Cement, Sand Required For Cm(1:8) For 1 Cum
8. A Cave Is In Cutting And Has A Width Of 4 Mt At Bottom. If The Depth Of Cutting Is 2.0 M And Side Slopes 1.5:1. Find The Area Of Cross Section.
9. Write The Trapezoidal Formula For Calculation Of Earth Work.
10. Write Any 4 Component Parts of a Fixed Septic Tank

SECTION –B

Note: i) Answer any FIVE questions **5 x 6 = 30**
ii) Each question carries six marks

11. Prepare On Approximate Estimate Of The Building With A Plinth Area Of 1600 Sqm With The Following Data.
    1. Plinth Area Rate 3000/Sqm
    2. Add For Architectural Work 2.5% Of The Cost.
    3. Add For Water Supply And Sanitary Instalation 5% Of The Cost
1. Contingencies 3% Of The Cost
    4. Vision Charges 2% Of The Cost.
12. Estimate The Quantities Of The Following Items Of A Given Two Room Building Shown In Figure
    A. Earth Work Excavation.
    B. Flooring
13. Calculate The Quantities Of The Following Items By Center Line Method For The Building Shown In Figure
    A. Brick Work In Super Structure
    B. CC Bed
14. Estimate the Quantities Of The Following Items Of Work For Compound Wall 70m Length, 30cm Width And 2 Mt Height.
    A. Brick Work In Cm(1:4) Above Plinth
    B. Plastering Work
15. Estimate The Materials Required For A.

CC(1:2:4)

B. Brick Work Cm(1:1.5:3)

16. Calculate The Rate of CC(1:2:4) Of 1cum Take 10 Cum. Assume The Rates Of Materials And Labour.
17. Find the unit rate for plain cement concrete (1:6:12).
18. Prepare The Detail Estimate For The Cement Concrete Road Of 1.0KM Length For The Following Items Of Work As Shown In Figure
    A. Wearing Coat CC(1:2:4) With 20mm Size HBG Metal 100mm Thick
    B. Base Course CC (1:4:8) With 40mm Size HBG Metal 150mm Thick

19. Find the unit rate for course rubble masonry of cement mortar(1:6).
20. Prepare a detailed estimate for one kilometer length cement concrete road 4.0 m wide and 15cm thick. It is laid over rammed earth 6.0m wide and 20cm thick.

MODEL QUESTION PAPER
CONSTRUCTION TECHNOLOGY
SECOND YEAR
PAPER – III: HIGHWAYS & CONSTRUCTION MANAGEMENT (THEORY)

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**
ii) Each question carries two marks

1. State any four advantages of roads.
2. Write any three objects of reconnaissance survey.
3. What are the objects of traffic signs?
4. Write the materials used in the construction of WBM road.
5. Write the stages in construction.
6. Define contract planning.
7. Write the types of labour.
8. Define quality control
9. Define contract.
10. Define work order.

SECTION –B

Note: i) Answer any FIVE questions 5 x 6 = 30
ii) Each question carries six marks

11. Explain the functions of the component Parts of Road Structure With Sketch
12. Explain the Different Junctions With Sketches
13. Explain the Steps Involved In The Construction Of Cement Concrete Roads.
14. What is meant By Seal Coat and Write Three Functions of Providing It.?
15. What are the Methods of Scheduling? Explain Them Briefly.
16. Write Short Notes On
    A. Minimum Wage Act
    B. Contract Labour Act
17. Explain Various Types Of Contracts.
18. Write Short Notes On
    A. Work Order. B. Tender Notice
19. Explain the function of Inspection Department.
20. Explain different types of conract.

LIST OF EQUIPMENTS:

1	Drawing table with drawing boards.
2	T-square/Mini drafter
3	Drawing instruments set.
4	Set Square set,
5	Compass set
6	Plumb bob cross staff
7	Tapes
8	Spirit level
9	Bar bending bench
10	Bar bending tools (complete set with different diameters)
11	Survey chain (30 meters)
12	Dumpy level with stand
13	Cross staff
14	Theodolite with stand
15	Plane table with stand
16	Helmets
17	Gum boots
18	1mt x 1 mt x 0.01 mt (Mixing tray)
19	Weighing balance
20	Trowels
21	Cement Concrete cube moulds
22	Slump cone apparatus.
23	Compressive testing Machine (100 tonnes capacity)
24	Set of sieves 80 mm, 40 mm, 20mm 10mm, 4.75 mm, 2.36 mm 1.18 mm 0.6 mm, 0.3 mm, 0.15 mm
25	Sieve Shaker for coarse aggregate. (30 cm Dia)
26	Vicat apparatus
27	I.S. Testsieve - sieve No. 90 Microns
28	Weighing Balance (wt. 50 gm - to 5 kgs)
29	Fractional weight Box
30	Table Vibrator
31	Needle vibrator
32	Drawing Models
33	Drawing Model with sections.
34	Computers
35	Total station (surveying instrument)
36	Distomate
37	Different Models of Pipes and Fittings (on Display Board)
38	Display Models for Plumbing and Sanitary Lab (Water Closets, Wash Basins and Urinal Parts)

COLLABORATION INSTITUTIONS FOR CURRICULAM TRANSACTION

a) Collaboration Institutions for curriculum transaction

1. Technical training institutes (like Polytechnics, survey of India, Technical Teachers training institutes, Testing labs, (NAC) National Academy of Constructions)
2. Panchayat Raj Department
3. Roads & Buildings Department

b) On the Job Training Sites :

1. Government Departments like R & B, MCH, Huda, MES, Concrete ready Mix plants, Private builders and contractors, Building Materials Manufacturing Units like Tiles/ Bricks industries/ precast units/ cement industries.
2. All activities/ works related to transportation engineering etc, (highways, railways, airways, waterways).
3. All works related to Civil Engineering Field.

Evaluation:

1. Project work
2. Seminar on the project
3. Viva – voce

QUALIFICATIONS OF LECTURERS

a) B.E./B.Tech in Civil Engineering /AMIE (Civil) Equivalence

b) Diploma in Civil Engineering with 5 years teaching experience

Qualification of Lab Assistants:

a) Vocational pass outs of R&B/CT/S&E/WS& SE/BC&MT/Public Health Engineering Technician

b) NCVT/ITI passed or any equivalent

VERTICAL MOBILITY

Pass outs of this course may continue education in the following courses.

a) With Bridge Course :

   For further studies, joining in Polytechnics 2nd year,
   Writing EAMCET Exams, admission into any graduation courses.

b) Without Bridge Course :

   Self-employment and wage employment
   B.A., B.Com. B.Com Computers, CA, ICWA, ACS, LLB etc.

Reference Books:

1. Construction Materials

Construction Materials by G.J. Kulkarni
Building Materials by Rangawala

2. Surveying :

Survey I and II by B.C. Punmia
Surveying and levelling by T.P. Kanetkar
Surveying and levelling by S.K. Hussain and Nagaraj
Surveying and levelling by A. Kamala.

3. Engineering Mechanics :

Engineering Mechanics — R.S. Kurmi
Engineering Mechanics — N. Srinrvasulu
Engineering Mechanics — A. Kamala & AVRT sharma
Engineering Mechanics — K.L. Narsimham
Engineering Mechanics — Prasad
Engineering Mechanics — Ramamrutham
Engineering Mechanics — G. Venkateswar Rao
Engineering Mechanics Statics — Dayarathnam

4. Engineering Drawing :

Engineering drawing by — N.D. Bhatt
Engineering drawing by — B.R. Gupta
Engineering drawing by — Srinivasulu
Engineering drawing by — Gurucharan Singh

5. Building Construction :

A text book of Building Construction by — R.S. DeshPande
A text book of Building Construction by — Rangawala
A text book of Building Construction by — Sushil Kumar
A text book of Building Construction by — S.P. Arora

6. Estimating and Costing :

Estimating and Costing by — B.N Dutta
Estimating and Costing by — Birdie
Quantity surveying by — A.K. Kamala

7. Civil Engineering Drawing :

Civil Engineering Drawing I and II by — A. Kamala
Civil Engineering Drawing 'A' Series — V.V.S. Murthy
Civil Engineering Drawing by — B.P. Vermon

8.Transportation Engineering by --- S.C.RangawalaKhanna and Justo

9. Construction Management and Accounts :

Construction Management by — N. Srinivasulu
Construction Management and Accounts by — V.N. Vazirani
Construction Management and Planning by— B. Sengupta, H. Guha.
Construction Management and Accounts — Sharma

10. Computers:

Computers Science — E. Balagurusamy and Sushila : TataMcGrau Hills
Auto CAD - David Frey - BPB Publisher
Computer Applications in Civil Engineering by NITTTR Chennai
Course material on modern surveying instruments by NITTTR Chennai

List of Participants:

1.	**Prof V.Bikshama,** **College of Engineering,OU** **Hyderabad**
2.	**Prof K.L. Radhika** **College of Engineering,OU** **Hyderabad**
3.	**Sri L. Murali Krishna** **GJC, BHEL**
4.	**Ch. Gnanachary** **JL in BC&MT,** **GJC Malkajgiri**
5.	**B.Ramesh** **Civil Engineer,** **O/o the Commissioner of Intermediate Education** **Hyderabad, Telangana**
Verified & Corrected by **1. P.Haritha,** **Faculty, (Civil), NAC, Hyderabad** **2. M.Indira,** **Faculty, (Civil), NAC, Hyderabad**	
Co - ordinator: Sri. K.Vishweshwar , **S.I.V.E** **O/o The Commissioner of Intermediate Education** **Telangana, Hyderabad**	

Sd/- Dr A. Ashok
COMMISSIONER OF INTERMEDIATE EDUCATION

30% DELETED CONTENT IN VIEW OF COVID-19 PANDEMIC

FIRST YEAR

PAPER-I: CONSTRUCTION MATERIALS& CONSTRUCTION PRACTICE (THEORY)

Sl.No	Unit No/ Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 **STONES**	1.3 Types of Stones and Their Uses 1.4 Dressing of Stones 1.5 Surface Finishes	5) Define metamorphic rocks. 7) List any four properties of marble. 9)List the uses of marble 11) Name any two uses of stones. 12) Define dressing of stones. 13) Mention any four varieties of surface finishes of stones	3) Explain the uses of the following building materials. A)Market b)Granite c)Basalt d)Sandstone
2	UNIT-2: **BRICKS**	2.8.2 Fly Ash Bricks 2.8.3 Hallow Bricks	2. What are the types of special purpose bricks? 6. What are fly ash bricks? 8. What is tempering of clay?	
3	UNIT-3: **CEMENT**	3.3 Manufacture of Ordinary Portland Cement 3.3.2 Wet Process	NIL	1) Explain the manufacturing process of ordinary Portland cement by dry process 2) Explain the manufacturing process of ordinary Portland cement by wet process.
4	UNIT-4: **SAND**		NIL	NIL
5	UNIT-5: **MORTAR& CONCRETE**	5.2 lassification of Mortars 5.8 Water-Cement Ratio 5.12 Pre-cast Concrete 5.9 workability of concrete 5.10.1 Fibre reinforced concrete. 5.10.3 Self compacting concrete	3. Name the types of mortar. 4. Write any four proportions of motar for various construction works. 9. Define Water-Cement ratio. 11. Mention different methods of curing concrete. 12. What is Pre-Cast Concrete? 13. Define workability of concrete. 15. Define fibre reinforced concrete. 16. Define recycled aggregate concrete. 18. What is self-compacting concrete?	3) Explain Hand mixing & Machine Mixing of concrete.
6	UNIT-6: **MISCELLANEOUS MATERIALS**	6.9 Adhesives	9) What are the advantages of adhesives?	NIL

7	UNIT-7 **FOUNDATIONS**	7.3 Bearing capacity of soil. 7.7 Wall Footing, Raft Foundation.	2) Define the term bearing capacity of Soil 7) Write the types of deep foundation.	4) Explain types of Pile foundation
8	UNIT-8 **MASONRY**	8.3 Tools For Stone Masonry 8.5 Points to be observed while supervising the stone masonry 8.10 Tools used in brick masonry	4. Define Ashlar masonry. 6. List out the classification of Ashlar masonry 10. What are the various types of joints used in stone masonry? 16. What are the various defects in brick masonry?	2. Write and explain different types of rubble masonry 4. What are the points to be observed while supervising the stone masonry? 8. What are the points to be observed while supervising brick masonry?
9	UNIT-9 **LINTELS AND SUNSHADES**		NIL	NIL
10	UNIT-10 **FLOORS**	10.5.3 Terrazzo Floor 10.5.4 Marble	NIL	2) Write briefly the procedure of construction of Terrazzo flooring 4) Write briefly the procedure of construction of marble floors
11	UNIT-11 **ROOFS**	11.4 Queen post truss	NIL	3) Draw the neat sketch of a queen post truss and indicate any six parts.
12	UNIT-12 **STAIRS AND STAIRCASES**		NIL	NIL
13	UNIT-13 **SURFACE FINISHING**		NIL	NIL
14	UNIT-14 **CRACKS AND GENERAL MAINTENANCE IN BUILDINGS**		NIL	NIL
15	UNIT-15 **CONCRETE MEMBERS**	15.3 Pretention members and post tention members.	4) Write the examples of pretensioned members	NIL

CONSTRUCTION TECHNOLOGY - FIRST YEAR
PAPER-II: SURVEYING THEORY

Sl.No	Unit No/ Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 INTRODUCTION		NIL	NIL
2	UNIT-2 CHAIN SURVEYING	2.9 Different Operations in Chain Surveying 2.9.4 Chaining Along a sloped Ground 2.12 Obstacles in Chain Surveying	4. Write types of obstacles in chain surveying 12.A distance of 1200m is measured with 20m metric chain, after the measurement, it is found that the chain is 10cm long. Correct the measured distance.	3. Explain the procedure of indirect ranging. * 4. Explain the procedure for chaining up a hill slope.
3	UNIT-3 COMPASS SURVEYING	3.7 Errors in Compass Surveying		2) Write the errors in compass survey and explain the instrumental errors
4	UNIT-4 LEVELLING	4.3 Types of Levelling Staves	10. Write the types of levelling staves.	
5	UNIT-5 THEODOLITE SURVEYING	5.2(2) Measurement of Horizontal Angles		5. Explain measurement of horizontal angle by reiteration method using theodolite
6	UNIT-6 ADVANCED SURVEYING INSTRUMENTS	6.3 Elevation of a Point 6.5 Setting Out Right angles at different points on a base line	5. Write the adjustments required for total station for taking observations. 10. What is lidar survey?	4. Explain adjustments of Total station before taking observations. 6. Write the advantages of auto level.

CONSTRUCTION TECHNOLOGY (FIRST YEAR)
PAPER-III: ENGINEERING MECHANICS

Sl. No	Unit No/ Name of the Unit	Topic/Sub Topic to be deleted	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 SYSTEMS OF MEASUREMENTS AND UNITS	---	NIL	NIL
2	UNIT-2 FORCES AND MOMENTS	---	NIL	4. Find the magnitude and direction of the resultant of the system of co planar forces as shown in fig 2. 6. Explain how the system of forces are classified.
3	UNIT-3 CENTROID AND MOMENT OF INERTIA	---	7. Calculate the position of centroid of semi-circle having radius 40mm 1) Explain i) parallel Axis theorem ii) perpendicular Axis theorem 4. Find the M.I of circle of diameter 80mm about its Centroidal axis.	4. Find the center of gravity of channel section 100 x 50 x 15 mm 2. Determine the moment of Inertia of an unequal angle section of size 100mm x 80mm x 20mm about Centroidal axis 4. A built up section is formed by an I section and to flange plates of size 280 x 20mm are an each flange find the moment of inertia about Centroidal X-X axis as shown in below figure
4.	UNIT -4 SIMPLE STRESS AND STRAINS	---		

5	UNIT-5 SHEAR FORCE AND BENDING MOMENT	---	nil	4. A cantilever AB is 8m long and is fixed at "A', it carries point loads of 20 kN, 16kN and 24kN at 2m, 7m and 8m respectively from the fixed end. Draw S.F and B.M diagrams. Find the maximum SF and BM. 7. A simply supported beam ABC with supports at A and B, 6 meters apart on with an overhang BC 2 meters long carries a u.d.l of 15kN/mover the whole length. Draw S.F. and B.M. diagrams.

CONSTRUCTION TECHNOLOGY - SECOND YEAR

PAPER-I: WATER SUPPLY AND SANITARY ENGINEERING

Sl. No	Unit No/ Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 WATER DISTRIBUTION SYSTEM	1.5 Pipes 1.5.4 Effects of pipe corrosion, Causes and prevention	5) List any three requirements of pipe material to convey water 7) Name any two effects of pipe corrosion 10) What is Pipe Corrosion	5) What are the requirements of Pipe material 6) Explain the causes and effects of Pipe Corrosion
2	UNIT-2 APPURTENANCES IN THE DISTRIBUTION SYSTEM	2.3.3(2) Air valves 2,3.4 Drain wall or blow off valves 2.3.5 scour valves 2,3,7(2) Post Hydrants	3) What is the function of drain or blow of valve 4) Where is the scour valve fixed 9) What are the requirements of good fire hydrant	4) Draw the neat sketch of air relief valve and write its function 5) Describe the post fire hydrant with neat sketch
3	UNIT-3 WATER SUPPLY,PLUMBING SYSTEMS IN BUILDINGS & HOUSES	NIL	NIL	NIL
4	UNIT-4 RAINWATER HARVESTING	Summary.1. 4.1.3 Filtration of rain water 4.3 Rain water harvesting by percolation pit method	2) What are the reasons for depletion of ground water? 5) write about filtration of rain water	3) Explain the percolation pit method of rain water harvesting with the help of neat sketch
5	UNIT-5 SEWERAGE SYSTEM &SEWER APPURTENANCES	5.2 Laying of Sewers 5.1 Different shapes Cross – sections for Sewers circular and non- circular 5.3.4 catch basins 5.3.2 Drop Manholes 5.4 Necessity of Pumping Sewage – Location and Component parts of pumping station 5,4.2 Component parts of pumping station	2) Name the types of tests required for sewers. 6) What are the advantages of circular type of sewers over non-circular type of sewer 12) What is the purpose of providing catch basins	6) What do you understand by the drop manhole? Explain it with neat sketch 8) What are the elements of pumping station and describe each of them 9) Draw the neat sketch of pumping station and mention the purpose of each unit
6	UNIT-6 DRAINAGE &SANITATION IN BUILDINGS	6.3.1. (2) Classification according to use. 6.3.9.(a) Air test 6.3.1 Traps 6.2.1 Requirements of good drainage system in buildings6.2.2.fig 6.1 General Layout of sanitary fittings to house drainage arrangements	5) Classify the traps according to the use. 6) What is the significance of Air test 8) What are the requirements of good trap	2) State the requirements of Good drainage system in building 3) sketch the layout of drainage in single storied building and name the components.

PAPER-II: ESTIMATING & COSTING

Sl.No	Unit No/ Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 INTRODUCTION	NIL	NIL	NIL
	UNIT-2 MEASUREMENT OF MATERIALS AND WORKS	NIL	NIL	NIL
3	UNIT-3 TYPES OF ESTIMATES	NIL	NIL	NIL
4	UNIT-4 DETAILED &ABSTRACT ESTIMATE OF BUILDINGS	4.4 .Single storied residential building with number of rooms. 4.5, Primary school building with sloped roof. 4.6. R.C.C. Dog legged – open well stairs. 4,7.Two storied residential building 4.8. Detailed estimate of compound wall and steps.	NIL	NIL
5	UNIT-5 SPECIFICATIONS & ANALYSIS OF RATES	5.5. Preparation of unit rates for finished items of works.	NIL	NIL
6	UNIT-6 EARTHWORK CALCULATIONS	6.2. Taking out quantities from L.S and C.S in cutting and embankment.	NIL	NIL
7	UNIT-7 DETAILED ESTIMATES OF ROADS	7.3. Septic tank with soak pit.	4) What are the various parts of a septic tank? 5) What is the use of Soak pit?	NIL

CONSTRUCTION TECHNOLOGY - SECOND YEAR

PAPER-III: HIGHWAY ENGINEERING & CONSTRUCTION MANAGEMENT

Sl.No	Unit No/ Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 INTRODUCTION OF HIGHWAYS	1.3.7 Formation Width 1.3.8 Right of way 1.6 Camber 1.7 Gradient 1.8 Super Elevation	13) What is formation width 14) What is right of way? 16)Write any two objectives of camber 18) Write types of gradients. 19) What is ruling grading? 20) What is exceptional grading? 21)What is super elevation	
2	UNIT-2 HIGHWAY SURVEY &TRAFFIC ENGG	2.3 Survey Reconnaissance - Preliminary and final location survey 2.3 (c) Final Location Survey 2.4. Road Junctions 2.5 Traffic Islands 2.6.1(i) Types of Traffic signs 2.7.1 Pavement Markings	4) What is final location Survey? 6) What is Road Intersection? 8) What is tariffing island? 11) What is regularly Signs? 14) What are Road Markings?	2) Explain Various engineering surveys in detail. 4) Explain various traffic islands in detail.
3	UNIT-3 HIGHWAY CONSTRUCTION& MAINTENANCE	3.2 Surface and subsurface drainage 3.4.2 Material used in WBM Road construction 3.5.4 Surface dressing 3.5.6(b)Semi grout 3.6.3 Construction procedure of premixed bituminous carpet 3.6.5 Sheet asphalt 3.7.3 Joints in Cement Concrete roads	3) Write the Systems of Road drainage. 4) Write the requirements of an effective surface drainage. 10) Write any two purposes of surface dressing 12) What is semi grout	3) Explain Material used in WBM road construction. 6) Explain construction of pre mixed bituminous carpet 8) Explain the construction of sheet asphalt road 9) Explain various joints in construction of cement concrete roads.
4	UNIT-4 INTRODUCTION OF CONSTRUCTION MANAGEMENT	NIL	NIL	NIL
5	UNIT-5 CONSTRUCTION PLANNING	NIL	NIL	NIL

6	UNIT-6 CONSTRUCTION LABOUR	6.4	NIL	1) Explain the payment of wages to labour.
7	UNIT-7 INSPECTION& QUALITY CONTROL	NIL	NIL	NIL
8	UNIT-8 CONTRACTS	8.7	NIL	4) Explain the features of percentage rate contract.
9	UNIT-9 TENDERS& TENDER NOTICE	NIL	NIL	NIL

VOCATIONAL CURRICULUM-2020

(For the Academic year 2020-21)

[70% CONTENT IN VIEW OF COVID-19 PANDEMIC]

COMPUTER SCIENCE

[COURSE CODE: 319]

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

Dr. A.Ashok I.A.S
COMMISSIONER

500001

INTERMEDIATE EDCATION
Government of Telangana
Nampally, Hyderabad-

Phone: 040-24655915

Fore word

In any developing society with a booming population, Vocational Education occupies an important position for generating large scale employment opportunities. Viewed in this context the importance of Vocational Education for our country cannot be over emphasized. Vocationalization of Secondary Education was introduced in 1988 at the Intermediate level. Recently, the Government of India has developed a National Skills Qualification Framework for establishing a clear path for vocational education from the school level to the highest level. The Department of Intermediate Education has recently framed a new curriculum to bring greater value to the system of vocational education. The primary aim of this reform is to prepare the students with employable skills for absorption in organized sectors and in few cases, even for self-employment.

State Institute of vocational education and Board of Intermediate Education, Telangana have reviewed the curriculum of vocational courses in order to reorient them for their practical approach. Greater emphasis is now being placed on Laboratory work and on the job training.

Simultaneously, The State Institute of Vocational Education and the department of Intermediate Education are presently making efforts to upgrade the quality of infrastructure in the colleges to meet the challenges of the changed curriculum. I am confident that the revised curriculum and the new text books would prove to be beneficial to the students in the vocational stream and help them train in need based productive courses leading to gainful employment.

Commissioner of Intermediate Education
Government of Telangana

S No.	Contents	Page No.
I	**Introduction**	4
II	**Objectives of the Course**	5
III	**Skills to be provided**	5
IV	**Job Opportunities** a) Wage Employment b) Self-Employment	5
V	**Scheme of Instruction and Examination**	6
	SYLLABUS	
VI	**First year** **Theory** Paper I: Computer Fundamentals and MS-Office Paper II: Programming in C Paper III: Accountancy and Tally **Practicals** Paper I: WindowsAnd Ms-Office Paper II: Programming in C Paper III:Engineering Drawing	9
VII	**Second Year** **Theory** Paper I: DBMSand JAVA Paper II: Graphic Design & 3D Animation Paper III: Data Communications & Computer Networks. **Practicals** Paper I: DBMSand JAVA Paper II : Graphic Design & 3D Animation Paper III: Data Communications & Computer Networks.	27
VIII	**List of Equipment** a) Collaborating Institutions for curriculum transaction b) On – the – Job Training Sites	39
IX	**Teaching staff and their Qualification**	40
X	**Vertical Mobility**	40
XI	**Model Question Papers**	41
XII	**Equivalency of Papers**	48
XIII	**List of Participants**	49

INTRODUCTION

The objectives of Vocational Education System in the context of fulfillment of national goal are to train the students for employment in the growing sectors of economy both organized and unorganized, to provide an alternative channel for higher education and to prepare students for self-reliance and gainful employment. There has been a great improvement in the demand for computer professionals during the past few years. To cater to certain computer oriented requirements of the business sector the Computer Science course syllabus has been drafted

II. OBJECTIVES OF COURSE

- To develop professional competence in the use of computers and related hardware, programming skills and techniques.
- To train the students to acquire skills and mastery in the use and development of different software.
- To enable the students for self and wage employment.

III. SKILLS TO BE PROVIDED

- Skills to operate different computer hardware devices.
- Skills in maintenance procedures.
- Skills in configuring the system software and installation procedures.
- Skills in using specific packages and Languages.
- Skills in programming techniques and data processing.
- Skills in computer and data security.

IV. JOB OPPORTUNITIES

(a) **WAGE EMPLOYMENT:**

- Junior Programmer
- Computer operator
- Computer Instructor
- Software marketing personal
- Computerized Accounts Assistant
- Networking technicians with service providers
- Drafting assistants

(b) **SELF EMPLOYMENT:**

- DTP operator.
- Internet and E-mail center maintenance
- Maintaining and establishment of small networks
- Image and Video editing
- Basic hardware& Trouble shooting technician.
- Web Designer

V

ANNUAL SCHEME OF INSTRUCTION AND EXAMINATION
COMPUTER SCIENCE

FIRST YEAR

Part-A		Theory		Practicals		Total	
		Periods	**Marks**	**Periods**	**Marks**	**Periods**	**Marks**
1.	English	150	50	0	0	150	50
2.	General Foundation course	150	50	0	0	150	50
	Part-B						
3.	**Paper-I** Computer Fundamentals and MS-Office	135	50	135	50	270	100
4.	**Paper-II** Programming in C	135	50	135	50	270	100
5.	**Paper-III** Accountancy and Tally	135	50	135	50	270	100
Part-C							
6.	**OJT**	0	0	365	100	365	100
	Total	**705**	**250**	**770**	**250**	**1475**	**500**

*on the Job Training for 1st year from 1st November to 31st December

SECOND YEAR

Part-A		Theory		Practicals		Total	
		Periods	**Marks**	**Periods**	**Marks**	**Periods**	**Marks**
1.	English	150	50	0	0	150	50
2.	General Foundation course	150	50	0	0	150	50
Part-B							
3.	**Paper-I** DBMS and JAVA	110	50	115	50	225	100
4.	**Paper-II** Graphic Design & 3D Animation	110	50	115	50	225	100
5.	**Paper-III** Data Communications & Computer Networks.	110	50	115	50	225	100
Part-C							
6.	**OJT**	-	-	450	100	450	100
	Total	**630**	**250**	**795**	**250**	**1425**	**500**
TOTAL FIRST YEAR AND SECOND YEAR MARKS 1000							

*OJT Programme for 2nd year students from 1st August to 31st October.

EVALUATION OF ON THE JOB TRAINING:

The "On the Job Training" shall carry 100 marks for each year and pass marks is 50. During on the job training the candidate shall put in a minimum of 90 % of attendance.
The evaluation shall be done in the last week of January.

Marks allotted for evaluation:

S.No	Name of the activity	Max. Marks allotted for each activity
1	Attendance and punctuality	30
2	Familiarity with technical terms	05
3	Familiarity with tools and material	05
4	Manual skills	05
5	Application of knowledge	10
6	Problem solving skills	10
7	Comprehension and observation	10
8	Human relations	05
9	Ability to communicate	10
10	Maintenance of dairy	10
	Total	100

NOTE: The On the Job Training mentioned is tentative. The spirit of On the Job training is to be maintained. The colleges are at liberty to conduct on the job training according to their local feasibility of institutions & industries. They may conduct the entire on the job training periods of (365) First year and (450) Second year **either by conducting classes in morning session and send the students for OJT in afternoon session or two days in week or weekly or monthly or by any mode which is feasible for both the college and the institution**. However, the total assigned periods for on the job training should be completed. The institutions are at liberty to conduct On the Job training during summer also, however there will not be any financial commitment to the department.

SCHEME OF INSTRUCTION PER WEEK

	Part-A	**Theory**	**Practicals**	**Total**
1.	English	4	-	4
2.	General Foundation Course	4	-	4
	Part-B			
3.	Paper –I	4	4	8
4.	Paper-II	4	4	8
5.	Paper-III	4	4	8
6.	**Total**	**20**	**12**	**32**

VI

SYLLABUS

COMPUTER SCIENCE

FIRST YEAR

PART-B - VOCATIONAL SUBJECTS

PAPER-I: COMPUTER FUNDAMENTAL AND MS-OFFICE [THEORY]

UNIT. NO.	UNITS	NO.OF PERIODS	WEIGHTAGE OF MARKS	NO. OF SHORT QUESTIONS	NO.OF ESSAY QUESTIONS
I	Introduction to Computer Systems and Hardware	10	8	1	1
II	Overview of Hardware Components and Operating Systems	10	8	1	1
III	MS Word	30	18	3	2
IV	MS Excel	30	16	2	2
V	MS Power Point	20	8	1	1
VI	MS Access	35	10	2	1
	Total	135	68	10	8

Note: After completion of every unit one assignment will be given to the students

Note:- The question paper contains TWO Sections.

SECTION – A contains 10 short questions carries 2marks each,

SECTION – B contains 8 Long questions carries 6marks each.

The student has to answer **ALL** questions in **SECTION – A** and any **FIVE** Questions in **SECTION-B**.

Additions/ Deletions/changes

1. In Unit II, "Introduction of Hardware Components" and Introduction to Linux operating system has been added in addition to the overview of Operating Systems.

SYLLABUS

UNIT **I. Introduction to Computer Systems and Hardware**
• Introduction to Computers, generations of computer • Classification of Computers based on Purpose, Operation & Size • Anatomy of Computers • Number Systems • Basic I/O Devices • Block Diagram of CPU • Memory units- Primary and Auxiliary memory • Programming Languages, general software features trends and utilities.

UNIT II. Overview of Hardware Components and Operating Systems
• Identifying the peripherals of the computer (Processor, Memory chips, Mother Boards, Disk Drives and Controller card such as AGP board, Network Card , Sound card and as well as Parallel and Serial Ports etc.,) • ~~Disassembling and Assembling PC in working condition.~~ Load the operating system with partitions for windows , Configure for Network. • Introduction to Windows (Meaning of Multitasking, File system, desktop components, control panel, Windows Explorer , Device manager, File Manager and Program Manager , Display properties, taskbar properties etc.) • Introduction to Linux Operating system (Ubuntu or RedHat) , function and its types • Features of Linux • Working with Linux Commands like ls, mkdir, chdir, chmod etc. • Introduction to bash shell and shell scripting
UNIT. III. MS-Word
• Introduction to Word Processing • Editing a Document • Move and Copy Text and Help System • Formatting Text and Paragraph • Finding and Replacing Text and Spell Checking • Using Tabs • Enhancing Document • Columns, Tables and Other Features • ~~Using Graphics~~, Templates and Wizards • Using Mail Merge • Miscellaneous features of Word
UNIT.IV MS-Excel
• Introduction to Spreadsheet • Creating Worksheets & feeding data • Using functions • Editing Cells and Using commands and functions • Moving and Copying, Inserting and Deleting Rows and Columns • Formatting a Worksheet

• Opening, Saving and Printing a Worksheet • Working with Charts • ~~Working with Macros~~ • ~~Pivot tables~~
UNIT.V MS-PowerPoint
• Creating Presentations using AutoContent Wizard, Template & Blank Presentation • Working with Master's Slide, Title handout and Notes • Viewing a Presentation • Drawing Objects & Inserting OLE • Drawing freeform shapes • Rotating Objects • Animation in slides/objects
UNIT.VI MS-Access
• Concept of data and information. • Introduction to Database management systems. • Creating a database. • Concepts of related tables and integrity constraints. • Designing tables. • Use of queries, types of queries and creating queries. • ~~Creating Forms and Reports~~

Reference Books:

1. Rajaraman V, "The Fundamentals of Computer", Prentice Hall of India.
2. Fundamentals of MS-Office — BPB Publication.
3. Fundamentals of Information technology — M.L. Sai Kumar
4. Fundamentals of Information technology — Galgotia Publications

COMPUTER SCIENCE
I YEAR
PAPER-II: PROGRAMMING IN 'C' (THEORY)

PERIODS PER WEEK: 4 **PERIODS PER YEAR : 135**

UNIT. NO.	UNITS	NO.OF PERIODS	WEIGHTAGE OF MARKS	NO. OF SHORT QUESTIONS	NO.OF ESSAY QUESTIONS
I	Introduction to Problem Solving Techniques	5	10	2	1
II	Features of 'C'	50	24	3	3
III	Functions	50	16	2	2
IV	Arrays in 'C'	20	10	2	1
V	Structures and Unions in C	10	8	1	1
	Total	135	68	10	8

Note: After completion of every unit one/two assignments will be given to the students

UNIT.I. Introduction to Problem Solving Techniques

- Procedure and Algorithms
- Flowcharts
- ~~Pseudo code~~

UNIT.II Features of 'C'

- Introduction to 'C'
- Structure of a 'C' Program
- Data types in 'C' – Constants & Variables- operators and Expressions
- Statements – data definition- assignment-
- Selection Statements (if, if-else, nested – if)
- Control structures (for, while, do-while)
- Structure for looping and nested looping
- Branching (switch, break, continue)
- Unconditional branching (go to statement) simple programs covering above units
- Simple programs based on Control structures

UNIT.III Functions

- What is a function?
- Difference between a function and a procedure
- Advantages of functions

• User defined and library functions, main function • Return types. • Concepts associated with functions – Recursion, scope of a function, extent of a variable. • Use of various categories of built-in functions for mathematical and string operations.
UNIT.IV Arrays in 'C'
• Array as Data structure- defining single and multidimensional arrays, simple operations on arrays, simple programs on arrays. • ~~File operations like fopen( ), fclose( ), fprint( ), fscan( ) fread() fwrite() fseek()~~
UNIT.V Structures and Unions in C
• Structures:- definition - declaration – operation on structures, ~~array of structures, array with structures~~, structure as data types, operations on structures • Unions – definition – difference between union and structure. Creating and using a structure

Reference Books:

1. Programming using C by C.Kochan.
2. Let us C by YashwantKanetkar
3. Programming in – Kerningham and Ritchie
4. Programming in C — E. Balaguruswamy

COMPUTER SCIENCE
I YEAR
PAPER-III: ACCOUNTANCY AND TALLY (THEORY)

PERIODS PER WEEK: 4 **PERIODS PER YEAR : 135**

UNIT .NO.	UNITS	NO.OF PERIODS	WEIGHTAGE OF MARKS	NO. OF SHORT QUESTIONS	NO.OF ESSAY QUESTIONS
I	Introduction to Accountancy	5	8	1	1
II	Double Entry System:-	5	8	1	1
III	Journal	10	2	1	-
IV	Ledger	10	8	1	1
V	Subsidiary Books	15	8	1	1
VI	Cash Book	15	8	1	1
VII	Journal Proper	15	2	1	-
VIII	Trail Balance and rectification	10	8	1	1
IX	Final Accounts	20	8	1	1
X	Tally Package	30	8	1	1
	Total	135	68	10	8

Note: After completion of every unit one/two assignments will be given to the students

Unit I: Introduction: Book keeping Vs Accountancy- uses of Accountancy- Accounting concepts- ~~Accounting Conventions-~~ Accounting terminology.
Unit II: Double Entry System: Meaning theory of double entry system- Classification of Accounts- Advantages of double entry system
Unit III: Journal: Introduction- generalizing of different transactions- Advantages of journal
Unit IV: Ledger: Meaning- Ledger posting- system of ~~balancing accounts~~ advantages of ledger
Unit V: Subsidiary Books: Meaning and significance- different type of books – purchase books – sales book – purchase return book- sales returns – bills receive books, bills payable book Treatment of trade discount.
Unit VI: Cash book: Meaning and significance- features – kinds of cash books single cash book cash book with cash and discount- cash book with cash – discount and bank- cash book with cash and bank and discount columns- analytical petty cash books.
Unit VII: Journal Proper: Meaning and significance- pass book- need for reconciliation causeof difference – errors and disclosed and not disclosed by trial balance rectification of errors Suspense account.
Unit VIII: Trial Balance and Rectification:- Meaning and significance- features and Objectives- preparation of trial balance- errors disclosed by trial balance rectification of suspense account.

Unit IX: Final Accounts: (a) Trading Account: Meaning and significance: performance of trading account- adjustments (b) Profit and Loss account: Meaning and significance – steps in preparation of profit and loss accounts- performance of profit and loss account- adjustments (c) Balance Sheet: Meaning and significance- objectives – preparation of balance sheet- arrange of assets and liabilities – adjustments.
Unit X: Tally :- Introduction to Tally package a) Introduction to Accounting packages – Features, accounting, data migration capability, duties and taxes, advantages and disadvantages. b) Financial functions of Tally – Inventory and application – Creation of company, alteration of company, master configuration, creation of groups, grouping of ledger accounts, voucher configuration, recording transactions of sample data. c) Display and reports – Accounting reports, Balance sheet, profit and loss account, printing reports. d) Ratio Analysis – Classification- Financial ratios, Profitability ratio, Activity ratio analysis. e) Cash flow statement and flow statement- Preparation of funds flow statement, limitations of funds flow statement, analysis of funds flow statement, Cash Flow in tally.

COMPUTER SCIENCE
SECOND YEAR
PAPER-I: JAVA PROGRAMMING (THEORY)

S.NO.	UNITS	NO.OF PERIODS	WEIGHTAGE OF MARKS	NO. OF SHORT QUESTIONS	NO.OF ESSAY QUESTIONS
I	Object-Oriented Programming and Java	**10**	**8**	**1**	**1**
II	The Java programming language	**20**	**8**	**1**	**1**
III	Control Statements and Arrays	**10**	**10**	**2**	**1**
IV	Implementing OOPS, Packages and Interfaces	**35**	**10**	**2**	**1**
V	Exception Handling and Threads	**10**	**8**	**1**	**1**
VI	Java Applets	**5**	**8**	**1**	**1**
VII	Java AWT	**10**	**8**	**1**	**1**
VIII	Event Handling	**10**	**8**	**1**	**1**
	Total	**110**	**68**	**10**	**8**

1. **Object-Oriented Programming and Java**

   Introduction to bytecode, JVM, JRE and JIT compiler. Java and the Internet, Platform independence of JAVA. Introduction to Applets. Main features of Java.
   Introduction to OOPS. Main features of OOPS. Introduction to classes, properties and behaviour. Concepts of Abstraction and Encapsulation. Introduction to Objects. Access specifiers- Public, Private and Protected and their use. Concept of Polymorphism and Inheritance.
2. **The Java programming language**
   Data types in Java types. Identifiers, Literals and Keywords in Java. Operators in Java. Writing simple methods and calling them. Types of methods based on return type and arguments. Type conversion and casting. Using the keyword static. Concept of constructors and destructor.
3. **Control Statements and Arrays**
   The If ,Nested If, If – Else, if- else-if ladder and the switch statement. Java Iteration statements – while, do- while and for statements. Break and Continue statements. One and two dimensional arrays, reading and writing to arrays, mathematical operations on array data.
4. **Implementing OOPS, Packages and Interfaces**
   Creating and using various types of Methods to accept / return basic data types and objects. Implementing the concept of Polymorphism, Inheritance and Operator Overloading.
   Concepts and uses of packages. Creating and importing packages. Concepts of interface and its uses. Writing and implementing simple interfaces.
5. **Exception HandlingandThreads**
   Exception handling fundamentals. Exception types, the try, catch, throw, throws and finally keywords. Java's built in exceptions. Writing simple programs for exception handling.

Concepts of Threads, Multithreading and Multitasking. The Thread class and its methods. Writing simple programs involving threads.

6. **The Java Applet**
   Introduction to Java Applets. Basic methods of the Applet class, Applet initialization and Termination, the HTML applet tag and writing code to ~~create simple applets.~~
7. **The Java Abstract Windowing Toolkit**
   The Java AWT concepts, its purpose, ~~commonly used AWT classes~~, creating and managing forms with simple controls to implement common arithmetic operations like adding two numbers etc.
8. **Event Handling**
   Concepts of event, event sources and listeners~~. Common event classes and methods~~. Creating Forms and writing code to manage simple Events on buttons and mouse.(click, double click, mouse move over)

COMPUTER SCIENCE
SECOND YEAR
PAPER-II: RELATIONAL DATABASE MANAGEMENT SYSTEM (THEORY)

S.NO	UNITS	NO.OF PERIODS	WEIGHTAGE OF MARKS	NO. OF SHORT QUESTIONS	NO.OF ESSAY QUESTIONS
I	Concepts of DBMS	20	8	1	2
II	Entity and Relationship	15	8	2	1
III	Relational Model	15	16	2	2
IV	SQL	25	16	2	1
V	PL/SQL	20	8	1	1
VI	Software Development Life Cycle	15	10	2	1
	Total	**110**	**68**	**10**	**8**

Unit I: Concept of DBMS: Purpose of Data Base Systems – Data abstraction – Data models – Instances, Schemes- Data Independence – Data Integrity – DDL, DML. DCL – Responsibility of a Database Manager – Data Base Administrator.

Unit II: Entity and relationship: Entity and Entity sets – Attributes – Relationship and Relationship sets – Mapping constraints – E-R representation symbols – Drawing E-R diagrams ~~– Reducing E-R diagrams into tables~~.

Unit III: Relational Data Model:

Structure – table Structure, Domain, Range, degree of a table tuple, types and attributes, types of keys. ~~Formal query languages~~ – ~~commercial query languages~~ – CODD rules.

Unit IV: SQL: Introduction to SQL – data types –DDL, DML and DCL Commands –Set operators and ~~joins~~ – Sub queries and database objects. PL/SQL – Introduction – Advantages – Data types – Logical Comparisons (Numeric, character and Boolean expressions) – Control structures – concept of error handling exception.

Unit V:PL/SQL:PL/SQL Tables (Declaration, Referring and inserting, deleting and fetching rows etc).~~Database Triggers~~ – syntax – parts of triggers (statement, body and restriction) - types of triggers (before and after options) Enabling and disabling triggers – Dropping triggers

Unit VI: Software Development and Life cycle:

Definition of system, analysis and design - Study of software life cycle – requirement analysis , design , development, ~~testing~~, implementation and maintenance.

COMPUTER SCIENCE
SECOND YEAR
PAPER-III: COMPUTER NETWORKS (THEORY)

S.NO.	UNITS	NO.OF PERIODS	WEIGHTAGE OF MARKS	NO. OF SHORT QUESTIONS	NO.OF ESSAY QUESTIONS
I	Data communications	10	8	1	1
II	Network Topologies	25	16	2	2
III	LAN components and Communication Hardware	15	8	1	1
IV	Internet Connectivity and Services	15	10	2	1
V	HTML & Web Page Design	25	16	2	2
VI	DHTML	20	10	2	1
	Total	**110**	**68**	**10**	**8**

UNIT 1 :Data communications:- Definition- Modes of data transmission(Analog and Digital)- types of Communications – Bandwidth – Communication channels (Wire cables, Microwave and Fiber optic) – methods of Data transmission(Asynchronous, Synchronous and Isochronous) – Parallel and Serial interface – Transmission Modes(Simplex, Half-duplex and Full-duplex) - ~~multiplexing.~~

UNIT 2:Network Types and Topologies :- Definition of Computer network – Advantages & disadvantages –Types of Networks(LAN, MAN, WAN, Private, public & Value added) – Definition of Network topology - Types and structure of topologies(Bus, Ring, Star, ~~Mesh~~ and Hybrid) – advantages and Disadvantages of topologies.

UNIT 3:LAN Components: -

1. Server, Clients, File server
2. Ethernet cards, HUBS, Switches, Routers, Gateways.
3. Modem and types - ~~V-SAT, ATMS~~
4. Adapters- Functions and types.
5. Multiplexers Functions and Types

UNIT 4. :Internet Connectivity and Services.

Introduction to internet – Advantages, browsers

Services: - Messaging – E-mail and ~~FTP~~.

Introduction to Internet security – viruses, Trojans, worms, phishing and hacking - antivirus software etc. - Current trends.

UNIT 5:HTML & Web page Design:-

Introduction to HTML.
HTML basic elements and attributes.
HTML heading, body, title, paragraphs, formatting and fonts tags.
Tags for Images and tables.
Creating Lists and frames.
Creating hyperlinks.
~~Tags to create forma and form objects.~~

UNIT-6 DHTML:-

Introduction to DHTML

- Advantages of DHTML
- Components of DHTML
    - HTML
    - ~~CSS~~
    - Scripting
    - DOM
- Events- Mouse events
- DHTML in Layer TAG
- Layer Attributes
- The Style Object of IE
- Dynamic Contents in IE4
- Introduction to CSS.

Reference Books:

1. Data communicationsand Networking— Behrouz A.Forouzan
2. Computer Networks — A.Tenenbaum
3. HTML Black Book----Steven Holzner

VIII. LIST OF EQUIPMENT

HARDWARE, TOOLS AND EQUIPMENT:

1. Processor i7 or latest processor with at least 4 GB RAM, 1 TB Hard disk space, 17'' LED Color Monitor, USB Key board, USB Optical Mouse, CD/DVD R/W Drive, at least 6 USB ports onboard Sound, Graphics, Modem and Network adaptor preloaded with Windows 10 Operating system supplied with media kit and antivirus software . 22 Nos (20 for students, one for the Faculty and one for Server.)
2. Online UPS 2 KVA One no.
3. LCD Projector and screen One no.
4. 16 Port Switch Two nos.
5. Laser Printers Two nos.
6. Flatbed Scanner One No.
7. Web Cam One No.
8. Crimping tool for network cables One No.
9. Individual components of individual (Mother Board, SMPTS., RAM etc.,)

SOFTWARE (LATEST VERSIONS)

1. MS Office 2016
2. Turbo C
3. Tally
4. Adobe PageMaker
5. Adobe Photoshop
6. AutoCAD
7. Corel Draw

FURNITURE

1. Air conditioners 1.5 Ton 02 Nos
2. Computer Tables 22 Nos
3. Operator's Chairs 22 Nos
4. Printer tables 02 Nos
5. Steel cupboards 01 Nos
6. Library book case with lock facility 01 Nos
7. Tables for Staff members 02Nos
8. Chairs for Staff members 02 Nos
9. Vacuum cleaner 01 Nos
10. Shoe Rack (to accommodate at least 22 pairs) 01 Nos

CONSUMABLES

1. Print cartridges as per requirement
2. Printer Paper as per requirement
3. Pen drives of required storage size 4 Nos...
4. Different types of network cables as per requirement
5. CDs and DVDs as per requirement
6. RJ 45 or compatible connectors for network cabling as per requirement.

LAB INFRASTRUCTURE

Computer center 20' X 25' or subject to the availability of accommodation but Minimum of 20' x 20' with false roofing and flooring.

NOTE: -High Speed Internet connection is must be provided for training in internet technologies and also to expose the students to acquire latest knowledge about latest updates available, antivirus and other security tools and for troubleshooting tips on a need basis.

(a) COLLABORATING INSTITUTIONS FOR CURRICULUM TRANSACTIONS

- DTP centers locally available
- Data conversion centers

(b) ON THE JOB TRAINING CENTERS

- Software development centers
- Universities
- Public sector companies
- Small Scale Industries

IX.QUALIFICATION OF LECTURERS:

- 1.B.E. /B.Tech [CSE/IT] or equivalent viz AMIE in Computer Science.
- 2. MCA/M.Sc[Computers / MS.IT/MSIS] with PGDCA from Recognized University.

X. VERTICAL MOBILITY

- Eligible to appear EAMCET on par with MPC students by appearing Bridge Course
- Can enter into B.Sc(CS/IT), B.E/B.Tech, Polytechnic 2ND year on completion of Bridge course
- B.Com(Comp) , BCA etc. without bridge course.
- Eligible to attend A Level course recognized by DOEACC.

XI. **MODEL QUESTION PAPERS**

COMPUTER SCIENCE

FIRST YEAR

PAPER-I: COMPUTER FUNDAMENTALS AND MS-OFFICE [THEORY]

Time: 3 Hrs **Max. Marks: 50**

SECTION-A **10 x 2=20**

Note:- 1. Answer ALL Questions:
2. Each Question carries 2Marks.

01. What is a Computer?
02. What is Control Panel?
03. What is autocorrect?
04. What is thesaurus?
05. What is formatting a text?
06. What is spread sheet?
07. What are the shortcut keys for Bold, Italic and Underline?
08. What is power point presentation?
09. Define DBMS.
10. What is filter?

SECTION-B

Note:- 1. Answer any FIVE Questions from the following **5 x 6= 30.**
2. Each Question carries 6Marks.

11. Write about generations of Computers.
12. Draw the Block diagram of digital computer and explain each unit in it.
13. Explain about various Hardware components of a Computer.
14. Explain any six Linux commands with syntax with example.
15. Write about Mail merge.
16. Write about Find and Replace commands.
17. Explain about functions in MS-Excel.
18. Explain about various Charts.
19. Write the steps to create save and preview a presentation.
20. Explain the terms tuple, attribute, cardinality, degree, domain and relation.

COMPUTER SCIENCE
FIRST YEAR
PAPER-II: PROGRAMMING IN C[THEORY]

Time:- 3 Hrs **Max. Marks:- 50**

SECTION-A

Note:- 1. Answer ALL Questions: **10 x 2=20**
2. Each Question carries 2Marks.

01. What is an Algorithm?
02. What are the symbols used in Flowchart?
03. What is Variable and Constant in C?
04. What are the basic data types in C?
05. What is String Constant?
06. What is storage class?
07. What is recursion?
08. What is an Array?
09. Write a C program to print 'IPE' using one dimensional array.
10. What is Union? Write the syntax of Union.

SECTION-B

Note:- 1. Answer any FIVE Questions from the following **5 x 6= 30.**
2. Each Question carries 6Marks.

11. Differentiate between Algorithm and Flowchart.
12. Draw the flowchart to find roots of Quadratic equation $ax^2+ bx+c =0$.
13. Explain various Operators in C.
14. Explain various conditional Control statements in C.
15. Explain various conditional Looping statements in C.
16. What is Function? Explain in detail.
17. Write a C program to generate Fibonacci series using recursion.
18. Write a C program to sort a list of numbers.
19. Write a C program for addition of two matrices.
20. What is Structure (' Struct') ? Explain in detail.

COMPUTER SCIENCE
FIRST YEAR
PAPER-III: ACCOUNTANCY AND TALLY [THEORY]

Time:- 3 Hrs **Max. Marks:- 50**

SECTION-A

Note:- 1. Answer ALL Questions: **10 x 2=20**
2. Each Question carries 2Marks

01. What is Accountancy?

02. Define Assets and Liabilities?

03. Draw the proforma of Journal.

04. What is Ledger?

05. What is Sales Book?

06. What is Cash Book?

07. What is Contra Entry?

08. What is Trail Balance?

09. What is Closing Stock?

10. What are the function keys used in Tally?

SECTION – B **5 X 6 = 30**

Note:- 1. Answer any FIVE Questions:
2. Each Question carries 6 Marks

11. What are the accounting concepts? Explain some of them.

12. Explain in brief:

a) Debtor b) Business entity concept

c) The ledger d) Assets and liabilities

e) An Account f) Nominal account

13. Journalise the following transactions and post them in ledger accounts.

Jan	1	Amount invested in business	25000
"	2	Purchases of furniture	1000
"	3	Purchases	8000
"	4	Sales	3000
"	5	Sales to Ram	1000
"	6	Sales returned by Mohan	100
"	7	Sales to Mohan	500
"	8	Sales returned by Mohan	200
"	9	Furniture Purchased	800
"	10	Sales	300
"	11	Purchases	1000
"	12	Recieved from Mohan	800
"	13	Recieved from Ram	1000
"	14	Purchases	400
"	15	Sales	1000
"	16	Sale of furniture	100

14. What transactions are entered in purchases and Purchases-return books?

15. Enter the following transactions in the sales book and post them in ledger account.

			Rs
Jan	1	Sales to Rama	800
"	2	Sales to Satish	300
"	3	Sales to Mohan	400
"	4	Sales to Rama	500
"	5	Sales to Rama	200

16. Describe the importance of Cash book?

17. Enter the following transactions in a cash book and prepare the bank account and find its balance.

2019			Rs
Jan	1	Cash balance	1200
"	1	Sales	800
"	1	Purchases	500
"	1	Drawn from bank	2000
"	1	Advertisement	200
"	1	Received from Ram	720
"	1	Discount given to him	30
"	2	Payment to Mohan	340
"	2	Received discount from him	10
"	2	Sales	1300

"	2	Deposited in to bank	300
"	2	Received from Sateesh	215
"	2	Discount given to him	5
"	2	Received from Ram	216
"	2	Discount given to him	4
"	2	Drawn from bank	200
"	2	Paid to Ganesh	830
"	2	Discount received from him	20

18. Prepare trial balance from the following balances.

Kumar's capital Rs. 35,000, Kumar's Drawings Rs. 3,000, Opening Stock Rs.
40,000, Machines Rs. 4,000, Furniture Rs. 2,000, Sundry debtors Rs. 15,000,
Sundry creditors Rs. 18,000, Cash Rs. 1,2000, Bank balance Rs. 4,000,
Purchases Rs. 12,000, Sales Rs. 20,500, Sales Return Rs. 1,000,
Insurance Rs.
400, Rent Rs. 450, Advertisement Rs. 250, Bills Receivable Rs. 4,000,
Bills payable Rs. 14,600, Stationery Rs. 800.

19. What are the final accounts? Why and how they are prepared?
20. Write the procedure to create company in Tally?

COMPUTER SCIENCE

SECOND YEAR

PAPER-I: JAVA PROGRAMMING [THEORY]

Time:- 3 Hrs **Max. Marks:- 50**

SECTION-A

Note:- 1. Answer ALL Questions: **10 x 2=20**

2. Each Question carries 2Marks.

01. What is Byte Code?
02. What primitive data types in Java?
03. Write the syntax of 'IF 'statement.
04. What is an Array? Write types of Arrays?
05. What is a Package? Write its syntax.
06. What is an Interface? Write its syntax.
07. What is debugging?
08. What is an applet?
09. What is AWT?
10. What is an event?

SECTION - B **5 x 6 = 30**

Note:- 1. Answer ANY FIVE Questions:

2. Each Question carries 6 Marks.

11. Write about main features of java?
12. Explain Arithmetic operators with an example.
13. Explain Assignment operators with an example.
14. Write a java program to find biggest of given three values.
15. Write a java program to find factorial of a given number.
16. Explain the Polymorphism with an example.
17. Write about some java built in exceptions.
18. Write about basic methods of applet class.
19. Write about types of Containers.
20. Write about four types of classes involved in event handling.

COMPUTER SCIENCE

SECOND YEAR

PAPER-I: RELATIONAL DATABASE MANAGEMENT SYSTEM **[THEORY]**

SECTION-A

Note:- 1. Answer ALL Questions: 10 x 2=20

2. Each Question carries 2Marks.

01. What is DBMS?
02. What is Entity and Entity set?
03. What is tuple?
04. What is Primary key?
05. What are Unary operations?
06. What are the internal data types in SQL?
07. What are the TCL commands?
08. What is an Exception?
09. Who will be called as System Analyst?
10. What is Data Dictionary?

SECTION - B 5 x 6 = 30

Note:- 1. Answer ANY FIVE Questions:

2. Each Question carries 6 Marks.

11. What is data abstraction? Explain in detail?
12. What are the functions of DBA?
13. Explain the mapping constraints with neat diagram.
14. What is an Attribute? Explain about types in it.
15. What are the CODD rules in Relational Data Model?
16. Explain DDL commands with examples.
17. Explain various Integrity Constraints in detail.
18. Write the structure of PL/SQL.
19. Write about Error handling concept in PL/SQL.
20. Explain various implementation methods in detail.

COMPUTER SCIENCE
SECOND YEAR
PAPER-III: COMPUTER NETWORKS [THEORY]

Time:- 3 Hrs **Max. Marks:- 50**

SECTION – A **10 X 2 = 20**

Note: Answer ALL Questions: Each Question carries 2 marks.

01. What is Data Communications?

02. What is Computer Network?

03. Expand the terms LAN, MAN, WAN, BBN, GAN,PAN.

04. What is File Server?

05. What is an E-mail?

06. What is Protocol?

07. Write different header tags available in HTML.

08. What is hyperlink?

09. What is Layer Tag?

10. What is an event in DHTML?

SECTION – B **05 X 6 = 30**

Note: Answer any FIVE Questions: Each Question carries 6 marks.

11. Write about Transmission Modes.

12. Explain about various Communication channels .

13. Explain different types of Computer Networks

14. What is an Internet? Explain its importance in Computer Network.

15. Discuss about Router and Gateways.

16. Explain about various Web Browsers.

17. Write about Internet Security.

18. Write the structure of HTML program .

19. Define List. Explain various types lists used in HTML.

20. Write the differences between HTML and DHTML

XIII. LIST OF PARTICIPANTS

1.	**Prof S. Sameen Fatima** Professor in CSE Department Principal, University College of Engineering (A), Osmania University, Hyderabad.
2.	**Dr K.Shyamala** Associate Professor in CSE Department University College of Engineering (A), Osmania University, Hyderabad.
3.	**Ch. Sriram Kumar** Head, Department of CSE Govt. Polytechnic, Masab Tank, Hyderabad
4.	**A. Suryanarayana Murthy** Factory Delivery Lead, Mobile Center of Excellence Novartis Healthcare Pvt Ltd Hi-Tech City, Hyderabad
5.	**Sri M.V. Rama Rao** Lecturer in Comp. Science & Engineering. Govt. Junior College (Old), Malakpet, Hyderabad.
6.	**Verified and Corrected by** Dr. Padmaja Rani, Professor of CSE, JNTUH, CEH Hyderabad.
7.	**Co-ordinator** **Sri. K Vishweshwar** Lecturer in SIVE, O/o the C.I.E., Telangana, Hyderabad.

Sd/- Dr A. Ashok
COMMISSIONER OF INTERMEDIATE EDUCATION

30% DELETED CONTENT IN VIEW OF COVID-19 PANDEMIC

FIRST YEAR

PAPER-I: COMPUTER FUNDAMENTALS & MS-OFFICE (THEORY)

S.No	Unit No. & Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1: Introduction to Computers	Language/Software	SAQ's-33-46	13Q: Write about different types of software in details
2	UNIT-2: Overview of Computer Hardware and Operating System	Disassembling and Assembling a PC	12Q: What is Motherboard?	2Q: Write the procedure to Assemble a Computer system
3	UNIT-3:MS-Word	Graphics, Clipart, Smart art, Word arts & watermark	23Q: What is Clip art? 24Q: What is Smart art? 25Q: What is Watermark?	13Q: Write about word art.
4	UNIT-4:MS-Excel	Macros Pivot Tables	23Q: What is a macro 25Q: What is a PivotTable?	8Q: Write about Macros 10Q: Write about PivotTables in Excel.
5	UNIT-5:MS-Powerpoint	Word art, Clip Art, Smart art, Word art, Photo Album & Printing	13Q: What is word art? 18Q: What is Clip art? 19Q: What is Smart art? 20Q: What is Photo album?	9Q: Write about the printing of a presentation.
6	UNIT-6:MS-Access	Forms & Reports	15Q: What is Form Wizard? 16Q: What are form views? 19Q: What is report wizard?- 20Q: What are the views in report design?	7Q: Write the steps to create form by using form wizard? 8Q: Write about creating a form. 9Q: Write the steps for creating a report by using Report Wizard? 10Q: Write about creating a report.

COMPUTER SCIENCE - FIRST YEAR
PAPER-II: PROGRAMMING IN "C"

S.No	Unit No.& Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1Introduction to Problem solving Techniques	Pseudo code	3Q: What is Pseudo Code?	NIL
2	UNIT-2:Features of 'C'	Bitwise operator, Differences between Break & continue	NIL	8Q: Write the differences between Break and Continue statements.
3	UNIT-3:Functions	Function Prototypes, Call by value, Call by Reference	4Q: Write differences between Global and Local variables.	4Q: Discuss about Global and Local variables. 5Q: Explain about Call by Value with an example 6Q: Explain about Call by Reference with an example.
4	UNIT-4:Arrays in C	Matrix multiplication String handling functions, File Operations	6Q: What is the String handling functions.	6Q: Write a program for multiplication of two matrices. 8Q: Explain String handling functions in C. 10Q: Explain about File operations like fopen(), fclose() ,fprintf(), fscanf().
5	UNIT-5:Structures in C	Nested Structures Structures containing Arrays & Arrays of structures contain Arrays	6Q: What is a Nested structure? 7Q: What are the advantages of structures over an Array?	2Q: Explain the advantages of structures type over the array variable. 3Q: Explain about structures and Arrays.

COMPUTER SCIENCE - FIRST YEAR
PAPER-III: ACCOUNTANCY & TALLY

S.No	Unit No.& Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1:Introduction of Accountancy	Accounting conventions, Rules for Debit & Credit	NIL	4Q: What are important accounting conventions? Discuss some of them. 5Q: Explain the rules of debiting and crediting the different types of accounts.
2	UNIT-2:Journal	NIL	NIL	NIL
3	UNIT-3: Ledger	Balancing of Accounts	NIL	3Q: Explain how accounts are balanced? 4Q: What does the debit balance in Personal, Real and Nominal accounts reveal? 5Q: What does the credit balance in Personal, Real and Nominal accounts reveal? 6Q: Name the accounts, which appear on the debit side of any account. 7Q: Name the accounts, which appear on the credit side of any account.
4	UNIT-4:Subsidiary Books	Debit & Credit Notes	SAQ-NIL	3Q: What are Debit and Credit notes? How are they numbered?
5	UNIT-5:Cash Book	Three Column Cash Book problems Petty Cash Book	9Q: What is Petty Cash Book? Which expenses are entered into it?	17Q: Enter the following transactions given in Question16nin 3 column cash book and bring out the balances.
6	UNIT-6:Trial Balance	NIL	NIL	3Q: Why Cash and bank column balances of the cash book are included in the trail balance? 4Q: What do you mean by agreement of trail balance? What does it is show?
7	UNIT-7:Final Accounts	Preparation of Profit & Loss Account, Balance sheet	SAQ-NIL	8Q: What are the usual items debited and credited to profit and loss account?

				9Q: What is balance sheet? How it is prepared? 10Q: What are fixed and floating assets and liabilities? 11Q: What are the important points to be remembered in connection with the balance sheet?
8	UNIT-8:Tally	Ratio Analysis, Cash Flow & Funds Flow	9Q: What is a Cash flow statement? 10Q: What is a Funds flow statements?	3Q: What is ratio Analysis? What are the principals groups you see in a report and how does it help the organization? 4Q: What are Cash flows and Fund flow statement and how to obtain reports?

COMPUTER SCIENCE - SECOND YEAR
PAPER-I: JAVA PROGRAMMING

S.No	Unit No. & Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1: OOPS & JAVA	Instance variable, Features of OOPS	12Q: What is an Instance variable?	3Q: Write about main features of OOPS
2	UNIT-2:The Java Programming Language	Methods in java	12Q: What is a Method? 13Q: What is Constructor? 14Q: What is Destructor?	6Q: Write a Java program to find minimum value in given two values.
3	UNIT-3:Control Statements & Arrays	Sum of values in array matrix multiplication	- -	10Q: Write a program to find sum of values of an array. 12Q: Write program for matrix multiplication.
4	UNIT-4:Implementing OOPS, Packages and Interfaces	Interfaces Vs Packages	-	4Q: Write the Advantages of packages and interfaces. 6Q: Write the Differences between packages and Interfaces
5	UNIT-5:Exception Handling & Threads	Thread class & its methods	-	7Q: Write a simple program by using threads.
6	UNIT-6:Java Applets	Create a Simple Applet	-	3Q: Write the stepwise Procedure to create and run an applet
7	UNIT-7:Java AWT	Commonly used AWT Classes	-	3Q: Write a program for creating a frame by using AWT. 4Q: Write a program for adding a component to a frame by using AWT. 5Q: Write a program for adding two numbers by using AWT.
8	UNIT-8:Event Handling	Common used methods	-	4Q: What are commonly used methods in Event handling? 5Q: Write a program to display a text message **"welcome"** when we press mouse click.

COMPUTER SCIENCE - SECOND YEAR
PAPER-II- RDBMS

S.No	Unit No. & Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1concepts of DBMS	Database Users	12Q: Write different types of database users.	6Q: Discuss briefly about different types of database users.
2	UNIT-2:Entity and Relationships	Reducing E-R Diagrams	NIL	3Q: Write the procedure to reducing E-R diagram in to table.
3	UNIT-3:Relational Data Model	Formal & Commercial Query Languages	7Q: What are the Formal Query Languages'? 8Q: What are the Commercial Query Languages?	4Q: Write the differences between Formal and Commercial Query languages.
4	UNIT-4: SQL	Joins	NIL	5Q: Write about different types of Joins in detail.
5	UNIT-5: PL/SQL	Database Triggers	4Q: What is Database Trigger	5Q: What is Trigger? Write about different types of Triggers with example.
6	UNIT-6: Software Development and Life Cycle [SDLC]	Testing	4Q: What are different methods of system testing?	2Q: What is Testing? Write different types of testing can be considered while testing a software product?

COMPUTER SCIENCE - SECOND YEAR
PAPER-III: COMPUTER NETWORKS

S. No	Unit No. & Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	**UNIT-1:** Data Communication	Multiplexing	8Q: What is Multiplexing? Write various types of multiplexing.	3Q: Explain various types of multiplexing with neat diagram.
2	**UNIT-2:** Network Types & Topologies	Mesh & Tree Topologies	6Q: What is Network Topology? List types of topologies.	2Q: Explain any three network topologies with their advantages and disadvantages.
3	**UNIT-3:** LAN Components	Modem, V-SAT & ATM	9Q: What is Modem and list types of Modems? 12Q: Expand V-SAT, ATM,FTP,EDI	2Q: Explain the function of Modem with neat diagram 4Q: Write about V-SAT and ATM.
4	**UNIT-4:** Internet Connectivity & Services	FTP	8Q: What is FTP	NIL
5	**UNIT-5:** HTML & Webpage Design	Frames, linking & Forms	7Q: What is Frame?	7Q: How the frames can be created in HTML 8Q: Define form. Explain various form objects used in HTML.
6	**UNIT-6:** DHTML	CSS	6Q: What are the advantages of CSS? 8Q: List different types of Style Sheets.	7Q: Explain about CSS selector. 8Q: Write about Inline Style Sheet. 9 Q: Write about External Style Sheet. 10 Q: Write about Internal Style Sheet

VOCATIONAL CURRICULUM-2020

(For the Academic year 2020-21)

[70% CONTENT IN VIEW OF COVID-19 PANDEMIC]

ELECTRONICS & COMMUNICATION TECHNICIAN (320)

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

Dr. A.Ashok I.A.S
COMMISSIONER

INTERMEDIATE EDCATION
Government of Telangana
Nampally, Hyderabad- 500001
Phone: 040-24655915

Fore word

In any developing society with a booming population, Vocational Education occupies an important position for generating large scale employment opportunities. Viewed in this context the importance of Vocational Education for our country cannot be over emphasized. Vocationalization of Secondary Education was introduced in 1988 at the Intermediate level. Recently, the Government of India has developed a National Skills Qualification Framework for establishing a clear path for vocational education from the school level to the highest level. The Department of Intermediate Education has recently framed a new curriculum to bring greater value to the system of vocational education. The primary aim of this reform is to prepare the students with employable skills for absorption in organized sectors and in few cases, even for self-employment.

State Institute of vocational education and Board of Intermediate Education, Telangana have reviewed the curriculum of vocational courses of second year from the academic year 2019-20 in order to reorient them for their practical approach. Greater emphasis is now being placed on Laboratory work and on the job training.

Simultaneously, The State Institute of Vocational Education and the department of Intermediate Education are presently making efforts to upgrade the quality of infrastructure in the colleges to meet the challenges of the changed curriculum. I am confident that the revised curriculum of second year for Vocational Courses would prove to be beneficial to the students in the vocational stream and help them train in need based productive courses leading to gainful employment.

Sd/- Dr. A.Ashok
COMMISSIONER OF INTERMEDIATE EDUCATION

SCHEME OF INSTRUCTION AND EXAMINATION
ANNUAL SCHEME OF INSTRUCTION AND EXAMINATION FOR
ELECTRONICS AND COMMUNICATION TECHNICIAN
FIRST YEAR

Part-A		**Theory**		**Practicals**	**Practicals**		**Total**	
		Periods	**Marks**		**Periods**	**Marks**	**Periods**	**Marks**
1.	English	150	50	-	0	0	150	50
2.	General Foundation course	150	50	-	0	0	150	50
Part-B					-			
3.	**Paper-I** Circuit Theory and Electronic Components.	135	50	**Paper –I** Engineering Drawing	135	50	270	100
4.	**Paper-II** Electronic Devices and Circuits.	135	50	**Paper –II** Electronic Devices and Circuits Lab	135	50	270	100
5.	**Paper-III** Digital Electronics and Computer Fundamentals	135	50	**Paper –III** Digital Electronics and Computer Fundamental Lab	135	50	270	100
6	**Part-C OJT**	0	0		365	100	365	100
	Total	**705**	**250**		**770**	**250**	**1475**	**500**

SECOND YEAR

Part-A		Theory			Practicals		Total	
		Periods	Marks		Periods	Marks	Periods	Marks
1.	English	150	50	-	0	0	150	50
2.	General Foundation course	150	50	-	0	0	150	50
Part-B								
3.	**Paper-1** Communication Engineering	110	50	**Paper –I** Communication Engineering Lab	115	50	225	100
4.	**Paper-II** Modern Communication Systems	110	50	**Paper –II** TV and Mobile Phone Servicing Lab	115	50	225	100
5.	**Paper-III** Measuring Instruments and Consumer Electronics	110	50	**Paper –III** Instrumentation and Measurements Lab	115	50	225	100
6.	**Part-C OJT**	0	0		450	100	450	100
	Total	**630**	**250**		**795**	**250**	**1425**	**500**
	TOTAL 1st YEAR AND 2nd YEAR MARKS							**1000**

EVALUATION OF ON THE JOB TRAINING:

The "On the Job Training" shall carry 100 marks for each year and pass marks is 50. During on the job training the candidate shall put in a minimum of 90 % of attendance.
The evaluation shall be done in the last week of January.

Marks allotted for evaluation:

S.No	Name of the activity	Max. Marks allotted for each activity
1	Attendance and punctuality	30
2	Familiarity with technical terms	05
3	Familiarity with tools and material	05
4	Manual skills	05
5	Application of knowledge	10
6	Problem solving skills	10
7	Comprehension and observation	10
8	Human relations	05
9	Ability to communicate	10
10	Maintenance of diary	10
	Total	100

NOTE: The On the Job Training mentioned is tentative. The spirit of On the Job training is to be maintained. The colleges are at liberty to conduct on the job training according to their local feasibility of institutions & industries. They may conduct the entire on the job training periods of (365) First year and (450) Second year **either by conducting classes in morning session and send the students for OJT in afternoon session or two days in week or weekly or monthly or by any mode which is feasible for both the college and the institution**. However, the total assigned periods for on the job training should be completed. The institutions are at liberty to conduct On the Job training during summer also, however there will not be any financial commitment to the department.

ELECTRONICS AND COMMUNICATION TECHNICIAN
FIRST YEAR
PAPER I: CIRCUIT THEORY AND ELECTRONIC COMPONENTS (THEORY)
TIME SCHEDULE

Sl. No	Major Units	No. of periods	Weight age of marks	Short Answer Questions	Essay Questions
1	Resistors	15	8	1	1
2	Inductors & Transformers	15	8	1	1
3	Capacitors	15	8	1	1
4	Fundamentals of DC & AC circuits	25	10	2	1
5	Miscellaneous components	20	10	2	1
6	Soldering & PCB's	15	8	1	1
7	SMD components	15	8	1	1
8	Batteries &Cells	15	8	1	1
	Total	**135**	**68**	**10**	**8**

DETAILED SYLLABUS

S.No	SYLLABUS
1.	**RESISTORS** 1.1. Fixed & Variable 1.2. Fixed-carbon film, wire wound, metal film 1.3. Colour codes 1.4. Measurement of resistance 1.5. Variable -types: potentiometers, presets 1.6. Power rating:1/8Watt, 1/4 Watt, 1/2Watt, 1 Watt, 2 Watt, Metal/ carbon film resisters and Wire Wound Resisters from 5 Watt to few 1000 Watt etc. 1.7. Resistors in Series and Parallel
2.	**INDUCTORS & TRANSFORMERS** 2.1. Electromagnetic induction 2.2. Faraday's laws and Lenz law 2.3. Self-inductance L 2.4. Mutual inductance M concept 2.5. Co-efficient of coupling 2.6. Inductors in Series and Parallel 2.7. Ratings and Specifications 2.8. Factors effecting the inductance 2.9. Transformer – working principle 2.10. Types of transformers: Step up / down, AF, RF & IF 2.11. Types of Cores used Iron core, Silicon Core(and usage) 2.12. 2.13. Ratings and Specifications

3.	**CAPACITORS** 3.1. Working principle 3.2. Types of capacitors: Fixed & Variable 3.3. Types of Dielectrics used: air, paper, mica, glass, ceramic, electrolyte and its applications 3.4. Types polarized and non-polarized 3.5. Colour codes of Capacitors 3.6. Measurement of capacitance 3.7. Capacitors in series and parallel 3.8. Ratings and Specifications
4.	**FUNDAMENTALS OF DC & AC CIRCUITS** 4.1. Electrical quantities: Voltage, Current, Resistance, Conductance, Admittance, Power, VA etc. 4.2. Ohm's Law 4.3. Kirchhoff's Current Law, Voltage Law 4.4. Kirchhoff's Series & Parallel circuits-simple calculations 4.5. Power calculations 4.6. A.C. Fundamentals : Sinusoidal ac, Phase, Phase difference, Periodic time, Frequency 4.7. Instantaneous values, peak values, average values, notations used 4.8. AC power : Real Power & Apparent Power 4.9. AC circuits containing RL,RC & RLC in Series & Parallel Circuits 4.10. Derive expression for Series and Parallel Resonance
5.	**MISCELLANEOUS COMPONENTS** 5.1. Wires : Single Core/, Multi-core 5.2. SWG's, Ratings ,Wire Joints 5.3. Types of Connectors 5.4. Types of Terminators 5.5. Making terminations using tools 5.6. Classify switches according to poles and throws (SPST, SPDT, DPST, DPDT, Multi-pole multi-throw), symbols and ratings 5.7. Relays: Working Principle, types, symbols and ratings 5.8. Contactors: Working Principle, types, symbols and ratings 5.9. - 5.10. - 5.11. Testing of all above components with meter
6.	**SOLDERING & PCBs** 6.1. Soldering basics 6.2. Soldering irons, de soldering pumps -types, ratings, 6.3. Temperature controlled soldering/De-soldering stations 6.4. PCB-types, single sided, double sided, multi-layered 6.5. Soldering drills 6.6. Steps in preparation of PCB

7.	**SMD COMPONENTS** 7.1. SMD components –types 7.2. SMD soldering stations 7.3. Give an idea of Surface Mount Technology (SMT). 7.4. State the advantages of SMT over Pin Through Hole (PTH) mounting
8.	**BATTERIES & CELLS** 8.1. Primary cells and Secondary cells-Applications 8.2. Types: Ni-Cd, Alkaline, Ni-ion, Li-ion, Li-polymer –Applications 8.3. Charging and discharging of cells 8.4. Cells in series and parallel-effect on current/voltage 8.5. Testing of Cells with meter 8.6. Ratings & Specifications 8.7. Batteries – Lead acid & maintenance free batteries 8.8. Testing of batteries 8.9. Ratings &Specifications of batteries

ELECTRONICS AND COMMUNICATION TECHNICIAN
FIRST YEAR
PAPER II: ELECTRONIC DEVICES AND CIRCUITS (THEORY)

Sl. No	Major Units	No. of Periods	Weight age of marks	No. of Short questions	No. of Essay questions
1	Semi-Conductor Components	20	8	1	1
2	Power Supplies and Filters	20	8	1	1
3	Voltage % Power amplifiers	20	8	1	1
4	Power Amplifiers	15	8	1	1
5	Feed Back Amplifiers and Oscillator	15	8	1	1
6	Analog Integrated Circuits	20	8	1	1
7	Power Electronic Devices	25	12	3	1
	TOTAL	**135**	**68**	**10**	**8**

DETAILED SYLLABUS

1.	**SEMICONDUCTOR COMPONENTS** 1.1. Introduction to materials and its classification(insulators, semiconductors and conductors,) 1.2. State the electrical properties of solid state Semiconductor materials. 1.3. Describe the formation of P- type and N- type materials 1.4. Identify Majority and Minority carriers in P and N -Type materials. 1.5. Explain the formation of PN junction diode. 1.6. Describe the working of PN Junction Diode Forward/Reverse Bias with V-I characteristics 1.7. Interpret the manufacturer specifications of a given diode from data sheet 1.8. Know the formation of transistor & Draw the symbol of transistor. 1.9. Explain the working of PNP and NPN Transistors with characteristics 1.10. Define alpha, beta and gamma Factors 1.11. Understand the specifications in DATA SHEET of transistors 1.12. FET & MOSFET principle of working and symbols 1.13. Advantages of FET over BJT

2.	**POWER SUPPLIES & FILTERS** 2.1. Draw the block diagram of regulated DC power supply and explain the function of each block. 2.2. Draw and describe the working of half wave rectifier with waveforms. 2.3. Write the equations for RMS value, average value, ripple factor and efficiency for the half wave rectifier. 2.4. Draw and describe the working of centre tapped full wave rectifier with waveforms. 2.5. Draw and describe the working of bridge rectifier with waveforms. 2.6. Write the equations for RMS value, average value, ripple factor and efficiency for the full wave rectifier. 2.7. Compare the above rectifier circuits. 2.8. Explain the need for a filter in power supplies and list different types of filters. 2.9. Explain the operation of a rectifier circuit using capacitor input, series inductor and CLC filters. 2.10. Define voltage regulation. 2.11. Explain the operation of simple Zener regulator 2.12. SMPS block diagram, ratings and specifications 2.13. SMPS uses and applications
3.	**VOLTAGE & POWER AMPLIFIERS** 3.1. Draw the CB, CC and CE transistor configurations & list applications 3.2. Know cut off, saturation and active regions. 3.3. Compare characteristics of CB, CC and CE configurations 3.4. Explain the need for proper biasing in amplifier circuits and List the types of biasing circuits. 3.5. Explain the need for stabilization 3.6. Understand the working of transistor as an amplifier 3.7. Explain why a voltage amplifier cannot be used as a power amplifier. 3.8. Distinguish between voltage amplifiers and power amplifiers. 3.9. Classify the amplifier circuits on the basis of frequency, period of conduction, and configurations. 3.10. Define efficiency of a power amplifier. 3.11. Draw the circuit of a class-A amplifier with resistor load at the collector and explain the operation. 3.12. Write an expression for efficiency of the above circuit. 3.13. Draw the circuit of a class-A amplifier with transformer at the collector and explain the operation. 3.14. Write an expression for efficiency of the above circuit. 3.15. List the advantages of push pull power amplifier. 3.16. Explain the operation of class-B push-pull amplifier and mention its disadvantages. 3.17. Write an expression for efficiency of the above circuit. 3.18. List the applications of power amplifiers. 3.19. List different IC numbers for power amplifiers

4.	**FEEDBACK APLIFIERS AND OSCILLATORS** 4.1. Compare Negative and Positive feedback. 4.2. Draw the block diagram of negative feedback amplifier and explain 4.3. List the types of negative feedback amplifiers 4.4. State the condition for an amplifier to work as an oscillator. 4.5. Classify oscillator circuits. 4.6. Draw and Explain the working of an R.C. phase shift oscillator 4.7. List the advantages of crystal oscillators over other types 4.8. Draw and explain the working of transistor crystal oscillator. 4.9. State the reasons for instability in oscillator circuits. 4.10. List the applications of oscillators
5.	**ANALOG INTEGRATED CIRUITS** 5.1. Explain the operation of transistor series voltage regulator. 5.2. Explain the operation of transistor shunt voltage regulator 5.3. What is an Integrated Circuit(IC), list advantages and its classifications 5.4. List the types of IC regulators and give the advantage of IC regulators. 5.5. Explain the operation of fixed positive and negative voltage regulators.(using 78xx series and 79xx series) 5.6. Draw and explain the differential amplifier. 5.7. State the function of an operational amplifier. 5.8. Know the operational amplifier characteristics like Input impedance, Open loop gain, Slew rate, CMRR, Input offset voltage, Input offset Current, 5.9. List the specifications of ideal operational amplifier. 5.10. Draw and explain the block diagram and pin configuration of IC 741 5.11. Illustrate the use of operational amplifier as summer, integrator, differentiator, inverter and multiplier, voltage follower, voltage to current converter, current to voltage converter, comparator, square wave generator 5.12. Draw the block diagram of 555 IC and explain. 5.13. Explain the working of Astable multivibrator using 555 IC.
6.	**POWER ELECTRONIC DEVICES** 6.1. List different Thyristors family devices. 6.2. Sketch the ISI circuit symbols for each device. 6.3. Describe constructional details of SCR. 6.4. Draw & Explain the Volt – Ampere characteristics of SCR. 6.5. Mention the ratings of SCR. 6.6. Give constructional details of DIAC & TRIAC 6.7. Draw & Explain the Volt-ampere characteristics of DIAC&TRIAC under forward / reverse bias. 6.8. State the different modes of TRIAC triggering. 6.9. Draw & Explain SCR circuit triggered by UJT. 6.10. Explain power control circuits DIAC, TRIAC& SCR's. 6.11. Briefly explain the working of Reverse conducting Thyristors (RCT), Asymmetrical SCR (ASCR), Power BJT, Insulated gate bipolar transistor (IGBT), MOS-controlled Thyristors (MCT) with characteristics. 6.12. Study of Manufacturer's data sheet of power electronic devices. 6.13. List the applications of all power electronic devices 6.14. Power Control Schematic

ELECTRONICS AND COMMUNICATION TECHNICIAN
FIRST YEAR
PAPER III: DIGITAL ELECTRONICS AND COMPUTER FUNDAMENTALS (THEORY)

Sl. No	Major Units	No. of periods	Weightage of marks	Short Answer Questions	Essay Questions
1	NUMBER SYSTEMS	15	8	1	1
2	LOGIC GATES AND DIGITAL IC FAMILIES	15	8	1	1
3	COMBINATIONAL CIRCUITS	15	8	1	1
4	SEQUENTIAL CIRCUITS	20	8	1	1
5	D/A AND A/D CONVERTORS	10	6	0	1
6	SEMICONDUCTOR MEMORIES	20	10	2	1
7	COMPUTER HARDWARE & NETWORKING BASICS	25	12	3	1
8	MICROSOFT OFFICE	15	8	1	1
Total		**135**	**68**	**10**	**8**

DETAILED SYLLABUS

1.	**NUMBER SYSTEMS** 1.1. Explain Binary, Octal, Hexadecimal number systems and compare with decimal system. 1.2. Convert a given decimal number into Binary, Octal, and Hexadecimal numbers and vice versa. 1.3. Convert a given binary number into octal and hexadecimal number system and vice versa. 1.4. Perform binary Addition, Subtraction, Multiplication and Division. 1.5. Write 1's complement and 2's complement numbers for a given binary number. 1.6. Perform subtraction of binary numbers in 2's complement method. 1.7. Explain the use of alphanumeric codes (ASCII & EBCDIC) 1.8. State different postulates in Boolean algebra.
2.	**LOGIC GATES AND DIGITAL IC FAMILIES** 2.1. Explain AND, NOT gates with truth table. 2.2. Explain the working of universal logic gates (NAND, NOR gates) using truth tables. 2.3. Explain the working of an exclusive – OR gate with truth table. 2.4. State and explain De-Morgan's theorems. 2.5. Develop AND, OR, NOT operations using NAND, NOR gates. 2.6. List different digital logic families. 2.7. Explain the characteristics of digital ICs such as logic levels, propagation delay, Noise margin, Fan-in, Fan-out, and Power dissipation. 2.8. Compare the TTL, CMOS and ECL logic families. 2.9. List the numbers of Digital IC Logic gates and understand the specifications

3.	**COMBINATIONAL CIRCUITS** 3.1. Give the idea of combinational logic circuits. 3.2. Draw Half adder circuit using Exclusive OR gate and AND gate and explain its function using truth table. 3.3. Realise a Half-adder using NAND gates only and NOR gates only. 3.4. Draw the full adder circuit and explain its operation with truth table. 3.5. Show that two Half-adders and an OR – gate constitutes a full-adder. 3.6. Draw and explain a 4 Bit parallel adder using full – adders. 3.7. Draw and explain the operation 4 X 1 Multiplexer 3.8. Draw and explain the operation 1 to 4 demultiplexer. 3.9. Draw and explain 3 X 8 decoder. 3.10. List the applications of multiplexers and decoders. 3.11. List some of the popular digital ICs and appreciate the applications
4.	**SEQUENTIAL CIRCUITS** 4.1. Give the idea of Sequential logic circuits. 4.2. Explain NAND and NOR latches with truth tables 4.3. State the necessity of clock and give the concept of level triggering and edge triggering, 4.4. Draw and explain clocked SR flip flop using NAND gates. 4.5. Study the need for preset and clear inputs. 4.6. Construct level clocked JK flip flop using S-R flip-flop and explain with truth table 4.7. Explain the level clocked D and T flip flops with the help of truth table and circuit diagram. 4.8. Give only the truth tables of edge triggered D and T flip flops with their symbols. 4.9. List the applications of flip flops. 4.10. State the need for a Register and list the types of registers. 4.11. Draw and explain working of 4 bit shift left and shift right registers(7475) 4.12. Draw and explain parallel in parallel out shift register 4.13. Explain the working of Universal shift register (74194) 4.14. Draw and explain asynchronous decade counter. 4.15. Distinguish between synchronous and asynchronous counters. 4.16. List applications of counters. 4.17. List the IC numbers of flip flops, registers and counters.
5.	**D/A AND A/D CONVERTERS** 5.1. State the need for A/D and D/A converters. 5.2. Explain the terms resolution, Accuracy, Môn tonicity and settling time of D/A converter. 5.3. Explain D/A conversion using binary weighted resistors. 5.4. Explain D/A conversion using R-2R ladder network. 5.5. Explain A/D conversion using counter method. 5.6. Explain A/D conversion using successive approximation method.

6.	**SEMICONDUCTOR MEMORIES** 6.1. State memory read operation, writes operation, access time, memory capacity, address lines and word length. 6.2. Classify various types of memories. 6.3. Differentiate between ROM and RAM 6.4. Explain basic principle of working of diode ROM 6.5. List different ROM and RAM ICs 6.6. Explain the working of basic dynamic MOS RAM cell. 6.7. Compare static RAM and dynamic RAM 6.8. Explain the working principle of NVRAM 6.9. State difference between Flash ROM and NV RAM 6.10. Give an idea of memory modules used in computers
7.	**COMPUTER HARDWARE AND NETWORKING BASICS** 7.1. Study the layout of components in the motherboard. 7.2. List different expansion slots available on the motherboard. 7.3. Describe the functions of chip set & know chipset numbers in use. 7.4. Know the specifications of processor. 7.5. Know different types of RAMs in use. 7.6. Know about cache memory. 7.7. Know about accelerated graphics port/card. 7.8. Study about power supply connectors and external devices. 7.9.Know about Serial, parallel and USB ports (basics). 7.10. Know the connector details for printer, serial port, mouse, keyboard and USB. 7.11. Know different voltages in SMPS and connector details. 7.12. Know about SCSI Hard Disk controller. 7.13. Describe the functioning of Network card and list its specifications. 7.14. Understand BIOS, Operating system, application software 7.15. Appreciate the need for networking of computers 7.16. Explain the concepts of router and routing 7.17. Categorise the computer networks 7.18. Understand Bluetooth technology 7.19. Explain how email is transferred. 7.20. Explain the working of Web server. 7.21. Explain the working of Web browser. 7.22. Know the concept of remote login
8.	**MICROSOFT OFFICE** 8.1.Word: Basics of creating a document, editing and formatting 8.2.Excel: Basics of creating a excel sheet, editing and formatting 8.3.Power point: Basics of creating a power point presentation, editing and formatting

ELECTRONICS ENGINEERING TECHNICIAN
SECOND YEAR
PAPER I: COMMUNICATION ENGINEERING (THEORY)

Sl. No	Major Units	No. of periods	Weightage of marks	Short Answer Questions	Essay Questions
1	Analog Communication	25	16	2	2
2	Radio Transmitters and Receivers	20	8	1	1
3	Digital Communication	20	16	2	2
4	Transmission lines and Antennas	20	8	1	1
5	Satellite Communication	15	10	2	1
6	Cable TV and DTH	15	12	2	1
Total		**110**	**68**	**10**	**8**

DETAILED SYLLABUS

1. ANALOG COMMUNICATION

1.1. Basic elements of Analog communication system.
1.2. Block diagram of communication system.
1.3. Need for modulation in communication systems.
1.4. Distinguish between base band, carrier, and modulated signals with waveforms.
1.5. Define bandwidth in a communication system
1.6. Explain the relationship between channel bandwidth, base band bandwidth and transmission time
1.7. Introduction to Amplitude Modulation
1.8. Define the modulation index of AM signal
1.9. Write the time-domain equation for AM signal and bandwidth
1.10. Measurement of modulation index using oscilloscope.
1.11. Introduction to Angle modulation.
1.12. Explain the types of Angle modulation.
1.13. Explain the differences between Amplitude and Angle modulation techniques.
1.14. Write the time-domain equation for an FM signal.
1.15. Write equations for bandwidth, sideband frequencies of FM signal.
1.16. Define modulation index for FM signal.
1.17. Explain the merits and demerits of FM over AM

2.	**RADIO TRANSMITTERS AND RECEIVERS** 2.1. Introduction to transmitters and receivers 2.2. List specifications of transmitters. 2.3. Draw the block diagram of a Low level AM transmitter. 2.4. Draw the block diagram of a High level AM transmitter 2.5. Basic functions of a Radio receiver. 2.6. Define sensitivity, selectivity, fidelity of a receiver. 2.7. Explain the process of super heterodyning in radio receiver. 2.8. Draw block diagram of super heterodyne receiver and explain its operation. 2.9. Explain the need for AVC (AGC). 2.10. Draw the block diagram of TRF receiver and explain its working. 2.11. Draw the block diagram of a FM receiver and explain its working 2.12. Compare AM and FM receivers 2.13. List various ICs used in receivers with internal block diagrams 2.14.
3.	**DIGITAL COMMUNICATION** 3.1. Basic elements of Digital Communication system 3.2. Advantages of Digital Communication systems over Analog Communication Systems 3.3. Introduction to Multiplexing Schemes such as FDM and TDM 3.4. Introduction to TDD, FDD, Simplex, Half-Duplex and Full Duplex. 3.5. Introduction to Pulse Analog Modulation Schemes such as PAM,PWM and PPM 3.6. Introduction to Pulse Digital Modulation Schemes such as PCM and DM 3.7. Describe the basic types of digital carrier modulation. 3.8. State the need for digital carrier modulation.
4.	**TRANSMISSION LINESAND ANTENNAS** 4.1. Introduction to transmission lines and different types. 4.2. Describe the nature and behaviour of radio waves. 4.3. Describe reflection, refraction and diffraction of EM waves. 4.4. Describe the ground wave propagation of EM waves. 4.5. Describe the space wave propagation of EM waves. 4.6. Describe the sky wave propagation of EM waves. 4.7. Explain the principle of radiation 4.8. Define an antenna system. 4.9. Sketch the radiation pattern of isotropic and half wave dipoles. 4.10. Define radiation resistance. 4.11. Define antenna gain, directivity, beam width, and front to back ratio. 4.12. Explain the basic principles of operation of antenna systems. 4.13. Explain the principle of parabolic reflector. 4.14. Explain the operation of Dish antenna system.

5.	**SATELLITE COMMUNICATION** 5.1. State the need for satellite communication 5.2. Define foot print of a satellite 5.3. Explain fixed microwave link with block diagram. 5.4. Explain geostationary satellites. 5.5. Define uplink frequency and down link frequency 5.6. List the functions of a transponder 5.7. Explain the working of the three types of transponders. 5.8. Draw and explain the block diagram of communication satellite. 5.9. Draw and explain the block diagram of Earth station. 5.10. List the applications of satellites.
6.	**CABLE TELEVISION AND DIRECT TO HOME(DTH)** 6.1. Explain the cable TV components such as amplifiers directional couplers and converters. 6.2. State the need for satellite in TV broadcasting over wide area. 6.3. Explain the DTH reception with block diagram. 6.4. List the deficiencies in the existing TV system. 6.5. Explain how the existing TV system can be improved in HDTV system

ELECTRONICS AND COMMUNICATION TECHNICIAN
SECOND YEAR
PAPER II: MODERN COMMUNICATION SYSTEMS (THEORY)

Sl. No	Major Units	No. of periods	Weight age of marks	Short Answer Questions	Essay Questions
1	Opto Electronic Devices	20	8	1	1
2	Optical Fibre Communication Fundamentals	20	16	2	2
3	OPTICAL FIBRE COMMUNICATION SYSTEMS	20	16	2	2
4	Telephone And Cellular Communication System	20	10	2	1
5	Understand Multiple Access Techniques	15	8	1	1
6	Comprehend Digital Cellular Mobile System	**15**	**10**	**2**	**1**
	Total	**110**	**68**	**10**	**8**

DETAILED SYLLABUS

1.	**OPTO ELECTRONIC DEVICES** 1.1. Classify optoelectronic devices 1.2. Explain the operation of LDR 1.3. Explain the construction, working principle and characteristics of LED 1.4 Understand the generation of different colour LEDs, their forward voltages, and specifications. 1.5 Explain the construction and working principle of LCD. 1.6 Explain the applications of LED and LCD in discrete displays, dot-matrix and seven segment displays. Give an idea of opto-coupler
2.	**OPTICAL FIBRE COMMUNICATION FUNDAMENTALS** 2.1. Basic Introduction to Fibre Optic communication. 2.2. Explain total internal reflection phenomena used in optical fibres. 2.3. Define numerical aperture, modes, dispersion. 2.4. List various losses with reference to optical fibre. 2.5. Explain the advantages of optical fibres in communication. 2.6. Explain types of fibre optic cables, 2.7. - 2.8. Explain the operation of LED used in optical fibre communication 2.9. - 2.10. - 2.11. -

3.	**OPTICAL FIBRE COMMUNICATION SYSTEMS** 3.1. Explain basic fibre optic communication system with block diagram. 3.2. - 3.3. Define wavelength division multiplexing. 3.4. Explain the principle of DWDM. 3.5. Discuss use of optical fibre in local area network. 3.6. Discuss Ethernet on optical fibre and gigabit Ethernet. 3.7. Mention the applications of optical fibres. 3.8. - 3.9. Know the various tools used and methods for measurement of parameters on OFCs 3.10. -
4.	**TELEPHONE AND CELLULAR COMMUNICATION SYSTEM** 4.1. Understand a basic telephone system 4.2. Explain the operation of basic telephone equipment 4.3. Understand a simple intercom system 4.4. Basic concepts of Cellular &Mobile Communication system and its evolution 4.5. Explain cellular concept 4.6. Describe block diagram of cellular system 4.7. - 4.8. State the functions of Mobile Switching Centre (MSC) 4.9. Significance of frequency re-use and hand off mechanism. 4.10. Concepts of digital cellular mobile system. 4.11. Know GSM standards and service aspects 4.12. - 4.13. - 4.14. Define voice and control channels in mobile communication 4.15. Define Roamer 4.16. List the features of various mobile radio systems around the world 4.17. Define uplink and downlink channels in mobile communication 4.18. Explain the process of call progress in a cellular telephone system
5.	**UNDERSTAND MULTI PLE ACCESS TECHNIQUES** 5.1. State the need for multiple access techniques 5.2. List the three types of multiple access techniques. 5.3. Explain FDMA 5.4. List the features of FDMA 5.5. - 5.6. Draw the TDMA frame structure 5.7. List the features of TDMA 5.8. Explain the concept of spread spectrum technique 5.9. - 5.10. Explain the Direct sequence spread spectrum (DSSS) technique 5.11. Explain the frequency hopped spread spectrum (FHSS) multiple access technique. 5.12. Explain code division multiple access technique. 5.13. List the features and advantages of CDMA 5.14. Compare FDMA, TDMA and CDMA 5.15. State near-far effect in CDMA 5.16. Explain the concept of soft hand off and power control in CDMA

6.	**COMPREHEND DIGITAL CELLULAR MOBILE SYSTEM** 6.1. List the specifications of analog mobile phone system (Advanced mobile phone system AMPS). 6.2. Explain the radio interface of AMPS. 6.3. State the features of Narrow band AMPS (N-AMPS) 6.4. List the demerits of analog cellular system. 6.5. Mention the features of digital cellular system. 6.6. Explain the United States Digital Cellular system (IS-54) 6.7. Explain the radio interface specifications of USDC 6.8. Explain the Global system for mobile communication (GSM) 6.9. Explain the GSM architecture with block diagram. 6.10. - 6.11. Explain the GSM radio subsystem 6.12. - 6.13. - 6.14. Compare AMPS and GSM 6.15. List the advantages of GSM over AMPS

ELECTRONICS AND COMMUNICATION TECHNICIAN
SECOND YEAR
PAPER III: MEASURING INSTRUMENTS AND CONSUMER ELECTRONICS (THEORY)

TIME SCHEDULE

Sl. No	Major Units	No. of periods	Weightage of marks	Short Answer Questions	Essay Questions
1	Measuring And Testing Of Components	20	16	2	2
2	Cro And Function Generators	15	8	1	1
3	Television Receivers	20	14	1	2
4	Pa System And Disc Players	20	10	2	1
5	Ups And Inverters	15	10	2	1
6	Consumer Appliances	20	10	2	1
	TOTAL	**110**	**68**	**10**	**8**

DETAILED SYLLABUS

1.	**MEASURING AND TESTING OF COMPONENTS** 1.1. Measurement of AC/DC Voltages and currents using voltmeters and current meters 1.2. Study and use of various regulated power supply units 1.3. Measurement of voltages, currents and resistance using analogue and digital Multimeters and continuity test. 1.4. - 1.5. - 1.6. Test the given Loud speaker and measure the Voice coil resistance –using Multimeter 1.7. Test the working of different types of switches ,Relays ,Connectors and Cables
2.	**CRO AND FUNCTION GENERATORS** 2.1. Study and Use CRO(single trace and Dual Trace) for measuring frequency and amplitude (CRT type) 2.2. - 2.3. Study and use Digital Storage Oscilloscope for measuring frequency, Amplitude, Phase 2.4. Identify leads and testing of different diodes and transistors. 2.5. -

3.	**TELEVISON RECEIVERS** 3.1. Draw the block diagram of basic TV system and explain the function of each block. 3.2. Explain formation of picture. 3.3. CCIR - B standards and specifications for Monochrome TV. 3.4. Name the different types of camera tubes. 3.5. -. 3.6. Introduction to Color Television System. 3.7. Explain the main characteristic of human eye with regard to perception of colors. 3.8. Explain complementary colors, hue, saturation, and Color circle. 3.9. Explain compatibility and reverse compatibility in TV system. 3.10. Mention the different standards of Color transmission system like NTSC, PAL and SECAM. 3.11. Draw the block diagram of a Color TV receiver and state the function of each block. 3.12. State the different Color receiver- operating & servicing controls. 3.13. Describe constructional features of Color picture tubes. 3.14. Understand the principle of LCD/LED monitor 3.15. - 3.16. List various ICs USED in the above with a typical schematic circuit 3.17. List advantages of LCD/LED TV technology 3.18. Discuss common faults in all the above with servicing procedures to rectify 3.19. Draw and explain the block diagram of CATV. 3.20. Explain the cable TV components such as amplifiers directional couplers and Converters. 3.21. Explain the necessity of mid-band and super-band channels 3.22. State the need for satellite for TV broadcasting over wide area. 3.23. Explain the merits of DTH system 3.24. With a block diagram explain DVB-S channel reception with block diagram. 3.25. State the need for Set Top Box. 3.26. List main features of Projection TV 3.27. List applications of Projection TV 3.28. Explain the features of HDTV 3.29. Explain the features of SMART TV. 3.30. List the important specifications of UHD TV

4.	**PUBLIC ADDRESS SYSTEM AND DISC PLAYERS** 4.1. Define speech, music and noise. 4.2. Know the nature of sound, reflection, refraction, diffraction and absorption. 4.3. Know the concept of Hi-Fi and Stereo. 4.4. Know the need of bass, treble, balance, and volume control in stereo amplifier. 4.5. Explain a simple circuit showing the above controls. 4.6. - 4.7. List the advantages and disadvantages magnetic recording. 4.8. List the types of optical recording. 4.9. Explain the method optical recording of sound on film. 4.10. Explain the method optical recording of sound on Compact Disc. 4.11. - 4.12. Explain optical pick-up system. 4.13. Explain working of compact disc player with block diagram. 4.14. Know the MP3 format and differentiate this with audio CD. 4.15. Differentiate CD and DVD. 4.16. Explain the working principle of DVD player. 4.17. Explain the concept of noise reduction using DOLBY system. 4.18. Arrange the Public Address system and test the performance. 4.19. Know the block diagram and understand with a typical schematic diagram
5.	**UPS AND INVERTERS** 5.1. Compare online UPS and OFF line UPS 5.2. Classify inverters 5.3. - 5.4. Explain the working of voltage source inverter 5.5. State the need for uninterrupted power supply(UPS) 5.6. Explain the working of three-phase inverter 5.7. List different types of UPS 5.8. Draw and explain the block diagram of off-line UPS 5.9. Draw and explain the block diagram of on-line UPS 5.10. Understand a typical schematic of each and 5.11. Discuss ICs used and servicing procedure
6.	**CONSUMER APPLIANCES** 6.1. Explain the working principle of Microwave oven 6.2. Explain functional block diagram of Microwave oven 6.3. List three advantages of Microwave oven 6.4. Explain the principle of Induction heater. 6.5. Give the reasons for using magnetic metals for use with induction heater. 6.6. List the 4 merits of induction heating. 6.7. Explain the functional block diagram of Electronic Washing machine 6.8. List any three advantages of Fuzzy logic in washing machines 6.9. Introduction to basic medical equipment 6.10. - 6.11. First level maintenance of hospital equipment

MODEL QUESTION PAPERS
ELECTRONICS AND COMMUNICATION TECHNICIAN

CIRCUITS THEORY AND ELECTRONIC COMPONENTS

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**

ii) Each question carries two marks

1. Define resistance and mention its unit.
2. Define self inductance and mention its unit.
3. Classify the different types of capacitors.
4. Define conductance.write it's units.
5. State ohms law.
6. Write different types of switches .
7. Name the different types wire joints.
8. Write the classification of PCBs.
9. What is the use of soldering station.
10. Distinguish between Primary and Secondary cells.

SECTION – B

Note: i) Answer any five questions **5 x 6 = 30**

ii) Each question carries Six marks

11. Derive an expression for total resistance of three resistors R1 R2 R3 are connected in series.
12. Explain the construction and working of AF and RF transformers.
13. State and explain Faraday's laws of electromagnetic induction.
14. Derive the equation for total Capacitance when 3 capacitors are connected in parallel.
15. Derive the equation for impedance in RL series circuit.
16. Explain in detail about photo printing process of PCB.
17. Explain in detail about the construction details & working of Lead acid cell with necessary sketch.
18. Write the advantages and disadvantages of Surface Mount Technology (SMT).
19. Derive the equation for resonance frequency in RLC series circuit.
20. Explain the construction details and working of Electromagnetic relay.

ELECTRONICS AND COMMUNICATION TECHNICIAN
FIRST YEAR

ELECTRONIC DEVICES AND CIRCUITS

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**

ii) Each question carries two marks

1. Draw the symbol of transistors.
2. Types of rectifier Circuits.
3. Define ripple factor.
4. What are the applications of CB amplifier circuits.
5. Define power amplifier.
6. Explain the condition per oscillator circuit.
7. Write the advantages of IC regulator.
8. Write the applications of SCR.
9. Draw the symbols of Diac, Triac, SCR.
10. Write the applications of triac.

SECTION – B

Note: i) Answer any five questions **5 x 6 = 30**

ii) Each question carries Six marks

11. Draw and explain the energy band diagrams.
12. Draw and explain formation of PN junction diode, V-I characteristics with neat graph.
13. Draw and explain working of full wave rectifier.
14. Draw the two stage RC coupled amplifier and explain its working.
15. Explain briefly classification of Power amplifiers.
16. Explain working of RC Phase shift oscillator.
17. Explain the operation of transistor series voltage regulator.
18. Draw and explain working of an operational amplifier.
19. Explain conception and working of V-I characteristics of SCR.
20. Draw and explain working of bridge rectifier.

ELECTRONICS AND COMMUNICATION TECHNICIAN
FIRST YEAR

DIGITAL ELECTRONICS AND COMPUTER FUNDAMENTALS.

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**

ii) Each question carries two marks

1. Mention the names of number system.
2. Write 2's complement of 1101, 1100.
3. Draw the logic symbols of AND,OR & NOT gates.
4. What are the applications of Decoders.
5. Draw the clock pulse.
6. Write applications of flip flop.
7. Expand A/D, D/A converters.
8. Define byte.
9. What are the different types of RAMs?
10. What is word count?.

SECTION – B

Note: i) Answer any five questions **5 x 6 = 30**

ii) Each question carries Six marks

11. Describe Binary, Octal, Decimal and Hexadecimal number systems.
12. Draw and explain the working of AND, OR gates with truth table 13. Draw and explain Half adder circuit with truth table.
14. Draw and explain working of SR flip flop using NEND gate.
15. Draw and explain parallel in parallel out shift register.
16. Explain the need of A/D, D/A converters.
17. Explain briefly types of memories used in computers.
18. Mention the components of motherboard and write functions of each of them.
19. Explain working of Bluetooth technology.
20. Write about formatting the paragraph.

ELECTRONICS AND COMMUNICATION TECHNICIAN
SECOND YEAR
PAPER I: COMMUNICATION ENGINEERING

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**

ii) Each question carries two marks

1. What is Angle Modulation?
2. Sketch the A.M and F.M waves?
3. Define Sensitivity of a Radio Receiver?
4. What is Pulse Amplitude Modulation?
5. Give the principle of Pulse Code Modulation?
6. Define Radiation Resistance?
7. List the functions of Transponder?
8. Define Uplink frequency and Downlink frequency?
9. Expand DTH?
10. What are the components in Cable TV?

SECTION – B

Note: i) Answer any five questions **5 x 6 = 30**

ii) Each question carries Six marks

11. Write the advantages and disadvantages of FM over AM?
12. Prove that after amplitude modulation, the carrier power increases from P_c to $P_c(1 + m^2/2)$ where m is the modulation index?
13. Draw the block diagram of AM low level transmitter and explain the function of each block?
14. Compare analog and digital communication techniques?
15. Give the brief description of delta modulation?
16. Explain ground wave propagation of electro-magnetic waves?
17. Draw and Explain the block diagram of Earth station?
18. Draw the block diagram of DTH Receiver. Explain its working?
19. Draw the block diagram of AM superheterodyne radio receiver and explain the function of each block?
20. Explain the working of Transponder?

MODEL QUESTION PAPERS
ELECTRONICS AND COMMUNICATION TECHNICIAN
SECOND YEAR
PAPER II: MODERN COMMUNICATION SYSTEMS

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**

ii) Each question carries two marks

1. Write Applications of LDR?
2. What is Optical Fiber?
3. Define Modes?
4. Expand LAN?
5. Write Applications of Optical Fiber?
6. Write Applications of Intercom?
7. Mention types of cell phone networks?
8. List the advantages of CDMA?
9. Mention the features of Digital Cellular System?
10. Compare AMPS and GSM?

SECTION – B

Note: i) Answer any five questions **5 x 6 = 30**

ii) Each question carries Six marks

11. Explain construction and working of LCD with neat diagram?
12. Explain advantages of Optical Fibers in communication?
13. Explain working of LED used in Optical Fiber Communication?
14. Explain Repeaters and Optical Amplifiers?
15. Explain working of DWDM?
16. Describe concepts of Mobile Communication System?
17. Explain Time Division Multiple Access (TDMA) technique?
18. Explain the GSM Radio Subsystem?
19. Write Specifications of LCD and LED?
20. Explain Basic Telephone Working System?

MODEL QUESTION PAPERS
ELECTRONICS AND COMMUNICATION TECHNICIAN
SECOND YEAR
PAPER III: MEASURING INSTRUMENS AND CONSUMER ELECTRONICS

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**
ii) Each question carries two marks

1. Write Applications of Digital/Analog multimeter?
2. Mention types of Switches?
3. How do you test a Diode?
4. Mention the types of Camera Tubes?
5. What are the advantages of CD's?
6. Mention the various controls of a Stereo Amplifier?
7. Mention the types of UPS?
8. List the advantages of OFF-LINE UPS?
9. Give the working principle of Microwave Oven?
10. List the advantages of Fuzzy Logic used in Electronic Washing Machines?

SECTION – B

Note: i) Answer any five questions **5 x 6 = 30**
ii) Each question carries Six marks

11. Write the procedure to measure Voltage, Current and Resistance with Multimeter?
12. Explain DC power supply with neat diagram?
13. Draw and Explain the working of AF (Audio Frequency) Signal Generator?
14. Explain Servicing and Operating controls of a TV Receiver?
15. Draw the block diagram of LCD/LED TV and Explain working of each block?
16. Draw the block diagram of DVD Player and Explain its operation?
17. Explain working of Voltage Source Inverter?
18. Explain Functional Block Diagram of Microwave Oven?
19. Draw the basic Block Diagram of a PA System and Explain the function of each block?
20. Draw the block diagram of TV Transmitter. Explain the working of each block?

IX . List of Equipment

ELECTRONICS ENGINEERING TECHNICIAN

S.No	Name of the equipment specifications	Quantity	Amount Rs.
1.	Regulated power supply 30V/1A	10	50,000
2.	Digital multimeters	05	15,000
3.	Analog multimeters (Motwane)	08	40,000
4.	Audio signal generator	05	15,000
5.	Oscilloscopes 20 MHZ	04	60,000
6.	RF Voltmeters	05	20,000
7.	AM/FM Signal Generators	05	7,000
8.	T.V. Pattern generator (monochrome)	2	4,000
9.	Decade Resistance box	10	15,000
10.	Decade Inductance box	10	15,000
11.	Decade capacitance box	10	15,000
12.	a).Study of pattern generator and its use b)Set up an ASK/FSK/PSK modulator kits. c).Set up a Pulse Code Modulator / Demodulator kits d).Set up Time Division Multiplexing/ De multiplexing kits e).DC characteristics of LED and PIN photodiode. f).Optical transmitter using analogue modulator. g).Data transmission through fiber optic link. h).Setting of fiber optics voice link using AM modulation. i).PI characteristics of LASER diode. j).Construct and test the Yagi-Uda antenna. k).Study the DTH antenna and connect the DTH antenna to the TV. l).Plot and analyze the radiation pattern of following antennas using		
13	Antenna trainer Kit a) Dipole b) Half wave dipole.	2x 13x3000	78,000
14	Rectify the given faults in various stages of LED T.V.	1	20,000
15	Two-in-one	2	2,000
16	Public Address Amplifiers 100W	2	20,000
17	Column loud speakers	1	1,600
18.	DVD Player	2	4,000
19.	CD Player	6	9,000
20.	Audio tapeS	24	600
21.	CD Video & Audio	24	500
22.	Speakers	10	1,000
23.	Experimental Boards		
	Transistor CB,CE amplifiers	2	3,000
	Oscillators Hartley, Collpitzs, tuned voltage each two	6	9,000
	SCR Characteristics	2	3,000
	FET Amplifier	2	3,000
	UJT characteristics	2	3,000
	Zenor diode characteristics	2	3,000
	Zenor diode voltage regulators	2	3,000
	AM generator	2	3,000

	FM generator	2	3,000
	Tuned RF amplifier	2	3,000
	Class A, RC coupled power amplifier	2	3,000
	Class-B, push-pull power Amplifier each two	4	3,000
	Crystal control oscillator	2	3,000
24	Digital frequency counters	10	15,000
25	Rheostats 5 Amperes	4	4,000
26	Digital LCR meters	4	8,000
27	LED TV 30 Demonstration model	2	30,000
28	Coaxial cables 100 meters	1	1,200
29	Balun & other accessories	5	400
30	Tool kit boxes	10	5,000
31	Soldering iron with stands	10	2,000
32	Desoldering pump	10	1,000
33	Bread Boards	20	2,000
34	Insulation tester	3	6,000
35	Battery eliminators 0-3V-45V-6V-9V,12V Tapings	4	600
36	Emergency light	2	1,000
37	Inverters 100VA, 500VA each two	4	8,000
38	Electronic stabilizer	2	1,000
39	Digital trainers To conduct experiments AND, OR,NOT, NAND, NOR EX-OR, EX-OR FLIP-FLOPS RS, JK,T,D, Master slave 7490, shift registers Decoder, seven segment display	6	30,000
40	Computers	10	4,00,000
41	Digital IC Tester	4	20,000
42	LED Demonstration models	4	80,000

Collaboration Institutions for Curriculum Transaction

with JNTUH,OU College of Engineering State Board of Technical Education and Training Telangana

On Job Training Centers

Electronic Industries locally available / service centers

Employment Opportunities:

Employment Opportunities Technician in Electronics and Communication Engineering Technicians or ITI (Electronics) equivalent in Government/ Public Sector departments/ Organizations

REFERENCE BOOKS

1. Electronic Components - D.V.Prasad
2. Electronic Components - Padmanabham
3. Circuit Theory - Schaum Series
4. Principles of Electronics - V.K.Mehta
5. Electronic Devices and Circuits - G.K.Mithal
6. Digital Electronics - R.P.Jain
7. Digital Fundamentals - Malvinas& Bates
8. Network Analysis - G.K. Mithal
9. Network & Lines - Umesh Sinha
10. T.V.Engineering - Dhake
11. Radio Communication - G.K.Mithal
12. Color Television - R.R.Ghulati
13. Electronic Communication System - Roy Blake
14. Fundamentals of Satellite
    Communication - Raja Ram, PHI
15. Fiber Optic Communication - Kaiser
16. Electronic Measurements &
17. Instruments - Copper/ A.K. Sahwany
18. Opto Electronic Devices by V.K. Mehta, S.Chand
19. Digital Applications – Tocci
20. Linear IC’s - Gaykvad

30% DELETED CONTENT IN VIEW OF COVID-19 PANDEMIC

FIRST YEAR

PAPER-I: CIRCUIT THEORY AND ELECTRONIC COMPONENTS

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 **Resistors**	Types of Resistors	2) Classify the types of resistors	3) Distinguish between Carbon, Metal film & wire wound resistors
2	UNIT-2: **Inductors and Transformers**	Power Transformer	8) Write the working principle of Transformer	2) Explain the construction, working and applications of Power Transformer
3	UNIT-3: **Capacitors**	Dielectric materials and color code of Capacitors	3) What is meant by Dielectric material And give examples?	1) Explain the color code of Capacitor
4	UNIT-4: **Fundamentals of DC and AC circuits**	RMS value of AC component Quality Factor Band width, Comparison between series and parallel resonance	7) What is meant by RMS value of AC? 8) Define Quality Factor 9) Define Band Width	4) Write the comparison between series and parallel Resonance
5	UNIT-5 **Miscellaneous Components**	Microphones and Loudspeakers	6) Define Microphone and Loudspeaker. 7) Classify the Microphones 8) Write the competition between loudspeaker and Microphone	NILL
6	UNIT-6: **Soldering and PCB's**	6.2 Soldering Lead types And Flux	2) Name the different types of soldering leads used. 4) What is the use of soldering Flux 1) What is soldering?	
7	UNIT-7 **SMD Components**	SMD packages	2) What is surface Mount Technology? 3) Give some examples of semiconductor SMD packages	NILL
8	UNIT-8 **Batteries And Cells**		1) What is difference between a Cell and Battery 6)Give the indication of fully charged cell	

ELECTRONICS AND COMMUNICATION TECHNICIAN - FIRST YEAR

PAPER-II: ELECTRONIC DEVICES & CIRCUITS

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 **Semiconductor Components**	Semiconductor Data Sheets Field Effect Transistor(FET)	6) What are the uses of Semiconductor Data sheets	4) Draw and explain the FET V-I characteristics
2	UNIT-2: **Power Supplies and Filters**	Power Supply Voltage Regulation	6) Define voltage regulation	1) Draw the Block diagram of power supply and explain the working of each block
3	UNIT-3: **Voltage Amplifiers**	Stabilization of Transistor	4) Define stabilization	2) Explain biasing and stabilization of Transistor
4	UNIT-4: **Power Amplifiers**	Class – A Power Amplifier	3) Write applications of Class-A power Amplifier?	2) Draw and explain Class –A transformer coupled Amplifier
5	UNIT-5: **Feedback Amplifiers and Oscillators**	Applications of Oscillators Piezo Electric Crystals , Transistor Crystal Oscillator	5) List the applications of Oscillators	3) Explain the working of Crystal oscillator
6	UNIT-6: **Analog Integrated Circuits**	IC – 555 IC- 555 Multivibrator	6) What are the applications of IC-555	4) Draw and Explain the working of IC- 555
7	UNIT-7 **Power Electronic Devices**	Thyristor Family Devices Applications of Power Electronic devices SCR ckt triggered by UJT	2. Write ISI symbols of power Electronic Devices 7) Draw the symbol of UJT 8) Write the Applications of UJT	3) Write the applications of Power Electronic Devices
7	UNIT-7 **SMD Components**	SMD packages	4) Give some examples of semiconductor SMD packages	1) Explain about SMD/SMT components
8	UNIT-8 **Batteries And Cells**	816. Comparison between nickel Iron, Nickel cadmium and lead Acid Cells	2) What is difference between a Cell and Battery	2. Compare between nickel Iron, Nickel, cadmium and lead Acid Cell

ELECTRONICS AND COMMUNICATION TECHNICIAN - FIRST YEAR
PAPER-III: DIGITAL ELECTRONICS & COMPUTER FUNDAMENTALS

S No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 Number Systems	1.4 Complement of Numbers 1.6.Uses of Alpha Numeric codes (ASCII and EBCDIC)	3) Define 1's complement of 1001 and 1011.	2) Explain the uses of ASCII and EBCDIC
2	UNIT-2: Logic Gates and Digital IC families	Ex-OR gate Logic families	5) Mention the digital logic families.	4) Explain working of Ex-OR gate with Truth Table
3	UNIT-3: Combinational Logic Circuits	Working of 4 Bit Parallel Adder using Full Adder	Nil	3) Draw and explain 4 Bit Parallel Adder by Using Full Adder
4	UNIT-4:Air Sequential Logic Circuits	Counters	10) What are the applications of Counters	5) Draw and explain working of Asynchronous counter
5	UNIT-5: A/D and D/A Convertors	A/D convertors	Nil	4) Explain the working of A/D conversion by using counter method
6	UNIT-6: Semiconductor Memories	EEPROM and UVROM	8) Expand EEPROM and UVROM	5) Distinguish between EEPROM and UVROM
7	UNIT-7: Computer Hardware and Networking Basics	Working of LAN, Role of DNS, FTP(File Transfer Protocol working of web server, Hyper Link, E-mail	11) What are the applications of LAN? 13) What are the applications of E-mail? 14) What are the applications of FTP? 15) What is Hyper Link?	5) Explain the working of E-Mail transfer.
8	UNIT-8: Microsoft Office	Default dictionary Adding animations in Power Point	4) What is default Dictionary	5) Explain about adding animations in Power point

ELECTRONICS AND COMMUNICATION TECHNICIAN - SECOND YEAR

PAPER-I – COMMUNICATION ENGINEERING

Sl. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1: Analog Communication	1.5 Relation between channel bandwidth, base band 1.13 Calculations-Bandwidth sideband frequencies	4. what are the baseband and pass band signals in a communication system 5. Define a. Frequency deviation b. Modulation Index in FM 8. Mention the values of AM and FM bandwidths	4. Explain the bandwidth in communication system
2	UNIT-2: Radio Transmitters and Receivers	2.3 High level and Low level modulation 2.10 Comparison between AM and FM Radio receivers 2.15 Common faults and servicing of radio receivers	4. What is Low level modulation 5. what is High level modulation 11. Mention the different servicing methods used for Radio servicing	4. Compare AM and FM receivers 5. Write any 3 common faults in radio receiver and mention the reasons for them
3	UNIT-3: Digital Communication	3.4.4 Pulse position modulation 3.6.2 ASK, FSK, PSK	5. What is delta modulation 6. What is pulse position modulation	4. Briefly explain about ASK and FSK used in digital communication
4	UNIT-4: Transmission Lines and Antennas	4.5 Effects of environment on electromagnetic waves 4.8 Skywave propagation	5. Define front to back ratio of an Antenna system 6. Define directive gain and antenna gain	3. Describe the sky wave propagation of electromagnetic waves 4. Describe about Reflection, Refraction and Diffraction of electromagnetic waves
5	UNIT-5: Satellite Communication	5.4 List advantages of Satellite communication over Terrestrial radio communication 5.6 Advantages and Disadvantages of geostationary satellites 5.12 Global positioning System (GPS)	2. List the advantages of Satellite communication over terrestrial radio communication 3. List the advantages and disadvantages of geostationary satellites	4. Explain the working of GPS
6	UNIT-6: Cable Television and Direct To Home (DTH)	6.1 Block diagram of Cable TV 6.3 Necessity of mid-band and super-band channels	2. Write the mid-band frequencies 3. Write the super-band frequencies	1. Draw the block diagram of Cable TV network. Explain working of each block

ELECTRONICS AND COMMUNICATION TECHNICIAN - SECOND YEAR

PAPER- II: MODERN COMMUNICATION SYSTEMS

Sl. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1: Opto Electronic Devices	1.7 Photo diode construction and working 1.8 Opto transistor 1.9 Opto coupler	5. Write applications of Photo Transistor 6. Write applications of Opto Couplers	4. Write construction and working of Photo Diode
2	UNIT-2: Optical Fiber Communication Fundamentals	2.7 Different splice connectors, optical couplers, switches and relays 2.9 Operation of Laser diodes used in Optical Fiber system 2.10 Working of PIN diode used as detector in Optical Fiber communication 2.11 Working of APD used in detector in Optical Fiber communication	7. Mention the Optical Fiber components 8. Write applications of APD	3. Explain working of LASER Diodes used in Optical Fiber communication 4. Explain Working of PIN Diode in Optical Fiber Communication
3	UNIT-3: Optical Fiber Communication Systems	3.2 Working of Repeater and Optical Amplifiers 3.8 Applications of Optical Fibers in Telephone and TV 3.10 OTDR Applications and Servicing	2. What is Repeater 3. Write Functions of Optical Amplifiers 9. Expand OTDR	5. Explain the applications of Optical Fibers in Local Telephone and Cable TVs 6. Explain the servicing of OTDR
4	UNIT-4: Telephone and Cellular Communication System	4.7 Cellular Concept 4.12 Radio characteristics of GSM 4.13 CDMA systems used in mobile communication	4. Mention the cellular concepts 8. Write any 2 radio characteristics of GSM	4. Explain the basic concepts of CDMA systems
5	UNIT-5: Understand Multiple Access Techniques	5.5 Spread spectrum techniques 5.9 State Near-Far techniques in CDMA	5. List types of spread spectrum techniques 8. State Near-Far effect in CDMA	2. Explain direct sequence spread spectrum (DSSS) technique 3. Explain Frequency hopped spread spectrum (FHSS) technique
6	UNIT-6: Comprehend Digital Cellular Mobile System	6.10 Interfaces in GSM architecture 6.12 Frame structure of GSM 6.13 service and Security aspects of GSM	3. List various interfaces in GSM Architecture 4. List the service and security aspects of GSM	4. Explain the frame structure of the GSM

ELECTRONICS AND COMMUNICATION TECHNICIAN - SECOND YEAR

PAPER-III– MEASURING INSTRUMENTS AND CONSUMER ELECTRONICS

Sl. NO	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1: Measuring and Testing of Components	1.4 Test and measure the values of capacitor using RLC meter 1.5 Transformer testing	8. What is a relay 9. Write names of connectors 10. Write applications of Cables	3. Explain working of Digital LCR Meter 4. How do you test switches, relays, connectors, cables using DMM
2	UNIT-2: CRO and Frequency Generators	2.2 Study of RF Signal Generator 2.5 Data Sheets of Diodes and Transistors	5. How do you test transistor 6. Write use of data sheets	3. Draw and Explain the working of RF Signal generator
3	UNIT-3: Television Receivers	3.5 CCIR-B Standards and Specifications of Monochrome TV 3.15 Block Diagram of Color TV and working	3. Define Aspect Ratio 6. What are the advantages of LCD/LED 9. Write any 2 common faults in LCD/LED	2. State the CCIR-B standards and specifications of Monochrome TV 3. Draw the block diagram of Color TV receiver. Explain working of each block
4	UNIT-4: Public Address System and Disc Players	4.6 Principle of Magnetic Recording and Reproduction 4.11 Methods of Optical Recording of Sound on Film	1. Distinguish between musical sound and noise of an audio system 2. Distinguish between Hi-Fi and Stereo System 6. Explain the working principle of DVD Player	2. Explain in detail about magnetic recording and reproduction with a schematic diagram 3. Explain how sound can be recorded on a film
5	UNIT-5: UPS and Inverters	5.3 Working of Voltage Source Inverter	3. Mention the types of Inverters 4. Write applications of 3 Phase Inverters	4. Draw the block diagram of Off-line UPS. Explain working.
6	UNIT-6: Consumer Appliances	6.10 Functional Block Diagram of ECG, BP Equipment and Clinical Equipment	3. List the merits of Induction Heating 5. Give the reasons for using Magnetic Metals with Induction Heater	3. Explain the functional block diagram of ECG Equipment

VOCATIONAL CURRICULUM-2020

(For the Academic year 2020-21)

[70% CONTENT IN VIEW OF COVID-19 PANDEMIC]

ELECTRICAL TECHNICIAN (321)

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

Dr. A. Ashok I.A.S
COMMISSIONER

INTERMEDIATE EDCATION
Government of Telangana
Nampally, Hyderabad- 500001
Phone: 040-24655915

Fore word

In any developing society with a booming population, Vocational Education occupies an important position for generating large scale employment opportunities. Viewed in this context the importance of Vocational Education for our country cannot be over emphasized. Vocationalization of Secondary Education was introduced in 1988 at the Intermediate level. Recently, the Government of India has developed a National Skills Qualification Framework for establishing a clear path for vocational education from the school level to the highest level. The Department of Intermediate Education has recently framed a new curriculum to bring greater value to the system of vocational education. The primary aim of this reform is to prepare the students with employable skills for absorption in organized sectors and in few cases, even for self-employment.

State Institute of vocational education and Board of Intermediate Education, Telangana have reviewed the curriculum of vocational courses of second year from the academic year 2019-20 in order to reorient them for their practical approach. Greater emphasis is now being placed on Laboratory work and on the job training.

Simultaneously, The State Institute of Vocational Education and the department of Intermediate Education are presently making efforts to upgrade the quality of infrastructure in the colleges to meet the challenges of the changed curriculum. I am confident that the revised curriculum of second year for Vocational Courses would prove to be beneficial to the students in the vocational stream and help them train in need based productive courses leading to gainful employment.

Sd/- Dr. A.Ashok
COMMISSIONER OF INTERMEDIATE EDUCATION

SCHEME OF INSTRUCTION AND EXAMINATION

ANNUAL SCHEME OF INSTRUCTION AND EXAMINATION

ELECTRICAL TECHNICIAN

FIRST YEAR

Part-A		Theory		Practicals		Total	
		Periods	**Marks**	**Periods**	**Marks**	**Periods**	**Marks**
1.	English	150	50	0	0	150	50
2.	General Foundation course	150	50	0	0	150	50
	Part-B						
3.	**Paper-I** Basic Electrical Engineering	135	50	135	50	270	100
4.	**Paper-II** Electrical Engineering Materials And Wiring	135	50	135	50	270	100
5.	**Paper-III** Electrical Instruments & Power Supplies	135	50	135	50	270	100
Part-C							
6.	**OJT**	0	0	365	100	365	100
	Total	**705**	**250**	**770**	**250**	**1475**	**500**

SECOND YEAR

Part-A		Theory		Practicals		Total	
		Periods	**Marks**	**Periods**	**Marks**	**Periods**	**Marks**
1.	English	150	50	0	0	150	50
2.	General Foundation course	150	50	0	0	150	50
	Part-B						
3.	**Paper-I** Electrical Machines & Power Systems	110	50	115	50	225	100
4.	**Paper-II** Domestic Appliances & Rewinding	110	50	115	50	225	100
5.	**Paper-III** Electrical Estimation & Utilization	110	50	115	50	225	100
Part-C							
6.	**OJT**	-	-	450	100	450	100
	Total	**630**	**250**	**795**	**250**	**1425**	**500**
TOTAL FIRST YEAR AND SECOND YEAR MARKS 1000							

EVALUATION OF ON THE JOB TRAINING:

The "On the Job Training" shall carry 100 marks for each year and pass marks is 50. During on the job training the candidate shall put in a minimum of 90 % of attendance.
The evaluation shall be done in the last week of January.

Marks allotted for evaluation:

S.No	Name of the activity	Max. Marks allotted for each activity
1	Attendance and punctuality	30
2	Familiarity with technical terms	05
3	Familiarity with tools and material	05
4	Manual skills	05
5	Application of knowledge	10
6	Problem solving skills	10
7	Comprehension and observation	10
8	Human relations	05
9	Ability to communicate	10
10	Maintenance of diary	10
	Total	100

NOTE: The On the Job Training mentioned is tentative. The spirit of On the Job training is to be maintained. The colleges are at liberty to conduct on the job training according to their local feasibility of institutions & industries. They may conduct the entire on the job training periods of (365) First year and (450) Second year **either by conducting classes in morning session and send the students for OJT in afternoon session or two days in week or weekly or monthly or by any mode which is feasible for both the college and the institution**. However, the total assigned periods for on the job training should be completed. The institutions are at liberty to conduct On the Job training during summer also, however there will not be any financial commitment to the department.

ELECTRICAL TECHNICIAN
FIRST YEAR
PAPER: I: BASIC ELECTRICAL ENGINEERING [THEORY]
TIME SCHEDULE

S.No	Name of the Unit	No. of periods	Weightage in Marks	Short Answer Questions	Essay type Questions
Unit 1	Fundamentals of Electrical Engineering	30	16	2	2
Unit 2	Electrical Work-Power and energy	15	8	1	1
Unit 3	Heating Effects of Electric Current	15	8	1	1
Unit 4	Electro Magnetism	25	10	2	1
Unit 5	Electro Magnetic Induction	15	10	2	1
Unit 6	Cells and Batteries	15	8	1	1
Unit 7	Electrostatics	20	8	1	1
	Total	**135**			

Note :- 1. The name of the subject is changed to Basic Electrical Engineering instead of Elements of Electrical Engineering.
2. Unit 1, 2, and 4 are names are modified according to content.

Detailed Syllabus:

Sl. No	Name of the Unit	No. of periods	Weightage in Marks	Short Answer Questions	Essay type Questions
1	**1.0 Fundamentals of Electrical Engineering** 1.1 Electric current-conductors-Semiconductors-Insulators 1.2 Electric potential-resistance-laws of resistance 1.3 Problems on laws of resistance 1.4 Effects of temperature on resistance-simple problems 1.5 Ohms law-simple problems 1.6 Resistances in series, parallel and Series-parallel - simple problems 1.7 Definitions of network elements-junction, branch, loop 1.8 Kirchhoff's laws-Wheatstone bridge	**30**	**16**	**2**	**2**

Sl. No	Name of the Unit	No. of periods	Weightage in Marks	Short Answer Questions	Essay type Questions
	1.9 Solution of networks using Kirchhoff's laws 1.10Transformation of STAR to DELTA and DELTA to STAR- Simple problems				
2	**2.0 Electrical Work-Power and energy** 2.1System of units-SI system 2.2Electrical Work-power- energy definitions and units 2.3Conversion of Electrical units to thermal units 2.4 Problems on Work-power energy 2.5 Energy consumption and monthly billing-problems 2.6 Power loss due to flow of current in resistor.	**15**	**8**	**1**	**1**
3	**3.0 Heating Effects of Electric Current** 3.1 Effects of Electrical Energy 3.2 Heating effect of electric current 3.3 Heat produced by flow of current-Joule's law-Mechanical equivalent of heat 3.4 Applications of heating effect of electric current 3.5 Simple problems	**15**	**8**	**1**	**1**
4	**4.0. Electro Magnetism** 4.1 Introduction to magnets 4.2 Magnetic pole-magnetic axis-pole strength 4.3 Properties of magnets 4.4 Typical shapes of magnets 4.5 Classification of magnets 4.6 Magnetic fields 4.7 Inverse square law 4.8 Simple problems 4.9 Magnetic effect of electric current 4.10 Force on a current carrying conductor- 4.11 Fleming left hand rule 4.12 Field pattern field strength of long straight conductor, solenoid and teroid- 4.13 Force between two parallel current carrying conductors	**25**	**10**	**2**	**1**

Sl. No	Name of the Unit	No. of periods	Weightage in Marks	Short Answer Questions	Essay type Questions
	4.14 Magnetic circuits-definitions of flux, mmf, flux density, magnetizing force and reluctance, permeability and their relation 4.15Comparison between magnetic circuit and electric circuit 4.16 Simple problems on electro-magnetism				
5	**5. Electro Magnetic Induction** 5.1 Concept of electro-magnetic induction Lenz's law -Fleming's right hand rule 5.2 Faraday laws of electromagnetic induction- types of emf's - dynamically and statically induced emf 5.3 Self and mutual induction and their emf's-coefficient of coupling 5.4 Energy stored in a magnetic field-lifting power of electro magnet-simple problems	**15**	**10**	**2**	**1**
6	**6. Cells and Batteries** 6.1 Chemical effects of electric current-faraday laws of electrolysis- simple problems 6.2 Cells and their components-Definition of battery-Primary cells -defects and remedies, dry cell-Secondary cell-comparison between primary cells and secondary cells 6.3 Lead acid cell-principle and working of lead acid cell detailed study-Wh & Ah efficiencies of cell 6.4Charging methods of secondary cells 6.5 Maintenance of Lead acid cell and testing of lead acid battery 6.6Basic concept on Special types of cells- Silver oxide cells-Solar cells-fuel cells.	**15**	**8**	**1**	**1**
7	7.0 **Electrostatics** 7.1Deffination of Electric charge& its Units	**20**	**8**	**1**	**1**

Sl. No	Name of the Unit	No. of periods	Weightage in Marks	Short Answer Questions	Essay type Questions
	7.2Deffination of unit charge 7.3State Coulombs Law of Electrostatics 7.4 Absolute & Relative Permittivity 7.5 Field Pattern of +ve, -ve, Like & Unlike Charges 7.6 Field intensity, 7.8 Capacitance Definition and formula 7.9 Types of Capacitors 7.10 Capacitors in series and parallel 7.11 Applications and simple problems.				
	Total	**135**			

ELECTRICAL TECHNICIAN
FIRST YEAR
PAPER: II: ELECTRICAL ENGINEERING MATERIALS & WIRING [THEORY-II]
TIME SCHEDULE

S.No	Name of the Unit	No. of periods	Weightage in Marks	Short Answer Questions	Essay type/ problematic Questions
Unit 1	Introduction, Conducting & Semi conducting materials	15	10	2	1
Unit 2	Magnetic materials	15	6		1
Unit 3	Insulating materials	15	8	1	1
Unit 4	Di-electric materials and Special purpose materials	10	4	2	
Unit 5	Wiring accessories, tools and wire joints	30	14	2	2
Unit 6	Wiring Systems & Wiring circuits	20	8	1	1
Unit 7	Earthing	10	8	1	1
Unit 8	Electrical Safety & HSE and IE rules for wiring	20	10	1	1
	Total	**135**			

Note:

1. Previous Unit 1 is included in Unit 2 and converted as Unit 1.
2. Previous Unit 6 and 7 are clubbed.
3. Total number of Units are made 8
4. Wiring systems and types of house wiring unit changed as wiring systems and wiring circuits.
5. Safety precautions and IE rules for wiring Unit changed as Electrical Safety and IE rules for wiring, as per the lesson content.

Detailed Syllabus:

S. No	Name of the Unit	No.of periods	Weightage in Marks	Short Answer Questions	Essay type/ problematic Questions
1	**1.0 Conducting & Semi-conducting materials** 1.1 Structure of Atom 1.2 Atomic number, valence electrons 1.3 Atomic bonds 1.4 Classification of electrical engg. Materials 1.5 Concept on conducting materials 1.6 Conducting materials-effect of alloying - temperature -applications 1.7 Low resistance materials and applications	15	10	2	1

S. No	Name of the Unit	No.of periods	Weightage in Marks	Short Answer Questions	Essay type/ problematic Questions
	1.8 Properties of Aluminum, Copper 1.9 High resistance materials and applications 1.10 Properties of Eureka, Nichrome and Tungsten 1.11 Concept on semiconducting materia 1.12 Atomic structure of silicon & germanium 1.13 Classification and applications of se conducting materials				
2	**2.0Magnetic materials** 2.1 Classification of magnetic materials 2.2 Permeability-suceptability-currie point magneto striction 2.3 Soft and hard magnetic materials-general properties & applications 2.4 Properties of pure Iron, Silicon steel, Nickel, Cobalt, Alnico, Ferrites & applications 2.5 B-H curve ,cycle of magnetization, hysteresis loop.	15	6		1
3	**3.0Insulating materials** 3.1 General properties of insulating materials 3.2 Factors affecting insulation resistance & Di-electric strength, di-electric loss 3.3 Classification of insulating materials & applications 3.4 Properties and uses of Fibrous materials like wood, paper, textiles etc., 3.5 Properties and uses of Asphalt, Bitumen, Mineral insulating Liquids , synthetic liquids and special insulating liquids 3.6Properties and uses of Ceramics-micaetc. 3.7Insulating glasses - rubbers - PVC 3.8 Insulating resins-amber, wood resins, shellac, Thermo plastics-thermo sets, Bakelite	15	8	1	1

S. No	Name of the Unit	No.of periods	Weightage in Marks	Short Answer Questions	Essay type/ problematic Questions
	3.9 Applications of Insulating gasses- Air, N, H_2, SF_6				
4	**4.0 Di-electric materials and Special purpose materials** 4.1 Di-electric strength, Permittivity, Polarization, Di-electric loss, Applications 4.2 Protective materials like lead, steel tapes, wires, strips etc 4.3 Thermocouple, Bi-metals, soldering materials(3) 4.4 Fuse, galvanizing and impregnations	10	4	2	
5	**5.0 Electrical Wiring accessories, Wiring tools and wire joint** 5.1 Types of wires 5.2 Types of switches with modern approach 5.3 Other accessories like lamp holders, ceiling roses, sockets, fuses etc.(detailed study) 5.4 Main boards, Distribution boards, Switch boards 5.5 Fuses and fuse materials 5.6MCB & CBs 5.7 Wiring tools 5.8 Wire joints 5.9 Soldering, taping and termination of wires/Cables and cable joints	30	14	2	2
6	**6.0. Wiring Systems & wiring circuits** 6.1 Looping system and ring system 6.2Ring system and distribution box system - selection of particular system of wiring 6.3 Types of house wiring-Cleat wiring, CTS/TRS wiring, Conduit wiring, Casing capping wiring-detailed study 6.4 Comparison between different wiring methods 6.5 Simple lamp circuit and bedroom lighting circuits	20	8	1	1

S. No	Name of the Unit	No.of periods	Weightage in Marks	Short Answer Questions	Essay type/ problematic Questions
	6.6Stair case wiring, series and parallel circuits 6.7 Master switch circuits, Corridor wiring circuits 6.8Fluorescent tube light circuit, flashers, moving lights and sodium vapor and mercury vapor lamp circuits, LED lamp circuits 6.9Selection of number of sub circuits and selection of wires/cables				
7	**Earthing** 7.1 Necessity of earthing- definitions of fundamental terms in earthing like earth, earth lead, earth electrode, earth wire etc 7.2 Types of earthing-detailed study of pipe earthing ,Strip earthing and plate earthing 7.3 Specifications of materials used for earthing Measurement of Earth resistance 7.4 IE rules for earthing	10	8	1	1
8	**8.0. Electrical Safety, HSE and IE rules for wiring** 8.1 Precautions in handling tools 8.2 Electric shock-First aid on electric shock methods 8.3 Precautions to be observed while installing different electric appliances in houses 8.4 I E Rules regarding house wiring 8.5 Earth Leakage Circuit Breaker, Residual Current Circuit Breaker and other protection acessories 8.6 Causes of Fire accidents due to Electricity failures 8.7Fire alarms and Fire Extinguishers 8.8 Basic Concepts on BMS – Building Maintenance and Safety system	20	10	1	1
		135			

ELECTRICAL TECHNICIAN
FIRST YEAR
PAPER-III: ELECTRICAL INSTRUMENTS AND POWER SUPPLIES [THEORY]
TIME SCHEDULE

S.No	Name of the Unit	No. of periods	Weight age in Marks	Short Answer Questions	Essay type/ problematic Questions
1	Introduction to Electrical Measuring System	15	5	1	1/2
2	Indicating Instruments	25	10	2	1
3	Integrating Instruments	15	8	1	1
4	Special instruments	10	8	1	1
5	Digital Instruments	20	5	1	1/2
6	Semi conducting components	15	14	1	2
7	Power supplies	15	8	1	1
8	Solar Photovoltaic Technology and Systems	20	10	2	1
	Total	135			

Note :- 1. Title of the subject is changed as "Electrical Instruments & Power Supplies
2. Unit 8, and 9 of previous syllabus are removed
3. A new Unit is added as "Solar Photovoltaic technology and Systems" as Unit-8 (As part of latest technology, this Unit is included)

Detailed Syllabus:-

S. No	Name of the Unit	No. of periods	Weightage in Marks	Short Answer Questions	Essay type/ problematic Questions
1	**Introduction to Electrical Measuring System** • Fundamental units, derived units, system of units, SI system • Multiplication factors, Electrical quantities and their units. • Classifications of Measuring Instruments	15	5	1	1/2

2	**Indicating Instruments** 2.1 Classification of Indicating type measuring instruments 2.2 Effects of currents used in indicating instruments, torques/forces in electrical instruments 2.3 Basic requirements of indicating instruments 2.4 Moving Iron Instruments 2.5 MC instruments –difference between MI and MC insts., Extension of MI & MC Instruments 2.6 Dynamometer type and induction type inst., 2.7 Different types of Errors in indicating inst.,	25	10	2	1
3	**Integrating Instruments** 3.1 Definition and classification of integrating instruments 3.2 1-ph, 3-ph phase induction type energy meters 3.3 Errors in energy meters	15	8	1	1
4	**Special instruments** 4.1 Power factor meter 4.2 Frequency meter, Synchronoscope 4.3 Instrument transformers CT-PT 4.4 Multi meter, Megger 4.5 Tongue tester	15	8	1	1
5	**Digital Instruments** 5.1 Need of digital instruments 5.2 Digital Voltmeter, Ammeter, Wattmeter, Energy Meter and frequency meter 5.3 Digital multimeter, tachometer	10	5	1	1/2
6	**Semi conducting components** 6.1Introduction to Conductors, insulators and semi conductors 6.2 P type and N type materials 6.3 PN junction diode-detailed study 6.4 Brief study of special diodes- Zenar diode, LED, LCD, Tunnel diode Varactor diode, solar cell, PV array 6.5 Transistor-construction and working 6.6 Transistor biasing and configuration **6.7** Brief study on special transistors- UJT, BJT, IGBT, GTO, FET and SCR	20	14	1	2

7	**Power supplies** 7.1 Regulated power supply 7.2 Rectifiers single phase and three phase 7.3 Metal rectifiers 7.4 Study of Inverter – single phase and three phase 7.4 Servo voltage stabilizers Non automatic voltage stabilizers Automatic voltage stabilizers 7.5 Uninterrupted Power Supply (UPS)	15	8	1	1
8	**Solar Photovoltaic Technologies and Systems** 8.1 Introduction to Solar Photovoltaic energy 8.2 PV Modules, Solar cells 8.3 Different Solar Power Supply equipment and their functions 8.4 Introduction to standalone PV System 8.5 Introduction to grid connected PV System	20	10	2	1
		135			

ELECTRICAL TECHNICIAN
SECOND YEAR
PART-B VOCATIONAL SUBJECTS
PAPER-I: ELECTRICAL MACHINES AND POWER SYSTEMS

S. No	Name of the Unit	No. of periods	Weightage in Marks	Short Answer Questions	Essay type/ problematic Questions
1	D.C. Generators	15	8	1	1
2	D.C. Motors	15	8	1	1
3	A C Fundamentals & Circuits	15	8	1	1
4	Transformers	15	8	1	1
5	Alternators	5	2	1	-
6	Three-Phase Induction Motors	10	8	1	1
7	Single phase Induction Motors	10	8	1	1
8	Generation of Power	10	8	1	1
9	Transmission and Distribution of Power	15	10	2	1
	Total	110	68	10	8

DETAILED SYLLABUS:-

S.No	Name of the Unit	No. of periods	Weightage in Marks	Short Answer Questions	Essay type/ problematic Questions
1	**D.C. Generators** • Generator Principle, simple loop generator • Production of induced EMF and its nature • Construction details of DC Generator Yoke-poles-pole shoes -Armature-Commutator - brush assembly bearing Field coils Armature winding-lap and wave winding • E.M.F. equation • Simple problems • Types of Generators-separately- Self excited-series-shunt-compound wound • Failure of Building up of voltage in a shunt generator ,OCC of DC Shunt Generator • Losses and efficiency of generators Losses-iron-copper-mechanical losses • Efficiency of generator • Applications of different types of Generators	**15**	**8**	**1**	**1**

S.No	Name of the Unit	No. of periods	Weightage in Marks	Short Answer Questions	Essay type/ problematic Questions
2	**D.C.Motors** • Principle of working-Significance of back EMF(E_b) • Types of dc motors Series-shunt and compound motors • Losses and efficiency Losses-iron-copper-mechanical losses Simple problems • Speed and Torque equation- Simple problems • Speed Control of Motors-Field control method for series & shunt motors-Armature control methods (for shunt motors only) • DC motor starters-Necessity of starter working of 3-point starter-4-point starter • Applications of different types of motors	15	8	1	1
3	**A C fundamentals & Circuits** • Definations of Alterating currents and voltage, different wave forms • Definition of cycle, time period, Frequency, Amplitude, Instantaneous value ,maximum ,Average and RMS values of A.C voltage & current\ • Form factor , Peak factor of sinusoidal wave • Phaser representation of A.C, Phase & Phase difference of ac ,Power & Power Factor. • Simple problems • Single phase A.C. Through Pure Resistive/Inductive/capacitive circuit-current-voltage-phaser diagrams-power-power factor • A.C. through R-L/R-C/R-L-C Circuit Current -voltage-phasor diagram Power-Power factor • Simple problems on R-L-C circuits • Poly phase circuits-advantages of poly phase over single phase	15	8	1	1

S.No	Name of the Unit	No. of periods	Weightage in Marks	Short Answer Questions	Essay type/ problematic Questions
	• Star and delta connection- voltage & current Relation in star connection - Delta or mesh connections • The vector diagram of star and delta connections-3-phase power equation & simple problems				
4	**Transformers** • Deffination and working Principle -E.M.F equation (No derivation) -Transformation ratio ○ Step up and step down transformers • Construction details and types of transformers Like Auto transformers, Instrument Transformers ,Welding Transformers. ○ Losses and efficiency of transformer ○ All-day efficiency of transformer ○ Simple problems ○ Cooling systems of transformers • Maintanance of Transformers.	**15**	**8**	**1**	**1**
5	**Alternators** • Principle and operation of Alternators • Relation between speed, no. of poles and frequency. • Constructional details of alternator – Salient pole type and smooth cylindrical type • EMF equation and simple problems	**5**	**2**	**1**	**-**
6	**Three-Phase Induction Motors** ○ Classification of 3-Ph motors ○ Working principle of 3-Ph Induction motors ○ Relations between Ns, no. of poles and supply frequency-Definition of Slip & slip speed -Simple problems ○ Constructional details of Induction Motors Schematic diagrams of squirrel cage and slip ring motors ○ Losses-iron & copper, mechanical losses-Power stages-efficiency- Problems ○ Starters for Induction Motors-Necessity • f starter-D.O.L starter-Star/delta • starter-Rotor resistance starter for slip	**10**	**8**	**1**	**1**

S.No	Name of the Unit	No. of periods	Weightage in Marks	Short Answer Questions	Essay type/ problematic Questions
	• ring Induction Motor-effect of R_a • On torque and speed				
7	**Single phase Induction Motors** • Principle of operation of Single phase Induction Motors • Types of 1-Ph Induction motor like Split phase, capacitor start -capacitor start capacitor run-shaded pole motors-universal motor and their applications	**10**	**8**	**1**	**1**
8	**Generation of Power** o Sources of Electrical Energy-conventional-non conventional energy sources • Generation of Electrical power-working of Hydal, Thermal and Nuclear power stations.	**10**	**8**	**1**	**1**
9	**Transmission and Distribution of Power** • Tansmisssion of power from generating station to receiving stations • Use of step-up and step-down transformers and associated equipment • Use of Circuit breaker-isolators-earth switches, C.T.'s etc. • Line diagram of Transmission line from generating station to receiving station. • Distribution of power. • Line diagrams of a feeder from HV substation to distribution substation. • Transformer substations • Distribution T/F substation-Double Pole structure-Pole mounted and Plinth mounted T/F • Substation associated equipment such as A.B. switch, L.A.-H.G. Fuse-Circuit Breaker.	**15**	**10**	**2**	**1**
		110	**68**	**10**	**8**

ELECTRICAL TECHNICIAN
SECOND YEAR
PART-B VOCATIONAL SUBJECTS
PAPER-II: DOMESTIC APPLIANCES & REWINDING

S.No	Name of the Unit	No.of periods (130)	Weightage in Marks	Short Answer Questions	Essay type/ problematic Questions
1	Introduction	5	2	1	
2	Heating appliances	20	10	2	1
3	Motorised appliances	20	10	2	1
4	Other Appliances	20	14	1	2
5	General Procedure for Re-winding	10	8	1	1
6	DC Machine Winding	15	8	1	1
7	AC Motor Winding	20	16	2	2
		110	**68**	**10**	**8**

DETAILED SYLLABUS:-

S.No	Name of the Unit	No.of periods (130)	Weightage in Marks	Short Answer Questions	Essay type/ problematic Questions
1	**Introduction** • Classification of domestic appliances • General Procedure for servicing-Drives used in domestic appliances.	**5**	**2**	**1**	
2	**Heating appliances** • Construction, working and troubleshooting of electric room heater, electric stove, Electric Rice cocker, toaster • Construction, working and troubleshooting of Electric kettle, coffee maker • Construction, working and troubleshooting Electric iron, immersion heater, geyser • Construction, working and troubleshooting of Hair drier, dish washer and micro-wave oven	**20**	**10**	**2**	**1**

S.No	Name of the Unit	No.of periods (130)	Weightage in Marks	Short Answer Questions	Essay type/ problematic Questions
3	**Motorised appliances** • Construction, working, troubleshooting of electric fans, mixer, grinder, washing machine • Construction working troubleshooting of room cooler, vacuum cleaner and domestic water pumps.	20	10	2	1
4	**Other Appliances** • Different lamps(light sources), • Construction, working and troubleshooting of electric bell , • buzzer, emergency light, • Construction, working and troubleshooting of voltage stabilizer, Inverters and UPS.	20	14	1	2
5	**General Procedure for Re-winding** • Tools required for re-winding- • Removing of stator and rotor, old coils collecting of winding information • Preparation of stator & rotor coils • End connections & Testing of winding. • Varnishing, baking and re assembling of motor.	10	8	1	1
6	**DC Machine Winding** • Fundamental definitions • and materials used for dc winding • Lap and Wave winding • Simple winding diagrams • Generalized troubleshooting.	15	8	1	1

S.No	Name of the Unit	No.of periods (130)	Weightage in Marks	Short Answer Questions	Essay type/ problematic Questions
7	**AC Motor Winding** • Fundamental definitions-materials used in AC motor winding • Types of AC winding-placing of coils-starting winding and running winding • Different motors used in domestic appliances-simple winding diagrams for mixer grinder motor , ceiling fan , table fan ,water pump • Generalized troubleshooting and maintenance of domestic motors and starters.	**20**	**16**	**2**	**2**
		110	**68**	**10**	**8**

ELECTRICAL TECHNICIAN
SECOND YEAR
PART-B VOCATIONAL SUBJECTS
PAPER-III, ELECTRICAL ESTIMATION AND UTILIZATION

S.No	Name of the Unit	No. of periods	Weightage in Marks	Short Answer Questions	Essay type/ problematic Questions
1	Domestic Wiring	15	12	2	1
2	Power Wiring	15	10	1	1
3	Low Tension(LT)Distribution Lines and Village Electrification	15	10	1	1
4	Estimation of Distribution Substation	10	8	1	1
5	Theatre/Auditorium wiring and Public Address system(Field visit)	20	10	2	2
6	I.E. Rules and Departmental Test	10	8	1	1
7	Contracting	5	2	1	-
8	Utilization of electrical energy	20	8	1	1
		110	68	10	8

DETAILED SYLLABUS:-

S. No	Name of the Unit	No. of periods	Weightage in Marks	Short Answer Questions	Essay type/ problematic Questions
1	**Domestic Wiring** • Various types of house wiring and basic requirement of various utilities, estimate, and format of estimation. • Material and accessories used in domestic wiring and their cost, types of loads and sub circuits. • Types of service mains. • Design of number of sub circuits and distribution boards as per IE rules. • Preparation of wiring installation plan, layout with light load, power load and control point (switch board). • Selection of main switch, cable etc., based on the load in circuit/sub circuits	**15**	**12**	2	1

S. No	Name of the Unit	No. of periods	Weightage in Marks	Short Answer Questions	Essay type/ problematic Questions
	• Calculation of length of wiring, cable and labor charges. • Preparation of detailed estimate in standard proforma • Estimation of wiring of small residential building, offices and Commercial establishments like shops, sales counter, stores etc.				
2	**Power Wiring** • Discussion on various loads and wiring methods, circuits and in small industries, agriculture etc • Materials and accessories used in motor installation and their cost. • Designing of distribution boards, cable, motor control panel etc. • Preparation of wiring installation plan and single line diagram • Calculation of length of wiring, cable and labor charges. • Detailed estimate in the standard proforma. • Related problems on installation of motors for small workshops and irrigation pump sets.	**15**	**10**	1	1
3	**Low Tension(LT)Distribution Lines and Village Electrification** • Types of distribution lines, line supports and main components of O.H. lines • Estimation of quantity of material and accessories required for erecting OH lines to meet the requirement of single phase, three phase domestic and industrial consumer with/without street light provision - simple problems.	**15**	**10**	1	1

S. No	Name of the Unit	No. of periods	Weightage in Marks	Short Answer Questions	Essay type/ problematic Questions
	• Load survey in village and location of distribution transformer. • Preparation of single line diagram of OH distribution line of colony/village/small town. • Preparation of Estimation in standard proforma with quantity of material and accessories only- Simple problems.				
4	**Estimation of Distribution Substation** ○ Types of transformer substations and various components in errection of transformer substation ○ Detailed elevation and single line representation of transformer substation • Preparation of estimation, schedule of materials and accessories for errection of pole mounted and plinth mounted substations.	**10**	**8**	1	1
5	**Theatre/Auditorium wiring and Public Address system(Field visit)** After field visit detailed report should be submitted on the following Units. • Basic requirement of an auditorium. • General wiring layout of an auditorium. • Preparation of estimation for electrification of small auditorium in standard proforma. • Public address system major components of P.A system • Layout of P.A system for a hall, open ground and Estimation of	**20**	**10**	2	2

S. No	Name of the Unit	No. of periods	Weightage in Marks	Short Answer Questions	Essay type/ problematic Questions
	quantity of material, accessories and equipments to install P.A. Systems-simple problems.				
6	**I.E. Rules** ○ Extracts from IE rules 1956 and code of practice by AP-TRANSCO to supply electric energy. ○ I.E rules connected with domestic and industrial wiring. • Testing of electrical installation as per IE rules	**10**	**8**	1	1
7	**Contracting** • Tender form, caution deposit, earnest money deposit (EMD). • Procedure for filling up of tender forms agreement forms for contracting and receiving back the EMD after completion of work.	**5**	**2**	1	-
8	**Utilization of Electrical Energy** ○ Illumination lighting schemes lamps levels of illumination for various application. ○ Design of lighting and lighting schemes ○ Lamps for decoration and advertisement ○ Neon sign ○ Industrial application of electric energy like Heating , welding, ○ Refrigeration and Air-conditioning	**20**	**8**	1	1
		110	**68**	**10**	**8**

MODEL QUESTION PAPER
ELECTRICAL TECHNICIAN
FIRST YEAR
BASIC ELECTRICAL ENGINEERING

Time: 3 hrs **Marks: 50**

SECTION A

Answer all questions. Each carry TWO marks

1. What is a circuit ?
2. What is a Junction ?
3. Define power and write its units.
4. Give the names of 5 electrical Appliances where heating effect is utilised..
5. State the properties of magnet.
6. What is Induction?
7. Classify the induced emf's
8. What is a battery?
9. What are the components of a cell ?
10. List various capacitors.

SECTION B

Answer any SIX questions. Each carry SIX marks

11. Define Resistance ? Explain the laws of resistance.
12. Compare series circuit with parallel circuit.
13. What will be the current drawn by a lamp of 250 volts, 25 watts when connected to 230 volts supply ?
14. A domestic installation consists of the following
    a. 8 lamps 20 Watts working 8 hrs/ day.
    b. 4 tubelights 40 W working for 10 hours/day.
    c. 3 fans of 60 watts working for 12 hours/day
    d. 2 electric irons of 500W each working for 2 hours/day.
    Calculate the monthly (30days) electric bill at the rate of 75 paise/kwh. Meter rent is Rs. 2 /- p.m.
15. Draw Fluorescent lamp circuit and explain about it.
16. How does magnets classified ?
17. State the Inverse square law of magnetism.
18. State the Faraday's laws of Electromagnetic Induction
19. Write the differences between primary and secondary cells.
20. What are the various types of capacitors ? Explain about any one type.

ELECTRICAL TECHNICIAN
FIRST YEAR
ELECTRICAL ENGINEERING MATERIAL & WIRING

Time: 3 hrs **Marks: 50**

SECTION A

Answer ALL questions. Each carry TWO marks

1. How electrical engineering materials are classified?
2. What are the applications of semiconducting material?
3. How are the insulating materials classified?.
4. Name different protective materials.
5. What is fuse ?.
6. What is a switch?.
7. List the various types of screw driver
8. What are the tools needed for an Electrician?
9. Draw the wiring diagram of a fluorescent tube.
10. What are the types of earthing?.

SECTION B

Answer any SIX questions. Each carry SIX marks

11. Compare copper and aluminium is six aspects
12. With a neat sketch explain the trouble shooting of immersion water heater.
13. Explain the properties of Alnico..
14. Explain properties and applications of soft magnetic materials.
15. Write short notes on (a) Paper (b) Wood.
16. What are the various operations for making a joint?
17. Explain the following with neat sketches: (a) Western Joint (b) Married Joint
18. Draw the godown wiring and explain its function
19. Draw a schematic sketch showing main switch, distribution board and 3 lamp circuits with switches and ceiling rose connection?
20. Draw the neat sketch and label the parts of pipe earthing.

ELECTRICAL TECHNICIAN
FIRST YEAR
ELECTRICAL INSTRUMENTS & POWE SUPPLIES

Time: 3 hrs **Marks: 50**

SECTION A

Answer ALL questions. Each carry TWO marks

1. Define fundamental units and derived units
2. Name any four electrical instruments and their functions
3. Name different types of watt meters and write their applications.
4. What are the main parts of energy meter?
5. Write the uses of megger.
6. What are the factions of the digital multimeter?
7. Name the basic types of transistors and draw their symbols?
8. What is stabilizer? Name different types of voltage stabilizers.
9. What is solar energy ? Write its application
10. Mention the types of PV Systems?

SECTION B

Answer any SIX questions. Each carry SIX marks

11. Draw the construction and explain the working of PMMC
12. Write the comparison between moving coil and moving iron instruments.
13. Explain construction and working of single phase induction type energy meter
14. Explain about multimeter and its operation.
15. Write the advantages and disadvantages of Digital instruments.
16. Draw PN junction. a) No Bias b) Forward Bias c) Reverse Bias.
17. Write a brief note on a). LCD b). Tunnel Diode
18. Explain the construction and working of Full wave rectifier by using centre tap transformer.
19. Write the parts and their functions of solar energy system.
20. What is stand alone PV system and draw its block diagram?

MODEL QUESTION PAPER
ELECTRICAL TECHNICIAN
SECOND YEAR
PAPER I: ELECTRICAL MACHINES AND POWER SYSTEMS

Time: 3 hrs **Marks: 50**

SECTION A

Answer all questions. Each carry TWO marks

1. What is Generator ?
2. Write the working principle of a D.C. motor.
3. Write the E.M.F equation of transformer?
4. Define an alternator .
5. State the types of rotors used in an alternator.
6. Name the types of AC motor starters.
7. State the types of Single Phase induction motors?
8. What are the sources of Electric Energy
9. List major parts of Thermal Power Station.
10. What are the main equipment in sub-station?

SECTION B

Answer any SIX questions. Each carry SIX marks

11. Draw the neat sketch of sectional view of a D.C Generator.
12. With a neat sketch explain the construction and working of 3 point starter.
13. Define the following

    (a) Cycle (b) Time period (T) (c) Frequency (F)
14. With a neat sketch explain about star delta starter
15. Compare single phase and three phase motor.
16. Explain the working of permanent capacitor motors with a neat sketch.
17. Draw the schematic diagram of Hydel Power Station and explain its working
18. Draw the single line diagram of Transmission and Distribution of Electric Power.
19. Draw the symbols (a) Lightning Arrester (b) Three phase transformer

    (c) Circuit breaker (d) HG Fuse
20. Make a comparison between overhead lines and underground lines

MODEL QUESTION PAPER
ELECTRICAL TECHNICIAN
SECOND YEAR
PAPER II: DOMESTIC APPLIANCES AND REWINDING

Time: 3 hrs **Marks: 50**

SECTION A

Answer ALL questions. Each carry TWO marks

1. How the Domestic Appliances are classified?
2. Write various Domestic appliances and their functions?
3. What are the main tools used for repair of domestic appliances?8. Name different types of electric irons.
4. Explain in three sentences about the faults in heating appliances
5. Mention different types of pumpsets.
6. Name different types of electric lamps.
7. What are the main tools used for rewinding?
8. What are the materials used in DC machine winding
9. What is centrifugal switch?
10. Name different types of AC windings.

SECTION B

Answer any SIX questions. Each carry SIX marks

11. Explain the construction and working of non automatic electric iron.
12. With a neat sketch explain the trouble shooting of immersion water heater.
13. Draw and explain the construction of mixer grinder.
14. Draw the circuit diagram of washing machine and name the parts.
15. Explain the construction and working of emergency light.
16. Draw the bock diagram of UPS and explain
17. Write the general procedure for rewinding.
18. Explain the testing methods of DC machine armature?
19. Write a comparison between starting winding and running winding?
20. Draw the winding connections of table fan.

MODEL QUESTION PAPER
ELECTRICAL TECHNICIAN
SECOND YEAR
PAPER III: ELECTRICAL ESTIMATION AND UTILIZATION

Time: 3 hrs **Marks: 50**

SECTION A

Answer ALL questions. Each carry TWO marks

1. Give any four examples for power load
2. Mention the types of starters used for AC motors and DC motors?
3. Expand a) RCC b) PSCC c) ACSR d) AAC
4. What are the types of poles used in OH lines
5. Define sub-station.
6. What are the types of loads observed in a Auditorium?
7. What is circuit breaker?
8. Define Estimate
9. What is electric heating?
10. What are the parts of a refrigerator?

SECTION B

Answer any SIX questions. Each carry SIX marks

11. Estimate the quantity and cost of material required in standard proforma for aHall of size 10m x 8m x 3m, in open type PVC conduit wiring system. Assume the missing data. The Hall is provided with light and fan points only. 10m×8m×3m
12. List the material and accessories required for conduit wiring system.
13. In a flour-mill of size 4m x6 m x 3.5 m, one 10 HP, 440 V,3-Ø, 50 Hz. Squirel cage Induction motor is to be installed, prepare the estimate of the material and its cost along with layout of the wiring.
14. A road has a straight length of 3km is to be electrified by fluroscent lamps of 40W. The span is 50m. Estimate quantity of material their cost assume any missing data ?
15. Prepare estimation of the material for a pole mounted sub-station
16. Estimate the quantity of material required and its cost for PA system permanently in assembly hall of size 20 × 12m. Assume any other required data?
17. What are the different circuits and lighting methods used in auditorium
18. Write the IE rule regarding internal wiring
19. Draw the connection diagram of neon sign board for “VOCATIONAL”.
20. What is the main advantage of electric welding.

LIST OF TOOLS AND EQUIPMENT

HOLDING AND SUPPORTING TOOLS

S.No.	DESCRIPTION	QUANTITY
1.	Work Bench	8
2.	Surface Plate	2
3.	Angle, T etc	2
4.	Armature Holder	2
5.	Bearing Holder	2
6.	Stand for Amature Winding	2
7.	Wooden bin for wiring practice	2 No's (8x4x4)
MEASURING TOOLS		
1.	Rulers	6
2.	Tapes	6
3.	Micrometer	6
4.	Wire Guage	6
5.	Feeler Guage	2
6.	Inspection Guage	3
7.	Screw Pinch Guage	4
8.	Dial Guage	4
9.	Combination set	2
10.	Tri-Square	6
11.	Digital Techometer	2
12.	Thermometer	3
13.	Spring Scale	2
14.	Line Tester/Testing Lamp	6
15.	Scale with Weight 50 gm to 10 kg	2
16.	Digital Voltmeter 3-0-3V	2
CUTING TOOLS		
1.	Scissors	2
2.	Hand Shearing Machine	1
3.	Pipe Cutter	1
4.	Hack Saw	6
5.	Power Drill with small and Medium Bits	3
6.	Grinder	2
7.	Chisels (one set)	1
8.	File (one set)	1
9.	Scraper	2
10.	Conduit Pipe Taps and Die (one set)	1
11.	Rawl Punch	1
12.	Conduit Pipe Cutter	1
13.	Die and Die Stock	1
14.	Pipe Vice	3
15.	Conduit Bending Rack	1
16.	Drill Hand Brace	1
17.	Plane smoothing Cutter	1
18.	Power Wall Cutting/Wall chiseling Machine with various Blades	1

S.No.	DESCRIPTION	QUANTITY
TOOLS KIT		
1.	Wrenches	1
2.	Spanners (one set)	
3.	Screw Drivers (one set)	1
4.	Neon Tester	2
5.	Hammer	2
6.	Mallert-Plastic Hammer-Rubber Hammer	1 each
7.	Gimlet	1
8.	Drifts and Punches	1
9.	Pockers	6
10.	Grease Gun	1
11.	Oil Can	1
12.	Electrician's Knifes	6
13.	Adjustable Wrench	2
14.	Combination Pliers (insulated)	3
15.	Nose Pliers (insulated)	3
16.	Long Nose Pliers (Insulated	3
17.	Side Cutting Pliers	3
18.	Soldering Iron	2
19.	First Aid Box	1 set
20.	Pincer	1
21.	Slip Joint Pliers	1
22.	Scrapper	1
23.	Centre Punch	1
24.	Multimeter	1
25.	Insulation Stripper	4
26.	Hand gloves	2 sets
APPLIANCES		
1	Reflector Type room heater	1
2.	Blower Type room heater	1
3.	Electric iron ordinary/automatic/thermostat control type	1 each
4.	Electric stove-coiled type, covered type	1 each
5.	Electric Hot Plate	1
6.	Electric Grill/Oven	1
7.	Cooking range/Microwave oven	1
8.	Electric Toasters-Ordinary, Automatic	1 each
9.	Electric Immersion heater	1
10.	Electric Geyser	1
1	Electric Kettle	1

S.No.	DESCRIPTION	QUANTITY
1	Electric Coffee Percolator	1
1	Electric Gas Lighter	1
	Fluorescent tube with fittingTable lamp, night lamp, emergency light	1 each
	Electric bell, buzzer, door chimes	1 each
	Electric Ceiling fan, Padestal fan, Table fan, Bracket fan and Exhaust fan, Wall Mounting fan	1 each
	Electric Mixer, Grinder and Juicer	1 each
	Electric Washing Machine	1 each
	Electric Cloth Dryer	1
	Electric Dish Washing Machine	1
	Electric Hair Dryer	1 each
	Electric Shaver	1
	Room Cooler	1
	Vaccum Cleaner	1
	Voltage Stabiliser	1
	Battery Charger	1
	Electrical Grain Grinder	1
	Domestic Water Pump, Submersible Pump set	1 each
MOTORS		
	Split Phase Motor	1
	Capacitor Start Motor	1
	Capacitor Run Motor	1
	Submersible pump 5 HP 6 stages A.C.	1
	High Speed Motor	1
	Repulsion Motor	1
	Universal Motor	1
	DC Shunt Motor	1
	DC Series Motor	1
	3 Ph Induction Motor (Cage Type-5HP)	1
	3 ph Induction Motor (Slip ring Type-5HP)	1
	Starters for DC and AC Motors	1 each
	Jet Motor 1-Phase 1 HP	1
METERS		
1.	Voltmeter a.c./d.c. (Various ranges)	6
2.	Ammeter a.c./d.c.(Various ranges	6
3.	Wattmeter (Induction type and Dynamic type)	2
4.	Single Phase Energy Meter	1
5.	Ohm Meter	1
6.	AVO Meter	1
7.	Megger	1 each
8.	Digital Multimeter	1
9.	Clip on Ammeter	1
1(	Growler (inside and outside)	1
1	Phase Sequence Indicator	2
1.	Digital Speed Meter	1
1.	Frequency Meter	1

S.No.	DESCRIPTION	QUANTITY
14	Power Factor Meter	1
15	Earth Tester	1
16	Micrometer (various ranges)	3
17	Three Phase Energy Meter	1
18	MCB and CB (1 each)	2
EQUIPMENT AND ACCESSORIES		
1	Current Transformer	1
2	Potential Transformer	1
3	Rheostat of various rating	6
4	Decade Resistance Box	2
5	Decade Capacitance Box	2
	Bar magnet	1
	Horse Shoe Magnet	2
	Magnetic Compass Needle	2
	Thermo Couple	2
	Thermostat	2
	Timer	3
	Fire Fighting Equipment	1 set
	Batteries 6V, 9V, 12V, 50V AH (1 each)	1 set
	Ladder	1
	ICDP, ICTP, ICTPN Main Switches (2 each)	8
LIST OF RAW MATERIALS		
	Connecting Wires (various Size)	1 coil each
	Adhesive tape (6 rolls of different size)	6 each
	Conducting materials : Copper, Alumium	1 Kg each
	High Resistance Materials : Tungsten, Nichrome, Eureka, Selenium	0.5 Kg each
	Carbon Graphite Brushes (Different sizes)	5 sets
	Electric Bulb of various types (4 No. each) LED Lamps (2 No.)	
	Various Insulating Materials : Amber cloth, PVC, Porcelian, Bistumen, Mica, Bakelite, Fibre Glass, Phenolic, Presshan paper, Leatheroid paper	1 sp.m each
	Magnetic Materials : soft and hard	0.5 Kg. each
	Brass, Gun metal	0.5 Kg each
	Fuse wire of various rating	1 roll each
	Solder lead and flux (Resin core solder)	6 packets
	Brazing materials	2 packets
	Conduit Pipes	200 ft.
	PVC Pipes various sizes	200 ft.
	Iron Clad Switches (Various range	10
	Switches (5A/15A rating)	6 No. each
	Lamp Holder	1
	Ceiling roses	1
	Plug Taps 2-Pin, 3-pin	1
	Sockets 2-Pin, 3-Pin	1
	Wooden Boards (Various sizes) Three of each size	1
	Solid, Semi Solid and liquid lubricants	1 kg each

S.No.	DESCRIPTION	QUANTITY
	Anti corrosive paints	1 kg each
	Raw materials for blue prints 1 liter Ammonia	
	Materials for safety charts	2 peppers
	Silicon/Stampings for rotor and stator	1 set
	CRGO Stamping	5 kg
	Bobbin/Former for winding	2
	Different types of Enameled copper wires (Various sizes)	10 kg
	Varnish	5 Lt.
	Pilot Lamp	12
	Resistors of various ratings	10
	Capacitors of various ratings	10
	Inductors of various ranges	10
	Various types of diodes	10
	Transistors	10
	C.F.Ls various wattage	10
	Tube light sets	5 sets

COLLABORATING INSTITUTIONS FOR CURRICULUM TRANSACTION

1. Advance Training Institute, Vidyanagar, Hyderabad
2. Government Polytechnics, Telangana state ,
3. Pandit Sunderlal Sharma Central Institute of Vocational Education, Bhopal.
4. Central Training Institute, TS SPDCL, Erragadda, Hyderabad.
5. University College of Engineering Osmania University, Kakateya University, Mahatma Gandhi University, JNTU College of Engineering,
6. NIT Warangal.

ON THE JOB TRAINING SITES

Vocational students are required to undergo on the Job training (OJT) in industry/Collaborating Institution during their course of study. The programme may be conducted as per the guidelines given by C,I,.E., Hyderabad.

1. Manufacturing Industry of Electric Machines.
2. New and old buildings for electrical wiring installation
3. Electric Motor and pump set sales man ship
4. Workshop dealers for electric Motors and rewinding shops
5. Service centers for electric motors
6. Manufacturing industry of Domestic Appliances
7. Service centers of Domestic Appliances
8. Sub stations
9. Transformers manufacturing centre
10. Transformers Rewinding centers
11. All Electrically operated industries
12. Hospitals
13. Commercial Buildings
14. LT and HT Meter testing Lab

Note:

1. Two days per month will be Field Visits for first year and second year should be strictly maintained
2. As far as possible OJT should be conducted in prescribed places only
3. A separate Project Report should be submitted by each student after completion OJT

4. At Least four seminars should be arranged for Vocational students keeping bank managers, subject experts, skilled technicians, Industrialists etc., are as resource persons.
5. Practical Record should be maintained by each Vocational Student for every lab. It is compulsory.
6. Unit test should be conducted even for practicals

(A) Practicals may be conducted at nearby Engineering Colleges, Polytechnics, and well established ITI's, if related equipment is not available in the College.

OJT SYLLABUS – 2nd YEAR ELECTRICAL TECHNICIAN

Probable OJT Center	**Main Objective**	**Detailed Skills to Learn**	**Duration**
Motor repair and rewinding workshop	Motor Rewinding Single Phase/Three phase/Submersible motor	➢ Identification of parts in motor ➢ Identification of tools used of rewinding ➢ Familiarization of Materials in motor winding ➢ Testing of motor ➢ Dismantling of motor ➢ Preparing the motor for rewinding ➢ Assisting in motor winding ➢ Assembling of motor and final testing ➢ Repair of motor – bearing, terminals etc., ➢ Maintenance of motor like lubrications, correct connections etc.,	**150**
Domestic appliances repair workshop/ Authorised Service centres	Identification of fault and troubleshooting of Domestic appliances Customer relations	➢ Servicing and Troubleshooting of Domestic appliances - Heating appliances, Motarised appliances, UPS, Inverter, Refrigeration and Air-condition ➢ Repair of Domestic appliances at workshop, customer ➢ Preparation of job sheet	**150**
Electrical Substations	Operation and maintenance of Electrical Substations	➢ Familiarization of Safety measures to be followed in Electrical Substation ➢ Familiarization of layout of substation ➢ Awareness about Equipment and machinery in substation ➢ Observation of duties of Operator, Lineman and Supervisor ➢ Energy billing/meter reading ➢ Assisting the above personnel in their duties. ➢ Observation of Electrical Estimations prepared by Assistant Engineer	**150**

REFERENCE BOOKS

1. Electrical Technology, Chand Publishers, New Delhi – B.L. Theraja
2. Electrical Technology, ELBS Publication – Edward
3. D.C. Fundamentals, Delman Publication – Loper
4. A.C. Fundamentals, Delman Publication – Delman Publication
5. Basic Electrical Engineering – Clayton and Shelley
6. Study of Electrical Appliances and Devices, Khanna Publishers, New Delhi – K.B.Bhatia
7. Electrical Appliances (Hindi & English), New Heights Publication, New Delhi – M.L.Anwani and Hans
8. Electrical Appliances Repairer & Maintenance, Hind Pocket Books, G.T. Road, New Delhi – K.Nath
9. House Hold Repairer, Hindi Pocket Books, G.T. Road, New Delhi – Prakash Shukla
10. How to repair Electrical Appliances 'AUDEL SERIES' Taraporewala and Sons Co.Pvt. Ltd. – Gershon J.Sheeler
11. Electrical Gadgets and their repair, Pitamber Book Depot, New Delhi – S.R.Roy
12. Electrical Gadgets, Dhanpat Rai and Sons, New Delhi – H.Pratap
13. Elements of Electrical Engineering, New Heights, New Delhi – M.L.Gupta
14. Electrical Engineering Material, Satya Prakashan Publication, New Delhi – R.B.Gupta and B.R.Sharma
15. Preventive Maintenance of Electrical Equipment, New Asian Publications, New Delhi – R.C. Sharma
16. Repair Shop Electrician, Peace Publishers, Moscow – G.Vartanov, V.Varner, v.Serevryakov
17. Home Workshop and Tool 'AUDELS',. D.B. Taraporewala and Sons Co. Pvt.Ltd – Adwin P.Anderson
18. Eelectrical Technology, Chand and Co. Ltd, New Delhi – B.L.Theraja
19. Basic Electrical Engineering, Dhanapat Rai and Sons, New Delhi – M.L.Anwani and Hans
20. Electric Motor Winding and repair, Dhanapat Rai and Sons, New Delhi – M.L.Anwani, I.M.Anwani
21. Electrical wiring and Industrial and Domestic Wiring, New Heights, New Delhi – Arora and B.Das
22. Electrical Technology, Katson Publishing House, New Delhi – M.P.Michal Kapoor
23. House Wiring Practice – T.B.Biht
24. Relevant I.E. Rules and B.I.S. specifications
25. Elements of Electrical Gadgets, Khanna Publishers, New Delhi – K.B. Bhatia
26. Home appliances Servicing 'AUDELS', D.B. Taraporewala and Sons Co.Pvt. Ltd. – Adwin P.Anderson
27. Electrical Small Scale Industry, New Heights, New Delhi – Jain
28. How to repair Electrical appliances, D.B. Taraporewala and Sons Co.Pvt. Ltd. – Garshon J.Wheeler
29. Study of Electrical appliances and devices, Khanna publishers – K.B. Bhatia
30. Electrical Motor winding and Repair, New Heights Publication, New Delhi – M.L. Anwani, I.M.Anwan
31. Electrical Calculations, New Heights Publication, New Delhi – M.L.Anwani and Hans
32. Electrical Wiring, Estimating and Costing, Khanna Publishers, New Delhi – Dr.S.L.Uppal and J.M.Larcia
33. Practical A.C. Motor winding. Hindi Pocket Books, New Delhi – Narendranath.
34. Fundamentals of Maintenance and Electrical Equipment, Khanna Publishers, New Delhi – K.B.Bhatia
35. Electrical Workshop Engineering Practice, New Heights, New Delhi – Arora and B.Das
36. Royal Motor Winding, Royal Book Depot, Jallandhar – H.Singh
37. Electrical Wioring, Estimating and costing, Royal Book Depot, Jallandhar – J.B. Gupta
38. Workshop Practice in Electrical Engineering, Dhanapat Rai and Sons, New Delhi – M.L.Gupta.

30% DELETED CONTENT IN VIEW OF COVID-19 PANDEMIC

FIRST YEAR
PAPER –I: BASIC ELECTRICAL ENGINEERING

Sl. No.	Unit No. Name of the Unit	Topic/Sub Topic to be Deleted in Details Heads	Two Marks Questions Deleted	Six Marks Questions Deleted
1	UNIT – I Fundamentals of Electrical Engineering	Star – Delta Transformation	NIL	1. Mention the equation for the transformation of Delta circuit to star circuit? 2. Mention the equation for the transformation of star circuit to delta circuit
2	UNIT – II : Electrical Work – Power & Energy	Work-Power-Energy (related)	NIL	1. A force of 10 N is required to push a cycle through a distance of 4m. Calculate the work done in 1) Newton Meters and 2) Kg-m
3	UNIT – III : Heating Effects of Electric Current	Repeated and Delated	5. Draw and name the parts of Geyser.	NIL
4	UNIT – IV : Electro Magnetism	Repeated and Delated	NIL	NIL
5	UNIT – V : Electromagnetic Induction	Lifting Power of Magnet	6. Write the formula for lifting power of magnet	4. Define magnetic coefficient of coupling?
6	UNIT – VI : Cells & Batteries	Maintenance of Lead acid cells	NIL	What is the maintenance process of Lead acid cells or Batteries?
7	UNIT – VII : Electrostatics	Definition of Electric Charge	1. What is Positive and Negative Charge . 3. List various capacitors.	NIL

ELECTRICAL TECHNICIAN - FIRST YEAR
PAPER – II: ELECTRICAL ENGINEERING MATERIALS AND WIRING

Sl. No.	Unit No. Name of the Unit	Topic/Sub Topic to be Deleted in Details Heads	Two Marks Questions Deleted	Six Marks Questions Deleted
1	UNIT – I : Introduction Conducting & Semiconducting Material	NIL	NIL	NIL
2	UNIT – II : Magnetic Materials	Pure Iron	NIL	3. Explain the properties of pure iron.
3	UNIT – III : Insulating Materials	Liquid insulating materials	3. What is dielectric strength?	2. State the properties and uses of mineral insulating liquid
4	UNIT – IV : Dielectric Materials and Special Purpose Materials	NIL	NIL	NIL
5	UNIT – V : Electric Wiring Accessories, tools and wire joints	No content	NIL	7. Write short notes on the following (a) Taps (b) Die and Die set (c) Pipe - cutter
6	UNIT – VI : Wiring Systems and Wiring Circuits	Repeated	NIL	2. Compare Metal and PVC conduit wiring systems
7	UNIT – VII Earthing	NIL	NIL	NIL
8	UNIT – VIII : Electrical Safety Precautions and IE rules for Wiring	NIL	NIL	NIL

ELECTRICAL TECHNICIAN - FIRST YEAR
PAPER – III: ELECTRICAL INSTRUMENTS AND POWER SUPPLIES

Sl. No.	Unit No. Name of the Unit	Topic/Sub Topic to be Deleted in Details Heads	Two Marks Questions Deleted	Six Marks Questions Deleted
1	UNIT-1 Introduction to Electrical Measuring System	SI System	3. List the fundamental quantities in SI system	NIL
2	UNIT-2 Indicating Instruments	Covered in Unit 1	2. Write the applications of Integrating instruments and recording instruments	NIL
3	UNIT-3 Integrating Instruments	Covered in Unit 1	5. Write the errors in single phase induction type energy meter	4. Draw single phase induction type energy meter and label the parts.
4	UNIT-4 Special Instruments	Synchronoscope Repeated/	1. Write the uses of Megger	3. How the Weston Synchronoscope is used to connect alternator to live bus bars.
5	UNIT – 5 Digital Instruments	NIL	NIL	NIL
6	UNIT 6 Semiconducting Components	NIL	NIL	NIL
7	UNIT – 7 Power Supplies	NIL	NIL	NIL
8	UNIT – 8 Solar Photovoltaic Technologies and Systems	Repeated	7. Name the types silicon used in photovoltaics.	3. Draw the construction diagram and name the part of the solar photo voltaic cell

ELECTRICAL TECHNICIAN - SECOND YEAR

PAPER – I: ELECTRICAL MACHINES AND POWER SYSTEMS

Sl. No.	Unit No. Name of the Unit	Topic/Sub Topic to be Deleted in Details Heads	Two Marks Questions Deleted	Six Marks Questions Deleted
1	UNIT – I DC Generator	Causes for failure to buildup	NIL	2. Explain the causes for failure of build up of voltage in DC Generator
2	UNIT – II : DC Motor	Speed control of DC motor	NIL	1. Write the methods of speed control of DC motor
3	UNIT – III : A C Fundamentals and Circuits	Definitions of Alternating quantities (some un important) Single phase Vs Poly phase	3. What is maximum and average value	1. Write the advantages of poly phase system over single phase system.
4	UNIT – IV : Transformers	Instrument Transformers	NIL	3. Explain briefly about instruments transformer.
5	UNIT – V : Alternators	NIL	NIL	NIL
6	UNIT – VI : Three phase Induction Motor	Least important	5. State the various losses in 3-ph induction motor	NIL
7	UNIT – VII : Single Phase Induction Motor	Least important	NIL	1. Write the construction and working details of split phase motor with a neat diagram
8	UNIT – VII Generation of Power	No content	NIL	4. What are the limitation of conventional and non-conventional energy sources
9	UNIT – IX – Transmission and Distribution of Power	NIL	NIL	NIL

ELECTRICAL TECHNICIAN - SECOND YEAR
PAPER –II: DOMESTIC APPLIANCE AND REWINDING

Sl. No.	Unit No. Name of the Unit	Topic/Sub Topic to be Deleted in Details Heads	Two Marks Questions Deleted	Six Marks Questions Deleted
1	UNIT – I : Introduction to Domestic Applinces	Rules to be ….	1. Name the steps for repairing of an appliance	NIL
2	UNIT – II : Heating Appliances	NIL	1. State Joules law of Electric Heat	3. Draw the construction of coffee maker and explain its working
3	UNIT – III : Motorized Appliances	Circuit diagram of washing machine	NIL	4. Draw the circuit diagram of washing machine
4	UNIT – IV : Other Appliances	NIL	NIL	NIL
5	UNIT – V : General Procedure for Rewinding	NIL	NIL	NIL
6	UNIT – VI : DC Motor Winding	Winding table	NIL	3. Prepare the winding table
7	UNIT – VII AC Motor Winding	NIL	NIL	NIL

ELECTRICAL TECHNICIAN - SECOND YEAR
PAPER – III: ELECTRICAL ESTIMATING AND UTILIZATION

Sl. No.	Unit No. Name of the Unit	Topic/Sub Topic to be Deleted in Details Heads	Two Marks Questions Deleted	Six Marks Questions Deleted
1	UNIT-1 Domestic Wiring	Types of service mains	7. Draw single line diagram of house wiring from service mains to a sub-circuit	NIL
2	UNIT-2 Power Wiring	Types of starters	5. What are the types of starters suitable for AC and DC motors	NIL
3	UNIT-3 Low Tension (LT) Distribution and Village Electrification	Village Electrification	NIL	3. Write a short notes on load survey, village electrification, location of distribution transformer
4	UNIT-4 Estimation of Distribution Substation	Repeated	3. List the major components of distribution substation	NIL
5	UNIT – 5 Theatre/auditorium wiring and Public Address system	Repeated	NIL	4. What are the main Equipments used in Outdoor PA-system.
6	UNIT 6 IE Rules	IE rules regarding Industrial wiring	NIL	2. Write the IE rules regarding industrial wiring
7	UNIT – 7 Contracting	NIL	NIL	
8	UNIT – 8 Utilization of Electrical Energy	Electric Welding	5. Mention the different types of electric welding.	3. What is the main advantage of electric welding

VOCATIONAL CURRICULUM-2020

(For the Academic year 2020-21)

[70% CONTENT IN VIEW OF COVID-19 PANDEMIC]

MECHANICAL TECHNICIAN

[COURSE CODE: 322]

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

Dr. A.Ashok I.A.S
COMMISSIONER

INTERMEDIATE EDCATION
Government of Telangana
Nampally, Hyderabad- 500001
Phone: 040-24655915

Fore word

In any developing society with a booming population, Vocational Education occupies an important position for generating large scale employment opportunities. Viewed in this context the importance of Vocational Education for our country cannot be over emphasized. Vocationalization of Secondary Education was introduced in 1988 at the Intermediate level. Recently, the Government of India has developed a National Skills Qualification Framework for establishing a clear path for vocational education from the school level to the highest level. The Department of Intermediate Education has recently framed a new curriculum to bring greater value to the system of vocational education. The primary aim of this reform is to prepare the students with employable skills for absorption in organized sectors and in few cases, even for self-employment.

State Institute of vocational education and Board of Intermediate Education, Telangana have reviewed the curriculum of vocational courses in order to reorient them for their practical approach. Greater emphasis is now being placed on Laboratory work and on the job training.

Simultaneously, The State Institute of Vocational Education and the department of Intermediate Education are presently making efforts to upgrade the quality of infrastructure in the colleges to meet the challenges of the changed curriculum. I am confident that the revised curriculum and the new text books would prove to be beneficial to the students in the vocational stream and help them train in need based productive courses leading to gainful employment.

Commissioner of Intermediate Education
Government of Telangana

S No.	Contents	Page No.
I	**Introduction**	5
II	**Objectives of the Course**	5
III	**Skills to be provided**	5
IV	**Job Opportunities** a) Wage Employment b) Self-Employment	6
V	**Scheme of Instruction and Examination**	7
SYLLABUS		
VI	**First year** **Theory** Paper Ⅰ : Basic Workshop Technology Paper II : Mechanical Technology& Electrical Technology Paper III: Refrigeration **Practicals** Paper Ⅰ : Workshop Practice. Paper II :Engineering Drawing Paper III: Refrigeration	10
VII	**Second Year** **Theory** Paper Ⅰ : Energy Sources Paper II : Light Motor Vehicles Paper III: Air conditioning **Practicals** Paper Ⅰ : Energy Sources Paper II : Light Motor Vehicles Paper III: Air conditioning	20
VIII	**Model Question Papers**	29
IX	**List of Equipment** a) Collaborating Institutions for curriculum transaction b) On – the – Job Training Sites	35
X	**Teaching staff and their Qualification**	36
XI	**Vertical Mobility**	36
XII	**Reference Books**	37
XIII	**Equivalency of Papers**	38
XIV	**List of Participants**	38

INTRODUCTION

To meet the needs of rapidly growing industrial sector, it is essential to develop the employable skills to match the requirements of industry. In view of the above, the curriculum 'Mechanical Technician' course has been designed and developed for a two year course at the plus two stage of Intermediate Education.

All industries and manufacturing areas are established in large scale, to meet essential services and well trained members with necessary skills sets are in great demand to get wage &self-employment. This course provides the student, the techniques and skills of General Engineering work and servicing of light motor vehicles, refrigeration and Air Conditioning sector and Energy sector. In addition to this course imparts knowledge in all other subject related to Mechanical Engineering field. The skills and techniques acquired during this course develop the required competency in performing job effectively.

II. OBJECTIVES OF THE COURSE

1. To develop employable skills for manufacturing industries (large, medium and small scale industries)
2. To develop skills for wage employment and self employment in the following areas :

   a) Refrigeration & Air conditioning
   b) Light Motor Vehicle
   c) General Machine shop (Lathe shop, grinding machine shop etc.)
   d) Fabrication shop (Welding, Sheet metal shop etc.)
   e) Renewable energy sector (Solar energy, Bio-gas plants, etc.)
3. To develop skilled man power needs of modern industries.

III. SKILLS TO BE PROVIDED.

1. Lathe, grinding operations in General Work shop.
2. Fitting, drilling skills in General Engineering.
3. Welding skills in Fabrication work
4. Experience in maintaining solar energy plants.
5. Repairing of Refrigerators.
6. Repairing of Air Coolers.
7. Repairing of Air-conditioners.
8. Repairing of Light motor vehicles.

IV. JOB OPPORTUNITIES

(a) WAGE EMPLOYMENT

1. Telangana Transco/ Telangana Genco/TSRTC/ RWS/ Railways/ all Departments having Mechanical Sections.
2. Technician (LMV) in Automobile Servicing centre like Maruti, Hyundai, Tata Mahindra & Mahindra, Voltas Wagon, Toyota, Ford etc.
3. Technician in Refrigeration & Air Conditioning Service centers like Blue star, BPL, LG, Kelvinator, Godrej, Whirlpool etc.
4. Maintenance of Air conditioning plants.
5. Workshop Technician in manufacturing industries like BHEL, BEL, HAL, HMT, BDL, DRDO, DMRL, Railway Workshops etc.
6. Technician in Solar Power plants

(b) SELF EMPLOYMENT

1. Ancillary units for large manufacturing industries.
2. General workshop (Lathe, drilling, Grinding etc.)
3. Servicing centres for Light Motor Vehicles
4. Servicing and maintenance of Refrigeration and Air Conditioning Equipments
5. Welding workshop
6. Installation and maintenance of Solar plants
7. Installation and maintenance of Bio-gas plants

V. SCHEME OF INSTRUCTION AND EXAMINATION

ANNUAL SCHEME OF INSTRUCTION AND EXAMINATION

MECHANICAL TECHNICIAN

FIRST YEAR

Part-A		Theory		Practicals		Total	
		Periods	**Marks**	**Periods**	**Marks**	**Periods**	**Marks**
1.	English	150	50	0	0	150	50
2.	General Foundation course	150	50	0	0	150	50
	Part-B						
3.	**Paper-I** Basic Workshop Technology	135	50	135	50	270	100
4.	**Paper-II** Mechanical Technology & Electrical Technology	135	50	135	50	270	100
5.	**Paper-III** Refrigeration	135	50	135	50	270	100
Part-C							
6.	**OJT**	0	0	365	100	365	100
	Total	**705**	**250**	**770**	**250**	**1475**	**500**

*on the Job Training for 1st year from 1st November to 31st December

SECOND YEAR

Part-A		Theory		Practicals		Total	
		Periods	**Marks**	**Periods**	**Marks**	**Periods**	**Marks**
1.	English	150	50	0	0	150	50
2.	General Foundation course	150	50	0	0	150	50
	Part-B						
3.	**Paper-I** Energy Sources	110	50	115	50	225	100
4.	**Paper-II** Light Motor Vehicles	110	50	115	50	225	100
5.	**Paper-III** Air conditioning	110	50	115	50	225	100
Part-C							
6.	**OJT**	-	-	450	100	450	100
	Total	**630**	**250**	**795**	**250**	**1425**	**500**
TOTAL FIRST YEAR AND SECOND YEAR MARKS 1000							

*OJT Programme for 2nd year students from 1st August to 31st October.

EVALUATION OF ON THE JOB TRAINING:

The "On the Job Training" shall carry 100 marks for each year and pass marks is 50. During on the job training the candidate shall put in a minimum of 90 % of attendance.
The evaluation shall be done in the last week of January.

Marks allotted for evaluation:

S.No	Name of the activity	Max. Marks allotted for each activity
1	Attendance and punctuality	30
2	Familiarity with technical terms	05
3	Familiarity with tools and material	05
4	Manual skills	05
5	Application of knowledge	10
6	Problem solving skills	10
7	Comprehension and observation	10
8	Human relations	05
9	Ability to communicate	10
10	Maintenance of diary	10
	Total	100

NOTE: The On the Job Training mentioned is tentative. The spirit of On the Job training is to be maintained. The colleges are at liberty to conduct on the job training according to their local feasibility of institutions & industries. They may conduct the entire on the job training periods of (365) First year and (450) Second year **either by conducting classes in morning session and send the students for OJT in afternoon session or two days in week or weekly or monthly or by any mode which is feasible for both the college and the institution**. However, the total assigned periods for on the job training should be completed. The institutions are at liberty to conduct On the Job training during summer also, however there will not be any financial commitment to the department.

SCHEME OF INSTRUCTION PER WEEK

	Part-A	**Theory**	**Practicals**	**Total**
1.	English	4	-	4
2.	General Foundation Course	4	-	4
	Part-B			
3.	Paper –I	4	4	8
4.	Paper-II	4	4	8
5.	Paper-III	4	4	8
6.	**Total**	**20**	**12**	**32**

MECHANICAL TECHNICIAN
FIRST YEAR
PAPER-I : BASIC WORK SHOP TECHNOLOGYTHEORY

Sl. No.	Name of the Unit	No. of Periods	Weightage in Marks	Short answer questions	Essay type questions
1.	**Engineering Materials** : 1. 1 Properties and uses of common Engineering Materials such as Cast Iron, Mild Steel, High Carbon Steel, Alloy Steel, Stainless Steel, Copper, Brass, Tin Zinc, Gunmetal, Bronze, Whitemetal, Aluminium, Galvanised Iron; Non Metals : Wood, Plastic, Rubber. 1.2 Importance of safety precautions in workshop.	15	08	1	1
2.	**Measuring Instruments :** Vernier caliper, Micrometer, ~~Height gauge,~~ ~~Dial indicator~~, Sine bar	15	06	Nil	1
3.	**Fitting & Drilling :** 3.1 Cutting Tools – Chisels, Hacksaws, files, scrapers, Drill Bits**,** reamers Taps, Dies and Sockets 3.2 Striking tools : Hammers 3.3 Holding Devices – Vices, Marking Tools & Miscellaneous tool 3.4 Checking & Measuring Instruments, Calipers & Dividers 3.5 Drilling Machines – Sensitive and Radial, Various Fitting and Drilling operations	20	10	2	1
4.	**Sheet Metal Work :** 4.1 Metals used for sheet metal work 4.2 Sheet metal hand tools – measuring and cutting tools, stakes 4.3 Sheet metal operations – Shearing, bending, Drawing, Squeezing, Sheet metal joints – Hem & Seam Joints 4.4 Fastening methods – Riveting, soldering Brazing and spot welding.	15	08	1	1
5.	**Forging** 5.1 Hand Forging, Hand Tools, Heating Devices	20	10	2	1

Sl. No.	Name of the Unit	No. of Periods	Weightage in Marks	Short answer questions	Essay type questions
	5.2 Smithy Operations, Machine Forging, Forging hammers, Forging press, Machine Forging Operations,				
6	**Welding** 6.1 Welding : Arc Welding & Gas Welding, 6.2 ~~TIG & MIG Welding~~	15	8	1	1
7.	**Lathe** 7.1 Lathe main parts 7.2 Simple Lathe operations	20	10	2	1
8	**Grinding** 8.1 Grinding – working principle 8.2 Grinding wheel materials, ~~Applications of Grinding~~	15	8	1	1
		135			

MECHANICAL TECHNICIAN
FIRST YEAR
PAPER II: MECHANICAL TECHNOLOGY AND ELECTRICAL TECHNOLOGY (THEORY)

Sl. No.	Name of the Unit	No. of Periods	Weightage in Marks	Short answer questions	Essay type questions
1.	**Thermodynamics** : 1.1 Introduction 1.2 Thermodynamic system, 1.3 Types of thermodynamic systems, ~~1.5 Properties thermodynamic systems,~~ 1.5 Definitions of properties like pressure (P) Volume (V) Temperature (T) Enthalpy, Atmospheric pressure, Internal Energy, specific heat. 1.6 Brief Explanation of Boyles Law, Charles Law, Joules law 1.7 Characteristic of gas equation, General gas equation	10	10	2	1
2.	**Laws of Thermodynamics and thermodynamic processes** 2.1 Zeroth law of thermodynamics, 2.2 First law of thermodynamics, 2.3 Second law of thermo dynamics 2.4 Types of thermodynamic processes, Constant volume process, constant pressure process, constant temperature process, ~~Adiabatic process, polytropic process,~~	15	08	1	1
3.	**Fuels and combustions :** 3.1 Introduction, 3.2 Types of fuels, solid fuels, liquid fuels, ~~gaseous fuels,~~ 3.3 Merits and demerits of liquid fuel, ~~3.4 Merits and demerits of gaseous fuels,~~ 3.5 Calorific value	20	08	1	1
4.	**Air standard cycles & IC Engines:** 4.1 Introduction, 4.2 St~~udy of carnot cycle~~, Otto Cycle, ~~Diesel cycle,~~ 4.3 Classification of I.C. Engines, 4.4 Working principle of two stroke petrol and diesel engine, 4.5 Working principle of four stroke petrol and diesel engine,	25	08	1	1

Sl. No.	Name of the Unit	No. of Periods	Weightage in Marks	Short answer questions	Essay type questions
5	**Basic Electricity :** 5.1 Introduction, 5.2 Electric Potential, 5.3 Potential Difference, 5.4 Resistance, 5.5 Current, 5.6 Ohm's Law, 5.7 Problems on ohm's Law, ~~5.8 Laws of Resistance,~~ ~~5.9 Specific Resistance~~ ~~5.10 Specific conductivity~~, 5.11 Series and parallel connections of Resistance, 5.12 Simple problems on series and parallel, 5.13 Kirchoff's Laws	15	8	1	1
6	Work , Power and Energy 6.1 Work and its units, 6.2 Power and its units 6.3 Energy and its units 6.4 Electrical power, 6.5 Electrical Energy 6.6 ~~Simple problems~~ on Monthly electricity bills.	20	08	1	1
7	**Safety Precautions - Conductors,Insulators** 7.1 Introduction 7.2 Safety precautions 7.3 Removal from Electric Shock ~~7.4 Methods of Artificial Respiration~~ Hand tools of an electrician 7.5 Conductors and their Properties 7.6 Insulator and their properties 7.7 Semi conductors 7.8 Grading of conducting wires	15	08	1	1
8	**Magnetism & Electro Magnetism** 8.1 Magnetic field, 8.2 Magnetic poles, 8.3 Magnetic lines of force, 8.4 Magnetic flux, 8.5 Flux Density, 8.6 Mag~~netic field around a current carrying conductor,~~ 8.7 Faraday's Laws of Electromagnetic Induction, 8.8 Lenz's Law, 8.9 Flemings Right hand rule	15	10	2	1
	Total	**135**			

Note: The Subjects Mechanical Technology and Electrical Technology are combined together.

MECHANICAL TECHNICIAN
FIRST YEAR
PAPER III: REFRIGERATION (THEORY)

Sl. No.	Name of the Unit	No. of Periods	Weightage of Marks	Short answer questions	Essay Type questions
1.	Fundamentals of Refrigeration : 1.1 Definition of Refrigeration 1.2 Units of Refrigeration ~~1.3 Coefficient of Performance~~ 1.4 Power required per ton of refrigeration 1.5 Methods of refrigeration Ice refrigeration Dry ice refrigeration Air expansion refrigeration ~~Liquid gas refrigeration~~ Vapor compression refrigeration	10	8	1	1
2.	Air Refrigeration 1.1 Reverse Carnot refrigeration cycle – Flow Diagram and processes 1.2 Bell colleman cycle - Flow diagram and Processes	15	8	1	1
3.	VapourCompression refrigeration system 3.1 Simple cycle – Flow Diagram 3.2 Processes 3.2 Calculation of COP 3.3 T- S Diagram 3.4 P-h Diagram	15	10	2	1
4	Refrigerants 4.1 Important properties of refrigerants 4.2 Primary refrigerants and Secondary refrigerants 4.3 Refrigerant R 22 4.4 Refrigerant R 134 4.5 Refrigerant R 410 4.6 Refrigerant - Ammonia	10	8	1	1
5.	Compressors 5.1 ~~Reciprocating compressor~~ 5.2 Rotary compressor _ Roller Type – ~~Vane Type~~ 5.3 Screw Compressor 5.4 Centrifugal Compressor	20	8	1	1

6.	Condensers - Types of Condensers- Bare Tube Condensers - Finned Tube Condensers – Shell and Tube condensers- Shell and Coil Condensers Evaporators - Types of Evaporators- Finned Tube Evaporators – Plate type evaporators – Shell and Tube Evaporators – Shell and coil Evaporators Expansion devices - Capillary Tube Thermostatic Expansion valve	25	10	2	1
7	Refrigeration applications Domestic Refrigerator Water Cooler ~~Bottle Cooler~~	20	8	1	1
8.	Refrigeration applications Ice plant – Refrigerants used – Flow diagram – Working – Calculations – Cold storage - Refrigerants used – Flow diagram – Working – Calculations	20	8	1	1
		135			

MECHANICAL TECHNICIAN
SECOND YEAR
PAPER I: ENERGY SOURCES (THEORY)

Sl. No.	**Name of the Unit**	**No. of Periods**	**Weightage in Marks**	**Short answer questions**	**Essay type questions**
1.	Energy Sources	8	8	1	1
2.	Solar Energy	20	10	2	1
3.	Solar Energy Applications	15	8	1	1
4	Solar Energy Estimation and calculations	15	8	1	1
5.	Wind Energy	10	8	1	1
6.	Bio Energy	15	10	2	1
7.	Tidal Energy	15	8	1	1
8.	Fuel Cells	12	8	1	1
	Total	**110**			

Detailed Syllabus:-

Sl. No.	Name of the Unit	No. of Periods	Weightage of Marks	Short answer questions	Essay Type questions
1.	**Energy Sources** : 1.1 Introduction to Energy 1.2 Different forms of Energy 1.3 Energy Sources and their availability 1.4 Need for alternate sources of energy 1.5 ~~Conventional~~ and Non-Conventional sources of energy	8	8	1	1
2.	**Solar Energy :** 2.1 Introduction 2.2 Solar Constant ~~2.3 Solar Radiation at the Earth's Surface~~ 2.4 Instruments for measuring Solar Radiation and Sun shine 2.5 Solar Energy Utilisation - Basic ideas about the pre-historic ways of using solar energy.	20	10	2	1
3	**Solar energy applications :** 3.1 Solar collectors 3.2 Solar cooker 3.3 Solar water heater 3.4 Solar distillation ~~3.5 Solar pumping~~ 3.6 Applications of solar photo voltaic system in Rural areas	15	8	1	1

4	**Solar Energy Estimation and calculations** 4.1 Residential applications – All connected equipment ~~4.2 Commercial applications – Bottle cooler, Refrigerator, Water cooler – Ice Plant~~ ~~4.3 Agricultural Pumps~~	15	8	1	1
5	**Wind Energy** : 5.1 Introduction 5.2 Classification of wind mills 5.3 Horizontal wind mills 5.4 Vertical wind mills 5.5 Advantages and Disadvantages of wind energy	10	8	1	1
6	**Bio Energy :** 6.1 Introduction, History of Bio-gas 6.2 Process of Bio-gas, generation-wet process, dry process. 6.3 Raw materials available for Bio-gas fermentation 6.4 ~~Selecting of site for installation of a Bio-gas plant~~ 6.5 ~~Materials required for the construction of Bio-gas plant~~ 6.6 Constructional Details of Bio-gas plant	15	10	2	1
7.	**Tidal Energy :** 7.1 Introduction 7.2 Components of Tidal Power Plant 7.3 Sinde tidal power plant ~~7.4 Advantages and imitations of tidal Power plant~~	15	8	1	1
8.	**Fuel Cells :** 8.1 Working principle 8.2 Bacar's High Pressure Fuel cell-construction details and working principle 8.3 ~~Aluminium and fuel cell working principle~~	12	8	1	1
	Total	**110**			

MECHANICAL TECHNICIAN
SECOND YEAR
PAPER II: LIGHT MOTOR VEHICLES (THEORY)

Sl. No.	Name of the Unit	No. of Periods	Weightage in Marks	Short answer questions	Essay type questions
1.	Description of Motor vehicles	5	8	1	1
2.	Wheels, tyres & tubes	5	8	1	1
3.	Steering Mechanism	10	8	1	1
4.	Braking system	10	8	1	1
5.	Transmission system	15	8	1	1
6.	Gear Box	15	8	1	1
7.	Engine Cooling system and Lubrication system	25	10	2	1
8.	Carburetors and Fuel injection system	25	10	2	1
	Total	**110**	**68**	**10**	**8**

Detailed Syllabus

Sl. No.	Name of the Unit	No. of Periods	Weightage in Marks	Short answer questions	Essay type questions
1.	Description of Motor vehicles: 1.1 General descriptions of motor vehicles 1.2 Basic controls 1.3 Chassis 1.4 Frame Construction 1.5 Materials for frame	5	8	1	1
2.	Wheels, tyres & tubes : 2.1 Description of wheels & tyres 2.2 Selection of tyres 2.3 Inflation pressure and carrying capacity	5	8	1	1
3.	Steering Mechanism : 3.1 Different types of steering mechanisms 3.2 Power steering description, its advantages	10	8	1	1
4.	Braking system : 4.1 Brakes in cars & trucks 4.2 Hand brakes 4.3 Mechanical and ~~Hydraulic braking system in cars.~~	10	8	1	1
5.	Transmission system : 5.1 Different types of clutches used in vehicles 5.2 Layout of transmission system 5.3 ~~hydraulic clutches.~~	15	8	1	1

Sl. No.	Name of the Unit	No. of Periods	Weightage in Marks	Short answer questions	Essay type questions
6.	Gear box : 6.1 Operation in different gear positions, 6.2 Common troubles & remedies, 6.3 Lubrication in gear box. 6.4 ~~Differential~~	15	8	1	1
7.	Engine Cooling system and Lubrication system 7.1 Engine cooling Methods 7.2 ~~Air & water cooling radiators, pump, thermostats & fan~~ 7.3 Reasons for Engine overheating 7.4 Need for Lubrication 7.5 ~~Lubrication system parts~~ 7.6 ~~Oil filters & their uses~~	25	10	2	1
8.	Carburetors and Fuel injection system 8.1 Types of carburetors 8.2 Different adjustments & their purposes 8.3 Fuel feed system in motor vehicles, its layout 8.4 ~~Study of diesel fuel supply~~ 8.~~5 FIP timing~~	25	10	2	1
		110			

MECHANICAL TECHNICIAN
SECOND YEAR
PAPER III: AIR CONDITIONING (THEORY)

Sl. No.	**Name of the Unit**	**No. of Periods**	**Weightage in Marks**	**Short answer questions**	**Essay type questions**
1.	Fundamentals of Air conditioning :	5	2	1	Nil
2.	Pyschrometry	15	10	2	1
3.	Psychrometric Processes :	15	10	2	1
4.	Air conditioning equipment :	25	14	1	2
5.	Air distribution system in room	10	8	1	1
6.	Duct System	15	8	1	1
7	Air conditioning applications	15	8	1	1
8.	Cooling Towers - Servicing and maintenance of Refrigeration and air conditioning equipment	10	8	1	1
		110	68	10	8

Detailed Syllabus

Sl. No.	Name of the Unit	No. of Periods	**Weightage in Marks**	**Short answer questions**	**Essay type questions**
1.	Fundamentals of Air conditioning : 1.1 Definition 1.2 Human Comfort ~~1.3 Effective temperature~~ 1.4 ComfortChart	5	2	1	Nil
2.	Psychrometry : 2.1 Dry air 2.2 Moist air 2.3 Dry bulb temperature ~~2.4 Wet bulb temperature~~ ~~2.5 Relative Humidity~~ ~~2.6 Specific Humidity~~	15	10	2	1
3	Psychrometric Processes : 3.1 Psychrometric chart 3.2 Sensible cooling process 3.3 Sensible heating process 3.4 Humidification 3.5 Dehumidification 3.6 Heating and humidification ~~3.7 Heating and dehumidification~~ 3.8 Cooling and humidification ~~3.9 Cooling and dehumidification~~	15	10	2	1
4.	Air conditioning equipment : 4.1 Fans & Blowers 4.2 Ducts 4.3 Supply air outlets	25	14	1	2

	4.4 Return air outlets ~~4.5 Filters & dust collectors~~ ~~4.6 Heating and cooling coils~~				
5	Air distribution system in room ~~5.1 Ejector type distribution system~~ 5.2 Upward type distribution system 5.3 Downward type distribution system	10	8	1	1
6	Duct System 6.1 Radial system 6.2 Loop perimeter system ~~6.3 Extended plenum system~~	15	8	1	1
7.	Air conditioning applications : 7.1 Air cooler 7.2 Window air conditioner 7.3 Split air conditioner ~~7.4 Packaged air conditioner~~ ~~7.5 Central air conditioning system~~	15	8	1	1
8.	Servicing and maintenance of Refrigeration and air conditioning equipment:	10	8	1	1
		110			

Note: Psychrometric chart should be provided during external examination in examination hall.

MODEL QUESTION PAPER
MECHANICAL TECHNICIAN
PAPER I: BASIC WORKSHOP TECHNOLOGY

Time : 3 Hours **Max.Marks : 50**

SECTION – A

Note: i) Answer all questions.
ii) Each question carries Two marks. **10x2=20Marks.**

1. What are the uses of Copper?
2. Draw a file and label its Parts.
3. Name the Parts of a drilling machine.
4. Mention the types of sheets used in Sheet metal works.
5. What is the use of Anvil?
6. What is Upsetting and drawing down?
7. List out the Arc Welding equipment.
8. List out main Parts of Lathe.
9. What is Knurling?
10. Write the grinding wheel equipment.

SECTION – B

5x6 =30 Marks.

Note :i) Answer any Five questions.

ii) Each question carries Six marks.

11. How steels are classified? Explain in detail.
12. Explain the working of Vernier Caliper with a neat Sketch
13. Explain Various Fitting Operations.
14. List out different Sheet metal Operations. Explain about any two operations
15. Explain different types of Tongs used in Forging.
16. Explain about the gas welding equipment.
17. List out the types of Lathe Operations. Explain any two operations with neat Sketch
18. Explain briefly about Grinding Operations.
19. Explain the working of pneumatic hammer.
20. Explain the parts of twist drill with a neat Sketch.

MODEL QUESTION PAPER
MECHANICAL TECHNICIAN
PAPER II: MECHANICAL AND ELECTRICAL TECHNOLOGY

Time : 3 Hours **Max.Marks : 50**

SECTION – A

Note: i) Answer all questions.
ii) Each question carries Two marks. **10x2=20Marks.**

1. Define Closed System.
2. Define Zeroth law of Thermodynamics
3. Define Fuel and write what are its Constituents?
4. Define Heat Engine.
5. State Ohm's Law.
6. Define Electric Power, give Units.
7. List out the Hand tools used by an Electrician.
8. Define Magnetic Pole.
9. State Lenz's Law.
10. Define Conductors and Insulators with Examples.

SECTION – B 5x6 =30 Marks.

Note :i) Answer any Five questions.
ii) Each question carries Six marks.

11. Derive Characteristic gas equation.
12. Derive all expressions of Constant Pressure Process.
13. Explain about Solid Fuels.
14. Derive an Expression for Thermal Efficiency of Otto Cycle.
15. Explain the working of 4-Stroke Petrol Engine.
16. Derive Equivalent Resistance, when three Resistances connected in Series.
17. Write Short notes on
    I) Work II)Power III)Energy.
18. Write about how to Remove from Electric Shock.
19. State and Explain Faraday's Laws of Electromagnetic Induction.
20. Explain about Care and maintenance of Magnets.

MODEL QUESTION PAPER
MECHANICAL TECHNICIAN
PAPER III: REFRIGERATION

Time: 3 Hours **Max.Marks : 50**

SECTION – A

Note: i) Answer all questions.
ii) Each question carries Two marks. **10x2=20Marks.**

1. Define Refrigeration.
2. What is Air Refrigeration?
3. Draw T-S diagram of Vapour Compression Refrigeration System.
4. Name important properties of Refrigerants.
5. What is the function of Compressor?
6. State the function of Condenser and Classify the Condenser.
7. State the function of Capillary tube.
8. Write various applications of Refrigeration.
9. What are the components of Domestic Refrigerator?
10. What is the function of Cold Storage?

SECTION – B 5x6 =30 Marks.

Note :i) Answer any Five questions.
ii) Each question carries Six marks.

11. Write Short notes on Dry Ice Refrigeration System.
12. Explain the reverse Carnot Cycle in air Refrigeration with diagram.
13. Explain Vapour Compression Refrigeration Cycle with flow diagram.
14. Explain briefly about Physical Properties of Refrigerants.
15. Write about working of Centrifugal Compressor.
16. Explain the working of Shell and tube Condenser.
17. Explain working of any one expansion device with neat sketch.
18. write about working of House hold Refrigerator with neat Sketch.
19. Draw a neat sketch of water cooler and explain it’s working.
20. Explain the Ice Plant.

MODEL QUESTION PAPER
MECHANICAL TECHNICIAN
SECOND YEAR
PAPER I: ENERGY SOURCES

Time : 3 Hours **Max.Marks : 50**

SECTION – A

Note: i) Answer all questions.
ii) Each question carries Two marks. **10x2=20Marks.**

1. Define Energy and Write its Units.
2. Define Solar Constant.
3. What are the advantages of Solar Cooker?
4. Define Photo Voltaic Effect.
5. Name the Residential Applications for Solar Energy.
6. How the Wind Mills are classified?
7. Define Bio-gas Energy.
8. What is Bio mass?
9. What are the Components of Fuel Cell?
10. What are the Components of Tidal Power Plant?

SECTION – B **5x6 =30 Marks.**

Note :i) Answer any Five questions.
ii) Each question carries Six marks.

11. What are the non-conventional Energy Sources and Explain Briefly?
12. Explain the Pyranometer with the help of a neat Sketch.
13. Explain the Solar Collector with the help of a neat Sketch.
14. Explain Solar Water Cooler System estimation and Calculation procedure taking the data suitably.
15. Explain briefly about the horizontal wind mills with the help of a neat sketch.
16. Explain KVIC bio-gas plant with the help of a neat Sketch.
17. Explain Pragati design biogas plant with the help of a neat sketch.
18. Explain about the Single basin One Way Cycle and two Way Cycle tidal Power Plant.
19. Explain about Construction details and Working Principles of Bacon’s fuel cell with neat sketch.
20. What are the needs of alternate source of Energy?

MODEL QUESTION PAPER
MECHANICAL TECHNICIAN
SECOND YEAR
PAPER-II : LIGHT MOTOR VEHICLES

Time : 3 Hours **Max.Marks : 50**

SECTION – A

Note: i) Answer all questions.
ii) Each question carries Two marks. **10x2=20Marks.**

1. What are the basic Controls in a Vehicle?
2. Write the advantages of wire wheels.
3. Write the requirements of good steering System.
4. Write the parts of Mechanical Brakes.
5. Define Clutch.
6. Write the types of gear boxes.
7. When the lubricating oil in the gear box should be changed?
8. Explain the necessity of cooling System in IC Engines.
9. Write the types of Lubrication System.
10. Explain the term Carburettor.

SECTION – B **5x6 =30 Marks.**

Note :i) Answer any Five questions.

ii) Each question carries Six marks.

11. Explain about a)Frame Construction b)Materials of the frame.
12. Write effect of tyre pressure on tyre performance.
13. Write the advantages of power steering System.
14. Write about Hand Brake.
15. Explain the Single plate clutch with a neat sketch.
16. Draw Lay out of Transmission System and give it's parts.
17. Give Common Troubles and Remedies in gear box.
18. Explain Pump Circulation System with neat sketch.
19. Write the properties of Lubricants.
20. Explain the working of Carter Carburettor.

MODEL QUESTION PAPER
MECHANICAL TECHNICIAN
SECOND YEAR
PAPER-III : AIR CONDITIONING

Time : 3 Hours **Max.Marks : 50**

SECTION – A

Note: i) Answer all questions.
ii) Each question carries Two marks. **10x2=20Marks.**

1. Define the term Air Conditioning.
2. What is Dry air?
3. Define DBT.
4. List out various Psychrometric Processes.
5. What is Sensible Cooling?
6. List out the Air Conditioning Equipment.
7. Write the Types in Air distribution System.
8. Define Duct.
9. What are main features of Air Cooler?
10. What are the various Symptoms of gas shortage in the System.

SECTION – B **5x6 =30 Marks.**

Note :i) Answer any Five questions.
ii) Each question carries Six marks.

11. Define Psychrometry, and explain its importance in the field of Air Conditioning.
12. Explain the Psychrometric chart.
13. Write the Short notes on the following
    A) Centrifugal fan B) Propeller fan
14. Describe various types of Duct systems used to supply Conditioned air to out lets.
15. Explain about upward type distribution System.
16. Explain about Loop perimeter duct system with a neat sketch.
17. Explain the working of Split Air Conditioners.
18. Write the possible causes and remedies for the following problems
    A) Noisy Operation B) Suction pressure fluctuates
    C) High discharge Pressure
19. Explain the working of Air Cooler with a neat Sketch.
20. Write any six trouble shootings and Remedies in Air Conditioning System.

IX. LIST OF EQUIPMENT FOR MECHANICAL TECHNICIAN

A. Name of the Equipment

1. General purpose Lathe
2. Welding Set (Transformer type)
3. Hand Drilling Machine
4. Drilling Machine – BenchType
5. Grinder (Rough and Smooth)
6. Gas Welding equipment
7. 4 Strokes Diesel Engine
8. Cleave land apparatus
9. Pensky martin apparatus
10. Saybolt Viscometer and Red wood viscometer
11. Bomb Calorimeter
12. Diesel car and Petrol car
13. Refrigerator
14. Air Cooler
15. Water cooler
16. Bottle cooler
17. Ice plant
18. Window A/C
19. Split A/C

B. Light Motor Vehicle Tools and equipment

1.	Fuel pump old for practice	2
2.	Distributor	2
3.	Carburetor	1
4.	Water Pump and Oil Pump	1
5.	Wheel alignment gauge -	1
6.	Sectioned engine gear box and differential mounted on chassis	1
7.	Brake assembly, master cylinder, wheel cylinder	1
8.	Air brake assembly	1
9.	Brake lining riveting machine (foot operated)	1
10.	Clutches different types	1
11.	Axle, gear boxes, steering boxes front axle assembly	1
12.	Steering assembly – Rack and Pinion type	1
13.	Steering assembly – Power Steering	1
14.	Spring tension scale -0 – 4.5 Kg.	1
15.	Carburetor repair tool kit	1
16.	Puller set steering wheel universal	1
17.	Lifting jack, screw type	1
18.	Hot patch clamp	1

General Machinery:

1.	Light Motor vehicle in running condition (Diesel)(Indian make)	1
2.	Motor Car (Petrol) in running condition (Indian make)	1
3.	Petrol Engine running condition (Car type) (Indian make)	1
4.	Diesel Engine running condition (Vehicle type)	1

Miscellaneous Tools, Equipment and furniture

1. Hand Reamers – 1 set
2. Taps and Dies – Complete BSW Metric – 1 set each
3. Micrometer outside 25-100 mm
4. Micrometer inside 50-100 mm
5. Extension Rods -2
6. Vernier Callipers set 300 mm inside/outside – 1 set
7. Straight Snip – 1 No.
8. Safety googles– 2 No.
9. Tachometer – 1 No.
10. Anvil with stand
11. Forge with chimney fitted with blower – 1 No.
12. Work Bench – 2.5 x 1.25 x 7.5 meters – 2 Nos.
13. Bench vice –n 10 Nos.
14. Trays – 4
15. Pipe Wrench – 2 No.
16. Allenkey – 2 Nos.
17. Service equipment kit for I.C. engines – 2 Nos.
18. Compressor Unit – 1 No.
19. Chair for Lecturers – 2 Nos.
20. Metal Racks – 2 Nos.
21. Fire Extinguisher – 2 Nos.
22. Fire Buckets with hands and stand – 4 Nos.
23. Inspection lamp – 2 Nos.
24. Soldering Iron – 120 watts
25. Spanner Socket – 2 sets

Hand Tools

1. Ball peen hammer – (7.5 Kg, 5 Kg, 2.5 Kg) – 2 each
2. Plastic Hammers – 5 Nos.
3. Wooden Mallet – 1 No.
4. Chisel – Flat 20 mm – 5 Nos.
5. Half Round Chisel – 5 Nos.
6. Centre punch – 10 mm – 10 Nos.
7. Hallow punch – 1 set
8. Letter punch – 1 set
9. Screw drivers – 10 Nos.
10. Callipers – all types – 1 set each
11. Steel Rules – 10 Nos.
12. Hand Files – 2nd Cut- 10 Nos.
13. Cutting Pliers – 10 Nos.
14. All Types of Files – each type – 5 Nos.
15. Dividers – 4 Nos.
16. Ring Spanner Sets – 2 sets
17. Adjustable spanner – 15 cm 2 Nos.
18. Twist drills – 3 mm – 12 mm – 2 sets
19. Tongs Flat and Round – 2 Nos. each

Refrigerator Servicing Tools

1. Flaring Yoke
2. Flaring Block
3. Tube Bender
4. Brazing set
5. Gas Charging Cylinders
6. Charging tubes
7. Pinching Tool
8. Tube Cutter
9. Vaccum Pump
10. Blower

COLLABORATING INSTITUTIONS/DEPARTMENTS FOR CONDUCT OF

ON THE JOB TRAINING

1. Department of Renewable Energy
2. Refrigeration and Air conditioning Industry
3. Serving centres like Maruthi, Hyundai, Tata etc
4. Refrigeration Servicing centres like Voltas, L.G, Carrier, Blue Star etc
5. Refrigeration & Air conditioning Servicing centre
6. Solar power Stations
7. TSRTC Workshops
8. Telangana Electricity board
9. Milk Chilling Center in Dairy farms.

ON JOB TRAINING, SYLLABUS AND EVALUATION

1. General Work shop [Lathe Shop, grinding etc.]
2. General Engineering [Fitting, drilling, etc.]
3. Fabrication shop [welding, sheet metal shop etc]
4. Solar Batteries and their Servicing. [50 periods, 12 months]
5. Working with pumps & motors [50 periods, 10 months]
6. Hands on experience in Renewable energy sector like solar energy plants, Bio-gas flats etc.
7. Repairs & Servicing of Refrigeration
8. Repairs & Servicing of Air Coolers.
9. Repairs & Servicing of Air Conditioners [Window A.Cs/ Split A.Cs]
10. Repairs & Servicing of Light Motor vehicles.

X. TEACHING STAFF & QUALIFICATIONS

Qualifications for Teaching staff:

Must possess a Second class Graduation in B.E. Mechanical or AMIE in Mechanical or an qualification of university of India established or incorporated by or under Central Act, State Act or provincial Act or Institution recognized by the University Grants Commission. (GoMs.No.12, Higher Education (Intermediate Education.2) Department, dated 15.02.2001)

XI. VERTICAL MOBILITY

1. The Intermediate Vocational course Mechanical Technician passouts can be admitted into degree like BA/B.Com.

2. Mechanical Technician passouts with Bridge course can get direct admission into second year of Diploma in Mechanical/Automobile Engineering.

3. Mechanical Technician passouts with Bridge course can get direct admission into Bachelors Degree in Engineering through EAMCET.

4. Mechanical Technician passouts with Bridge course can get direct admission into B.Sc/BCA/BBM courses

XII. REFERENCE BOOKS

I Year

1. Workshop Technology

1.1. Elements of workshop technology – Hazara Chowdary
1.2. Workshop Technology – Shali Habibulla
1.3. Wokshop Technology – RaghuVamshi

2. Mechanical andElectricalTechnology

2.1 Mechanical Technology – R.S. Khurmi
2.2 Mechanical Technology – K.Venkateswarlu
2.3 Production Technology - Jain
2.4 Electrical Technology – B.L. Theraja

3. Refrigeration

3.1 Refrigeration and Air Conditioning – S.Dom Kundwar
3.2 Refrigeration and Air conditioning - Arora

II Year

1. Energy sources

1.1 Solar Energy – G.D. Rai
1.2 Solar Energy – S.P. Sukhatme
1.3 Solar Energy – Shali Habibulla
1.4 Bio-gas Technology – A.N. Mattur
1.5 Bio-gas Technology – Shali Habibulla

2. Light Motor Vehicle

2.1 The Motor Vehicle – Newton steeds & Garret
2.2 Automotive chasis – P.M. Heldt
2.3 Mechanism of car – A.W. Judge
2.4 Automotive mechanism – Joseph Heitner

3. Air Conditioning

3.1 Refrigeration and Air Conditioning – S.Dom Kundwar
3.2 Refrigeration Repairing – Shali Habibulla

XII. EQUIVALENCY:

In the new curriculum 2017 there is no equivalency paper to any paper. Hence the old syllabi students will be given two chances to clear their backlogs (i.e. March & ASE 2018) for I year and (March & ASE 2019) for II year.

XIV. LIST OF PARTICIPANTS

1.	PROF SRIRAM VENKATESH Professor in Mechanical Engineering Department Osmania College of Engineering, Osmania University Hyderabad-500 007.
2.	PROF A.KRISHNAIAH Professor in Mechanical Engineering Department Osmania College of Engineering, Osmania University Hyderabad-500 007.
3.	PROF K.VIJAYA KUMAR REDDY Professor in Mechanical Engineering Department JNTUH, Hyderabad
4.	P.S. RAVI Lecturer in Mechanical Engineering, SSGPT, Zaheerabad
5.	A.VINOD KUMAR REDDY JL in RET, Government Vocational Junior College, Wanaparty, Wanaparty District.
6.	**Verified & Corrected by** Dr. B. Anjaneya Prasad Prof of Mechanical Engineering JNTUH, Hyderabad
7.	**Co-ordinator:** Sri. K. Vishweshwar, S.I.V.E O/o The Commissioner of Intermediate Education Telangana, Hyderabad

Sd/- Dr A. Ashok
COMMISSIONER OF INTERMEDIATE EDUCATION

30% DELETED CONTENT IN VIEW OF COVID-19 PANDEMIC

FIRST YEAR

PAPER-I: WORK SHOP TECHNOLOGY

S No	Unit No. Name of the unit	Topic/sub topic to be deleted in detail heads	Two marks questions deleted	Six marks questions deleted
1	Unit-1 Engineering materials	1.11 non ferrous alloys 1.12.1 non metals 1.5.2 introduction of alloy steels	NILL	NILL
2	Unit-2: Measuring instruments	2.3 vernier height guage 2.4 dial indicator	4. What are the uses of dti 5. Draw a neat sketch of vernier height guage	NILL
3	Unit-3: Fitting and drilling	3.2.2 Combination set 3.1.2 v-block 3.2.3 bevel protractor 3.3.3 scrapers 3.3.6 reamer 3.3.8 die and stocks 3.5.2 hand vice , 3.53 pin vice 3.5.5 tool maker vice 3.5.6 pipe vice 3.6 miscellaneous tools	5. Name the types of vices used in fitting shop	2(a) explain the working of combination set 2(b) sketch and describe v-block
4	Unit-4: Sheet metal work	4.4 stakes 4.5 hand hammers and mallet 4.7 bending	3. Draw a neat sketch of stake and lable it's parts	2. Sketch and explain any four stakes used in sheet meta work shop
5	Unit-5: Forging	5.5 chisel 5.6 finishing and shaping tools 5.7 hand forgindg equipment	NILL	NILL
6	Unit-6: Welding	6.2 tig and mig welding	NILL	4) write short notes on tig & mig
7	Unit-7: Lathe	7.6 1 tapper turning by a from tool example problems 7.6 (vi) drilling and reaming	NILL	NILL
8	Unit-8: Grinding	8.3 applications of grinding	NILL	2) write the different applications of grinding

MECHANICAL TECHNICIAN - FIRST YEAR

PAPER-II: MECHANICAL TECHNOLOGY AND ELECTRICAL TECHNOLOGY

S No	Unit No, Name of the unit	Topic/sub topic to be deleted in detail heads	Two marks questions deleted	Six marks questions deleted
1	Unit-1 Thermodynamics	1.4 properties of thermodynamic system 1.5 specific heat 1.6 avagadro's law, regnault's law	7. Explain intensive properties 8. Explain extensive properties	**Numerical question:** 1. A gas of volume of 0.2 cub.m is compressed in cylinder to final volume 0.02 cub.m and pressure is 60 bar. Initial temperature and pressure are 27 'c and 3 bar respectively. Calculate final temperature 3. A gas of volume 2 cub.m and temperature is 27 'c receives heat at constant pressure so that final volume is 4 cub.m. Calculate final temp.
2	Unit-2: Laws of thermodynamics and thermodynamic processes	2.4.4 adiabatic process or isentropic process 2.4.5 polytropic process	7. Draw the p-v diagram of the adiabatic process	4. Expalin and derive all expression for adiabatic process 5. Expalin and derive all expression for polytropic process
3	Unit-3: Fuels and combustions	3.2.3 gaseous fuels 3.4 merits and demerits of gaseous fuels	NILL	3. Explain the different types of gaseous fuels 5. What are the merits and demerits of gaseous fuels
4	Unit-4: Air standard cycles & i.c engines	4.2.1 carnot cycle	4. Draw the p-v diagram of carnot cycle.	1. Derive an expression for thermal efficiency of carnot cycle.
		4.2.3 diesel cycle	3. Draw the p-v diagram of diesel cycle.	3. Derive an expression for thermal efficiency of diesel cycle.
5	Unit-5: Basic electricity	5.8 laws of resistance 5.9 specific resistance 5.10 specific conductivity	6. Define resistivity and state units 7. Define coefficient of resistance	NILL
6	Unit-6: Work, power and energy	6.6 simple problems 2, 3, 4	NILL	NILL
7	Unit-7: Safety precautions and conductors and	7.4 methods of artificial respiration 7.6.1 classifications of	2. What is artificial respiration 3.mention the two methods of artificial respiration	2. Explain the difference method of artificial respiration

	insulators	insulators		
8	Unit-8: Magnetism and electro magnetism	8.6 magnetic field around a current carrying conductor 8.6.1 comparisons between electric and magnetic circuit	7. What is magnetic circuit?	2. Give the detail comparisons between electric and magnetic circuit

MECHANICAL TECHNICIAN - FIRST YEAR
PAPER-III: REFRIGERATION

S No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 FUNDAMENTAS OF REFRIGERATION	1.3 Coefficient of Performance (COP) 1.5.5 Gas Throttling Refrigeration 1.5.6 Steam Jet Refrigeration 1.5.7 Liquid Gas Refrigeration	7. Define COP 3. What is Liquid Gas Refrigeration	4. Write Short notes on Liquid Gas Refrigeration
2	UNIT-2: AIR REFRIGERATION	2.1.1 Worked Example	NILL	NILL
3	UNIT-3: VAPOUR COMPRESSION REFRIGERATION SYSTEM	NILL	NILL	NILL
4	UNIT-4: REFRIGERANTS	Chemical Properties	NILL	NILL
5	UNIT-5: COMPRESSORS	Reciprocating Type compressor Vane Type Rotary Compressor	NILL	NILL
6	UNIT-6: CONDENSERS	COOLING TOWER AND TYPES	NILL	NILL
		THERMOSTATIC EXPANSION VALVE	NILL	NILL
7	UNIT-7: REFRIGERATION APPLICATION -1	7.3 BOTTLE COOLER	5. WRITE THE PURPOSE OF BOTTLE COOLER	3. WRITE ABOUT BOTTLE COOLER AND ITS SILENTS FEATURES
		NILL	NILL	NILL
8	UNIT-8: REFRIGERATION APPLICATION -1	NILL	NILL	NILL

MECHANICAL TECHNICIAN - SECOND YEAR
PAPER-I: ENERGY SOURCES

S No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 ENERGY SOURCES	1.5)Conventional Energy Sources	5) What are the compounds present in the coal?	1)What are the conventional energy sources and explain briefly
2	UNIT-2: SOLAR ENERGY	2.3)Solar Radiation at the Earth's Surface	3) What is diffuse Radiation? 4) What is global Radiation?	NIL
3	UNIT-3: SOLAR ENERGY APPLICATIONS	3.5) Solar Water Pumping	5) What are basic components of Solar Water pumping? 6) Define Photo Voltaic Cell.	3)Explain briefly about Solar water pumping with the help of neat sketch 4)Describe briefly about photo voltaic System
4	UNIT-4: SOLAR ENERGY ESTIMATION AND CALCULATIONS	4.2) Estimation and Calculation of Commercial Applications 4.3) Agriculture water pump	4) Write the difference between inverter and battery. 5)Write the uses of bottle cooler	2) Explain the estimation and calculation procedure of Solar bottle cooler installation system, taking suitable data. 6) Explain the estimation and calculation procedure of an agriculture solar Water pump considering useful data.
5	UNIT-5: WIND ENERGY	5.4.2)Vertical axis Savonius rotor Wind Mill	4) What is the principle of Wind mill? 5) What are the factors wind flow on earth's surface?	NIL
6	UNIT-6: BIO ENERGY	6.1.2)Bio gas Composition 6.2.1) I) anaerobic digestion 6.4)Selection of site for installation of a biogas plant	5) Write percentage composition of biogas? 6) What is anaerobic digestion?	3) Explain briefly about selection of site for installation of biogas plant. 4) Explain briefly about the material requirement for

		6.5)Materials required for Construction of biogas plant		construction of biogas plant.
7	UNIT-7: TIDAL ENERGY	In 7.3.3) part…. Working Principle of double basin with pump storage tidal power plant 7.4)Advantages and disadvantages of Tidal Power Plant	3) what are the advantages of tidal power plant? 4) What are the disadvantages of tidal power plant?	2)Explain briefly about double basin with and without pump storage tidal power plant
8	UNIT-8: FUEL CELLS	8.3)Working principle of Aluminum and Oxygen Fuel Cell Advantages and disadvantages of Fuel Cells	3)Write the Advantages of fuel Cell 4)Write the disadvantages of Fuel Cell	2) Explain about Working principle of Aluminum & Oxygen fuel cell.

MECHANICAL TECHNICIAN - SECOND YEAR
PAPER-II: LIGHT MOTOR VEHICLES

S No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	Unit-1 Description of Motor Vehicles	1.3)Chasis	3)What are main Components of a Chasis 4) What is the function of the chasis?	NIL
2	Unit-2 Wheels, Tyres and Tubes	2.1.3)Tyre Properties 2.2)Selection of Tyres	5) Write the Properties of Tyre. 7) How to decide the Selection of Tyre.	2) Write about Selection of Tyres.
3	Unit-3 Steering Mechanism	3.1)Different types of Steering Gear mechanisms (Devis Steering gear –Part only)	4) Draw Line diagram of Davis Steering gear mechanism.	1) Explain Davis Steering gear mechanism with line diagram.
4	Unit-4 Braking System	4.2)Hydraulic Brake System	3)Write the advantages of Hydraulic Braking 4)Write disadvantages of Hydraulic Braking System 6)Write main Parts of Hydraulic Braking System	2)Write about Hydraulic Brake system
5	Unit-5 Transmission System	5.2)Hydraulic Clutches	4) Write types of Hydraulic Clutches.	3)Explain Hydraulic Single plate Clutch with neat sketch
6	Unit-6 Gear Box	6.1.3)Wilson Gear box 6.4)Construction of Differential	6) What is meant by differential? 7) Name the parts of differential.	3)Explain Wilson gear box with neat Sketch 6)Explain working of differential with neat sketch

7	Unit-7 Engine Cooling System and Lubrication System	Factors part in 7.2)Air Cooling 7.5)Parts of Lubrication System 7.6)Oil filters and their Uses	4) What are the factor effect the heat dissipated in air cooling method? 11)Write the parts of Lubrication System 12)what are the Uses of filters 13)Write the types of filters	6) With neat sketch explain the Cartidge type filter. 7) With neat sketch explain the Centrifugal type filter.
8	Unit-8 Carburetor and Fuel Injection System	In 8.1) sub topics sub topics as follows… Zenith Carburetor AND SU Carburetor 8.4) Air Cleaners 8.5)FIP Timing	6) Write the types of Air Cleaners. 7) Explain FIP timing.	2)Explain the Zenith Carburetor with neat Sketch 3)Explain the SU Carburetor with neat Sketch

MECHANICAL TECHNICIAN - SECOND YEAR
PAPER-III: AIR CONDITIONING

S No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 Fundamentals of Air Conditioning	1.3)Effective Temperature	4)Define the term Effective Temperature	NIL
2	UNIT-2: Psychometric	2.4)Dew Point Temperature 2.5)Relative Humidity 2.6)Humidity Ratio or Specific Humidity	2) What is meant by Air Conditioning? 8) What is Dew point Temperature?	2)Write Short notes a)Relative Humidity b)Specific Humidity
3	UNIT-3: Psychometric Processes	3.7)Heating and Dehumidification(Adiabatic Chemical Dehumification) 3.9)Cooling and Dehumidification	5) What is Humidification? 6) What is dehumidification?	4)Explain the heating and dehumidification process with diagram 6) Explain cooling and dehumidification process with diagram
4	UNIT-4:Air Conditioning Equipment	4.5)Filters and dust Collectors 4.6)Heating and Cooling Coil	6) What are various types of filters used in Air-Conditioning System? 7)State function of heating and Cooling Coil in Air-Conditioning System	4) How are filters Classified? Describe dry Collector With neat Sketch 5)Explain the Working Heating and Cooling Coil with neat Sketch
5	UNIT-5: Air Distribution System in Room	5.1)Ejection system	3) Where the ejection system is used?	1)Explain about Ejection type distribution System
6	UNIT-6: Duct System	6.3)Extended Plenum	5)Write the parts of extended plenum duct System	3) Explain about extended plenum duct system with neat sketch.
7	UNIT-7: Air Condition Application	7.4)Packaged Air conditioner 7.5)Central Air Conditioner	4) Write the advantages of mechanical draft cooling tower over natural draft cooling tower.	4) Describe the working packaged Air-Conditioner. 5)Write about Central Air conditioning with neat Sketch
8	UNIT-8: Servicing and Maintenance of Refrigeration &Air Conditioning Equipment	8.6)Trouble shooting in Refrigeration System	4) State any four Causes and Remedies for Refrigerator unit does not run. 5)Write any four causes and remedies for Refrigerator runs very fast	3)Explain any six trouble shootings in Refrigeration System

VOCATIONAL CURRICULUM-2020

(For the Academic year 2020-21)

[70% CONTENT IN VIEW OF COVID-19 PANDEMIC]

COMMERCIAL GARMENT TECHNOLOGY [COURSE CODE: 409]

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

Dr. A.Ashok I.A.S
COMMISSIONER

INTERMEDIATE EDCATION
Government of Telangana
Nampally, Hyderabad- 500001
Phone: 040-24655915

Fore word

In any developing society with a booming population, Vocational Education occupies an important position for generating large scale employment opportunities. Viewed in this context the importance of Vocational Education for our country cannot be over emphasized. Vocationalization of Secondary Education was introduced in 1988 at the Intermediate level. Recently, the Government of India has developed a National Skills Qualification Framework for establishing a clear path for vocational education from the school level to the highest level. The Department of Intermediate Education has recently framed a new curriculum to bring greater value to the system of vocational education. The primary aim of this reform is to prepare the students with employable skills for absorption in organized sectors and in few cases, even for self-employment.

State Institute of vocational education and Board of Intermediate Education, Telangana have reviewed the curriculum of vocational courses in order to reorient them for their practical approach. Greater emphasis is now being placed on Laboratory work and on the job training.

Simultaneously, The State Institute of Vocational Education and the department of Intermediate Education are presently making efforts to upgrade the quality of infrastructure in the colleges to meet the challenges of the changed curriculum. I am confident that the revised curriculum and the new text books would prove to be beneficial to the students in the vocational stream and help them train in need based productive courses leading to gainful employment.

Commissioner of Intermediate Education
Government of Telangana

S No.	Contents	Page No.
I	**Introduction**	5
II	**Objectives of the Course**	6
III	**Skills to be provided**	6
IV	**Job Opportunities** a) Wage Employment b) Self-Employment	6
V	**Scheme of Instruction and Examination**	7
	SYLLABUS	
VI	**1st year Intermediate** **Theory** Paper I: Principles of Garment Making Paper II: Textile Science Paper III: Garment Construction **Practicals** Paper I: Principles of Garment Making Paper II: Textile Science Paper III: Garment Construction	10
VII	**2nd Year Intermediate** **Theory** Paper I: Apparel Manufacture Paper II: Fabric embellishment Paper III: Apparel & Fashion Designing **Practicals** Paper I: Apparel Manufacture Paper II: Fabric embellishment Paper III: Apparel & Fashion Designing	20
VIII	**Model Question Papers**	31
IX	**List of Equipment** a) Collaborating Institutions for curriculum transaction b) On – the – Job Training Sites	37
X	**Teaching staff and their Qualification**	39
XI	**Vertical Mobility**	39
XII	**Reference Books**	40
XIII	**Equivalency of Papers**	41
XIV	**List of Participants**	41

I. INTRODUCTION

Readymade garment industry (RMG) has grown rapidly over the last decade. This can be attributed to the changing lifestyles and increased income of many households. Moreover, consumers appreciate the advantages of readymade and are actively seeking them instead of getting the garments stitched by a tailor, which has been the age old norm. RMG industry has geared up to suit to the ever changing fashions and needs of the consumers by coming up with new brands and varied designs and a general influx of ready to wear apparel in the market.

Knowledge of commercial garment making will not only enable the students to carve a niche for themselves in the readymade industry but also set up an enterprise of their own. Students would be able to get an opportunity to work in garment units of various garment parks that are being setup in Telangana State. Readymade garment industry is primarily a labour intensive industry and as such provides employment opportunities to skilled labour. Acquiring the requisite skills in the garment manufacturing process helps in reaping the opportunities of the industry.

II. Objectives

1. To develop the skills of designing fashionable garments.
2. To enable the students develop the ability to construct patterns, adopt traditional design to contemporary.
3. To train the students to use modern industrial garment machinery.
4. To create awareness for self-employment to start garment units.

Specific Objectives

1. Understand, analyze and apply principles and elements of design with respect to textiles garments.
2. Know about the different types of fabrics.
3. Use pattern making techniques and grading methods to create pattern.
4. Decide Economic way to cut a fabric.
5. Understand & operate various machinery used in garment construction.
6. Stitch & finish garments in a technical way.
7. Quality Assessment of Garments.
8. Estimating and costing of a garment.
9. To develop awareness of career opportunities, in garment industry.
10. Identify different traditional Textiles

III. Skills to be Provided

1. Illustrate fashion figures skillfully.
2. Design garments which are functional and decorative.
3. Know to select appropriate fabrics suited to the design of the garment with special reference to color, texture and design of fabric.
4. Operate the industrial modern machines.
5. Stitch and finish a garment.
6. Quality assessment.
7. Finishing and packing.
8. To beautify garments with embroidery, painting and other decorative materials.

IV. Job Opportunities

A) Wage Employment

1. Production supervisors in garment industry.
2. Assistant pattern makers
3. Floor supervisors
4. Finishing supervisors
5. Assistant designers
6. Sewing Operators
7. Instructors
8. Craft Teacher in Schools

B) Self employment

1. It has scope for self-employment.
2. Setup a garment unit
3. Set up a Boutique
4. Undertake job contracts from export garment industries

V **SCHEME OF INSTRUCTION AND EXAMINATION**

ANNUAL SCHEME OF INSTRUCTION AND EXAMINATION

COMMERCIAL GARMENT TECHNOLOGY

FIRST YEAR

Part-A		**Theory**		**Practicals**		**Total**	
		Periods	**Marks**	**Periods**	**Marks**	**Periods**	**Marks**
1.	English	150	50	0	0	150	50
2.	General Foundation course	150	50	0	0	150	50
	Part-B						
3.	**Paper-I** Principles of Garment Making	135	50	135	50	270	100
4.	**Paper-II** Textile Science	135	50	135	50	270	100
5.	**Paper-III** Garment Construction	135	50	135	50	270	100
Part-C							
6.	**OJT**	0	0	365	100	365	100
	Total	**705**	**250**	**770**	**250**	**1475**	**500**

*on the Job Training for 1st year from 1st November to 31st December

SECOND YEAR

Part-A		**Theory**		**Practicals**		**Total**	
		Periods	**Marks**	**Periods**	**Marks**	**Periods**	**Marks**
1.	English	150	50	0	0	150	50
2.	General Foundation course	150	50	0	0	150	50
	Part-B						
3.	**Paper-I** Apparel Manufacture.	110	50	115	50	225	100
4.	**Paper-II** Fabric embellishment	110	50	115	50	225	100
5.	**Paper-III** Apparel & Fashion Designing.	110	50	115	50	225	100
Part-C							
6.	**OJT**	-	-	450	100	450	100
	Total	**630**	**250**	**795**	**250**	**1425**	**500**
TOTAL FIRST YEAR AND SECOND YEAR MARKS 1000							

*OJT Programme for 2nd year students from 1st August to 31st October.

EVALUATION OF ON THE JOB TRAINING:

The "On the Job Training" shall carry 100 marks for each year and pass marks is 50. During on the job training the candidate shall put in a minimum of 90 % of attendance.
The evaluation shall be done in the last week of January.

Marks allotted for evaluation:

S.No	Name of the activity	Max. Marks allotted for each activity
1	Attendance and punctuality	30
2	Familiarity with technical terms	05
3	Familiarity with tools and material	05
4	Manual skills	05
5	Application of knowledge	10
6	Problem solving skills	10
7	Comprehension and observation	10
8	Human relations	05
9	Ability to communicate	10
10	Maintenance of dairy	10
	Total	100

NOTE: The On the Job Training mentioned is tentative. The spirit of On the Job training is to be maintained. The colleges are at liberty to conduct on the job training according to their local feasibility of institutions & industries. They may conduct the entire on the job training periods of (365) First year and (450) Second year **either by conducting classes in morning session and send the students for OJT in afternoon session or two days in week or weekly or monthly or by any mode which is feasible for both the college and the institution**. However, the total assigned periods for on the job training should be completed. The institutions are at liberty to conduct On the Job training during summer also, however there will not be any financial commitment to the department.

SCHEME OF INSTRUCTION PER WEEK

	Part-A	**Theory**	**Practicals**	**Total**
1.	English	4	-	4
2.	General Foundation Course	4	-	4
	Part-B			
3.	Paper –I	4	4	8
4.	Paper-II	4	4	8
5.	Paper-III	4	4	8
6.	**Total**	**20**	**12**	**32**

VI. SYLLABUS

COMMERCIAL GARMENT TECHNOLOGY
FIRST YEAR
PART-B: VOCATIONAL SUBJECT
PAPER-I: PRINCIPLES OF GARMENT MAKING (THEORY)
Time Schedule Weightage and Blueprint

S.No	Name of Unit	No. of Periods	Weightage In Marks	Short Answer Questions	Problem Questions
1.	**Terminology** Fabric, Garment, Selvedge, Sloper, Bodice Block, Pattern, Commercial Pattern, Grain, Off grain, On grain, Bias. **Tools and Equipment:** Measuring tools, Marking tools, Cutting tools, Pressing tools and General tools	10	2	1	-
2.	**Sewing machines:** Types-hand operated, treadle sewing machines, electric sewing machines; Parts and functions; Machine troubles - its causes and remedies; Care of sewing machine	20	8	1	1
3.	**Hand sewing techniques:** Temporary stitches- uneven and even; Permanent stitches- running, back stitch, run and back; Hemming- ordinary, slip and knotted hemming; suitability of stitches for various fabric types	20	8	1	1
4.	**Pattern Making:** Principles and methods of pattern making; Draping, Drafting, Flat-Pattern, Contents of paper patterns, Merits and Demerits, Uses of paper patterns	10	8	1	1
5.	**Seams and Seam Finishes:** Seams - Plain, French, run and fell, Lapped and slot seam Seam Finishes -Pinked, Edge Stitch, Double Stitch, Herring Bone Stitch. Standards of seam and seam finishes.	10	8	1	1
6.	**Fullness in Garment:** Darts-Single Dart, Double Dart; Tucks-Pin, Plain, Cross; Pleats-Knife, Box, Inverted Box;	25	10	2	1

S.No	Name of Unit	No. of Periods	Weightage In Marks	Short Answer Questions	Problem Questions
	Gathers- by hand, by machine, by elastic; Shirring, Flare; Godet.				
7.	**Placket Opening:** Types - Tailored, Zipper, Narrow bound placket, Placket for kalidar kurta; Standards of a good placket; Selection and choice of plackets in various garments.	20	8	1	1
8.	**Neckline Finishes:** Introduction, types of neckline finishes – facing (bias and fitted), binding and collars; Bias strip and its preparation; Application of bias facing, bias binding (single & Double). Facing- fitted / shaped, cord piping.	10	8	1	1
9.	**Fasteners:** Introduction, types of fasteners; Buttons and Button Holes, Shank Buttons, Metal fasteners, Zippers, Hooks and Eyes, Velcro	10	8	1	1
	Total	**135**		**10**	**8**

COMMERCIAL GARMENT TECHNOLOGY
FIRST YEAR
PART-B: VOCATIONAL SUBJECT
PAPER-II: TEXTILE SCIENCE (THEORY)
Time Schedule Weightage and Blueprint

S. No	Name of the Unit	No.of Periods	Weightage in Marks	Short Answer Questions	Problem Questions
1.	**Textile terms** – Fibre, yarn, Staple, Filament, Count, Denier, Tex **General Properties of Textile Fibers -** Texture, Resiliency Lustre, Static Electricity, Crimp & Elasticity, hydrophobic, hydrophilic, Absorbency, Solubility; Difference between natural & Synthetic Fibres	10	2	1	0
2.	**Classification of textile fibres -** Classification of textile fibres – according to source & length	10	8	1	1
3.	**Manufacture & Properties Of Cellulose Fibres-** Cotton	10	8	1	1
4.	**Manufacture & Properties Of Protein Fibres -** Silk, wool.	15	8	1	1
5.	**Manufactured Fibres-** Rayon,Polyester	15	8	1	1
6.	**Spinning -** Mechanical, Chemical **Yarns -** Classification of yarns-Types of yarns; Novelty yarns - types; Twist in yarns; Balance of cloth; Yarn count	15	8	1	1
7.	**Fabric Construction Methods -** Weaving, Knitting, Non Woven	10	2	1	0
8.	**Looms -** Steps in weaving-Weaving process; Kinds of Weaves-Plain weave and its variations, Twill and Satin; Examples of fabrics with such Weaves.	15	10	1	1
9.	**Stains-** Definition, classification, types of stains, general rules to be observed in removal of stains on various fabrics, methods and reagents required for removing stains on cotton, silk & synthetic fibre removal of common stains – ink, rust, turmeric, coffee, tea, oil and curry	25	8	1	1
10.	**Finishes** – Classification of finishes; Types of finishes -Calendaring, Singeing, Tentering; Chemical finish-Mercerising, Bleaching	10	8	1	1
	Total	**135**		**10**	**8**

COMMERCIAL GARMENT TECHNOLOGY
FIRST YEAR
PART-B: VOCATIONAL SUBJECT
PAPER-III: GARMENT CONSTRUCTION(THEORY)
Time Schedule Weightage and Blueprint

S.No	Name Of Unit	No. of Periods	Weightage In Marks	Short Answer Questions	Problem Questions
1.	**Taking Body Measurements:** Points to Remember while taking body measurements-taking and recording measurements for different garments - Children, Women and Men.	20	10	2	1
2.	**Types of Materials:** Study on different types of material available in the Market for Children's Garments **Selection of Material for Various Garments:** Jhangia-Jabla-Romper-A-line frock, Baby frock with Bib	25	16	2	2
3.	**Study of Handling Different Types of Fabrics:** Crepe-Felt-Lace-Metallic Fabrics-Jersey Pile Fabrics-Plastic Fabrics-Sheer Fabrics, Synthetic, Finished Fabrics	25	10	2	1
4.	**Clothing selection:** Factors Influencing selection of clothing according to Age, Occasion, Figure Type, Fashion, Colour.	20	8	1	1
5.	**Preparation of Material For Cutting:** Marking, Different Layouts; Different methods of marking and laying a fabric and cutting	25	16	2	2
6.	**Characteristics of Well Finished Garment:** Ease, Line, Grain, Set, Balance.	20	8	1	1
	Total	**135**		**10**	**8**

SYLLABUS
COMMERCIAL GARMENT TECHNOLOGY
SECOND YEAR
PAPER-I APPAREL MANUFACTURE(THEORY)
Time Schedule Weightage and Blueprint

S.No	Name of Unit	No. of Periods	Weightage In Marks	Short Answer Questions	Problem Questions
1.	**Basic Sleeve :** Sleeve terminology, Sleeve styles- set in sleeves, sleeves in combination with bodice, Adaptation of basic sleeve into different set-in sleeve types - Puff, Bell, Bishop, Leg-O-Mutton, Bodice and sleeve combination - Kimono , Raglan; Standards of well fitted sleeve	15	10	2	1
2.	**Creating design variety: Collars –** Introduction, terms in collars, Types of collars – Peter pan Collar, Mandarin, Sailor Collar; Factors to be considered while designing collars; Methods of creating variety in designing collars	20	8	1	1
3.	**Creating design variety: Yokes** – definition, types of yokes- Midriff, shoulder, Partial; selection of yoke designs for different dresses Factors to be considered while designing yokes; Methods of creating variety in designing yokes	10	8	1	1
4.	**Creating design variety: Pockets**- definition, types of pockets- Patch pocket, bound pocket, Pocket in a seam; Factors to be considered while designing pockets; Methods of creating variety in designing pockets.	10	8	1	1
5.	**Grading :** Introduction, Importance, Grading principles, Methods of grading.	10	8	1	1
6.	**Commercialsewing**	10	8	1	1

	machines: Types of machines – lock stitch, button & buttonhole, label, overlock, blind stitch, their features and usage				
7.	**Production Process in industry:** Importance of laying, spreading, marking, cutting, bundling, stitching, finishing, checking, pressing & packaging, Types of packing materials& package forms.	20	10	2	1
8.	**Quality control** Important of quality control in garment industry, ISO	15	8	1	1
	Total	**110**		**10**	**8**

COMMERCIAL GARMENT TECHNOLOGY
SECOND YEAR
PART-B: VOCATIONAL SUBJECT
PAPER-II: FABRIC EMBELLISHMENT(THEORY)

Time Schedule Weightage and Blueprint

S.No	Name of Unit	No. of Periods	Weightage In Marks	Short Answer Questions	Problem Questions
1.	**Fabric embellishment** – Introduction, definition, types – dyeing, printing, painting, embroidery, quilting, patchwork, appliqué, other forms of embellishment like smocking, lace, piping, fringe, beads, sequins, shirring etc.	10	4	1	0
2.	**Motifs** – Introduction, types – geometric, natural, abstract, stylised. **Repeat** – types – full drop, half drop, brick, diamond, diaper, ogee **Transformation** – Reflection, Glide reflection, Rotation horizontal, vertical & diagonal	20	10	1	1
3.	**Embroidery Stitches-** Introduction, types – hand, machine; **hand embroidery** – Stem, Chain, Feather, Satin, Buttonhole, Fishbone, Couching, Herringbone, Rumanian, French Knot, Double Knot, Bullion Knot, Seed Stitch, Pekinese, Fly	25	16	2	2
4.	**Fabric Painting:** Tools used, material required, types of paints, brushes; techniques used-strokes, filling, shading, dry and wet techniques, liquid embroidery	20	10	2	1

5.	**Patch Work, Appliqué work and Quilting –** materialrequired, Patchwork- plain, printed; Appliqué – types; Quilting- material used for filling; Stitches used for all the above	20	16	2	2
6.	**Study of traditional embroidered textiles of India :** Kantha work , Phulkari work, Kashmiri Embroidery, Lucknow work, Banjara work, Kasuti work	15	16	2	2
	Total	**110**		**10**	**8**

COMMERCIAL GARMENT TECHNOLOGY
SECOND YEAR
PART-B: VOCATIONAL SUBJECT
PAPER-III APPAREL & FASHION DESIGNING(THEORY)
Time Schedule Weightage and Blueprint

S.No	Name of Unit	No. of Periods	Weightage In Marks	Short Answer Questions	Problem Questions
1.	**Design** – Introduction, types of design – structural & decorative design details	10	2	1	0
2.	**Elements of Design** Line, Shape, Form, Colour, Texture	15	16	2	2
3.	**Principles of Design** Harmony, Balance, Rhythm, Emphasis, Proportion	15	16	2	2
4.	**Colour** Hue, Value, Intensity, tints & shades, Prang Colour Chart, Colour Harmonies – monochromatic, complimentary, split complimentary, analogous, triad; Colour Expression Warm and Cool Colours; Effect Of Colours.	15	8	1	1
5.	**Basic principles of fashion designing-** Terminology- related to fashion designing –costume, ethnic, Apparel, Boutique, Classic , Fad, Silhouette, Display; Factors to be considered in drawing dress designs for women and children;	20	8	1	1
6.	Figure types; choosing a right fabric for different types of figures, Selecting style lines for different types of figures.	15	8	1	1
7.	**Accessories used in fashion designing:** Hats, Bags, Shoes, Scarfs, Belts, jewellery	20	10	2	1
	Total	**110**		**10**	**8**

VIII. **MODEL QUESTION PAPERS**

COMMERCIAL GARMENT TECHNOLOGY

FIRST YEAR

PAPER I: PRINCIPLES OF GARMENT MAKING.

TIME:3 Hours **Max. Marks:50**

SECTION-A

NOTE: (i) Answer All The Questions

(ii) Each Question Carries Two Marks **10 x 2 = 20**

1) What is grain?
2) Name the types of sewing machines?
3) What is the fastest method of tacking?
4) Define drafting?
5) What is a seam?
6) What is a dart?
7) What are different methods of gathering fabric?
8) Write the uses of Zipper placket?
9) Where double bias is used?
10) List out the fasteners used on children's garments.

SECTION-B

NOTE: (i) Answer Any Five Questions

(ii) Each Question Carries Six Marks 5 x 6=30

11) Write about pressing tools and their uses.
12) What are the common machine troubles and their causes
13) What care do you take for a sewing machine?
14) Explain the types of hemming?
15) Write the merits and demerits of commercial pattern?
16) Explain Plain Seam and French Seam.
17) Write briefly about different types of Tucks?
18) Explain the standards of a good Placket.
19) Write the differences between Bias Facing and Fitted Facing.
20) How do you stitch a Hook and Eye ?

COMMERCIAL GARMENT TECHNOLOGY

FIRST YEAR

PAPER II: TEXTILE SCIENCE

TIME:3 Hours **Max. Marks:50**

SECTION-A

NOTE: (i) Answer All The Questions

(ii) Each Question Carries Two Marks **10 x 2 = 20**

1. What is Filament
2. Give an example of Natural Mineral Fibre.
3. What are the Byproducts of cotton?
4. What are the uses of Silk?
5. What is the Microscopic appearance of Rayon?
6. What is Yarn?
7. What is Knitting?
8. List out the characteristics of Satin Fabrics.
9. What is a Stain?
10. What is Calendaring?

SECTION-B

NOTE: (i) Answer Any Five Questions

(ii) Each Question Carries Six Marks **5 X 6=30**

11. What are the General properties of Textile Fibers?
12. Write down the sources of Man made Fiber.
13. Write about the Consumer Demand for Cotton.
14. What are the various types of Silk?
15. Explain the uses of Polyster
16. Write the classification of Yarns.
17. Write about Felt Fabrics and Lace Fabrics.
18. What are the steps in Weaving ?
19. What are the general rules to be observed in removal of Stains?
20. Write the differences between Napping and Parchmentization

COMMERCIAL GARMENT TECHNOLOGY
FIRST YEAR
PAPER III: GARMENT CONSTRUCTION

TIME:3 Hours **Max. Marks:50**

SECTION-A

NOTE: (i) Answer All The Questions
(ii) Each Question Carries Two Marks **10 x 2 = 20**

1) What is Inseam?
2) What is Selvedge?
3) What are the factors to be taken care before cutting fabrics?
4) How do you embroider on a Jersey Fabric without stretching the Fabric?
5) List out the functions of Clothes.
6) What is Classic?
7) What is Off-Grain?
8) What are Tailor's Tacks?
9) What is Stay Stitching?
10) What are Wrinkles?

SECTION-B

NOTE: (i) Answer Any Five Questions
(ii) Each Question Carries Six Marks **5 X 6=30**

11) What are the Pointers for taking Body Measurements?
12) Explain the process of taking Ladies Mea0surement.
13) What are the different Fashion Fabrics available in the market?
14) Classify Children according to their age. Briefly indicate the Self-help features in Toddler's garments.
15) Explain the precautions taken for Crape and Lace Fabrics.
16) Write about the factors that influence Clothing Choice.
17) Explain Fashion Trends and Occupation which influence the selection of Clothing
18) Write various ways of Straightening Fabric Grain.
19) What are the rules for Pattern Layout?
20) What are the qualities of a Well Fitted Garment?

COMMERCIAL GARMENT TECHNOLOGY
SECOND YEAR
PAPER I: APPAREL MANUFACTURE

TIME:3 Hours **Max. Marks:50**

SECTION-A

Note: (i) Answer All The Questions
(ii) Each Question Carries Two Marks **10 x 2 = 20**

1. Write about the standards of a well fitted sleeve?
2. What are the different styles in sleeves?
3. Mention the terms used in collars?
4. Define yoke?
5. Define pocket?
6. What are different types of grading techniques?
7. Classify the basic sewing machines.
8. Write about marker making?
9. Write in detail about materials and equipment involved in packing?
10. Define quality control?

SECTION-B

Note: (i) Answer Any Five Questions
(ii) Each Question Carries Six Marks **5 x 6=30**

11. Define sleeve. Explain in detail about parts of the sleeve.
12. What are the basic sleeve types? How to differentiate them?
13. Explain any two types of collars with diagrams.
14. How do you create variety in yoke design?
15. Explain types of pockets.
16. Define grading. Explain in detail about the importance and principles of grading.
17. Discuss about different types of sewing machines that assist in completion of men's shirt.
18. Explain about the spreading, cutting and assembling processes.
19. Write about the importance of Quality control in an apparel industry.
20. What are the methods of Quality checking?

COMMERCIAL GARMENT TECHNOLOGY
SECOND YEAR
PAPER II: FABRIC EMBELLISHMENT

TIME: 3 Hours **Max. Marks:50**

SECTION-A

Note: (i) Answer All The Questions
(ii) Each Question Carries Two Marks **10 x 2 = 20**

1. What is embellishment?
2. What are border layouts?
3. What is couching? How is it useful as an embroidery stitch?
4. What are the stitches used for filling?
5. Why is pre washing and post treatment of the fabric is important?
6. Differentiate the wet and dry techniques of painting?
7. List out the fabrics suitable for quilting?
8. How does color influence the patch work?
9. What are the stitches and motifs used in kantha embroidery?
10. What are the different types of embroidery in phulkari?

SECTION-B

Note: (i) Answer Any Five Questions
(ii) Each Question Carries Six Marks **5 x 6=30**

11. Classify and explain the types of motifs with examples?
12. Differentiate between side and half drop layout with suitable diagrams.
13. Illustrate different methods of tracing designs on to the fabric.
14. What is the stitch that is mostly used for finishing a blanket? Explain with illustrations.
15. Explain the procedure for fabric painting.
16. Explain different strokes done by a round brush with illustrations.
17. What are the types of applique? Explain.
18. What is patch work? Describe the types with the help of illustrations.
19. Explain the methods of stitching mirrors with illustrations.
20. Give details about the stitches used in kasuti embroidery.

COMMERCIAL GARMENT TECHNOLOGY
SECOND YEAR
PAPER III APPAREL AND FASHION DESIGNING

TIME:3 Hours **Max. Marks:50**

SECTION-A

Note: (i) Answer All The Questions
(ii) Each Question Carries Two Marks **10 x 2 = 20**

1. Define design.
2. What is form and shape?
3. Write about any two types of lines with diagrams?
4. What is meant by radial balance?
5. What are the different types of rhythm that can be created in garments?
6. What are the properties of color?
7. Define boutique.
8. What is hourglass body type?
9. What is a stole?
10. Define shawl. Write about its importance.

SECTION-B

Note: (i) Answer Any Five Questions
(ii) Each Question Carries Six Marks **5 x 6=30**

11. What are elements of design? Explain with illustrations.
12. Write short notes on color and its use in dress designing.
13. How can harmony be introduced into garments?
14. What is proportion? How is it achieved in clothing?
15. Describe prang color chart with proper illustrations.
16. Write in detail about application of color in designing dresses.
17. Write short notes on A) Apparel B) Classic C) Display
18. What are the figure types? Explain about any three figure types and their features.
19. Discuss about the importance of accessories in fashion designing.
20. Define accessory. Write short notes on classification of jewelleries.

LIST OF EQUIPMENTS

List of equipment for Commercial Garment Designing & Making:

1. Sewing Machines tailor model 20 Nos.
2. Zig Zag and Embroidery machine 4 Nos.
3. Fashion Maker 1 Nos.
4. Button hole making machine 1 no.
5. Overlook Machine 1 No.
6. Mass cutting Machine 1 No.
7. Mass Cutting Table 1 No. (Bigsize)
8. Cutting Tables 6 nos.
9. Meter scales 20 Nos.
10. Ironing tables 5 nos.
11. Irons 6 nos.
12. Scissors
    - (a) large 20 nos.
    - (b) medium 20 nos.
    - (c) Small 20 nos.
13. Pinking shears 5 nos.
14. L-Scale 10 nos.
15. Tracing wheels 20 nos.
16. Measuring tape 20 Nos.
17. Stools (wood) 20 nos.
18. Staff table and chair 2 nos.
19. Looking Mirror 2 nos.
20. Cub-boards-stools 2 nos.
21. Student chairs and tables for classes 20 sets (Theory classes)
22. Computers 5 nos.
23. Stainless Steel vessels with lid (large size) 2 nos
24. Saree Rollers 1 set

IX (A). COLLABORATION INSTITUTIONS FOR CURRICULUM TRANSACTION

I. a) (G.P.W.) Government Polytechnic for women (Minority) L.B.Nagar
b) GDSTC –Secunderabad
c) GGVI - Secunderabad

II. College of Home Science – Hyderabad, PJTSAU

III. NIFT - Hyderabad

IV. APCO - Hyderabad (Narayanaguda)

V. Line Departments - Handlooms, DRDA, Women & Child Welfare

VI. Boutiques - Area Specific

VII. All Apparel Industries

1. Apparel parks, GundlaPochampally
2. Chermas - Hyderabad
3. Karthik Exports - Hyderabad
4. Logo Apparel - Hyderabad
5. Fantoosh – Hyderabad
6. Pokarna – Hyderabad
7. Melange Apparel – Hyderabad
8. Perfect Knitters – Chevella Road
9. Surya Lakshmi Cotton Mills Pvt Ltd- Hyderabad

IX (B). LIST OF ON THE JOB TRAINING SITES

1. Power Loom, R.T.C Cross Roads, Hyderabad.
2. S.E.T.W.I.N Hyderabad
3. G.N.I.T Computer Education, Narayanguda, Hyderabad.
4. Shaheen Resource Centre, Mugalpura, Hyderabad.
5. Rishika Cotton PVT. Ltd. Falaknuma, Hyderabad.
6. A.P.E.C Education, Barkatpura, Hyderabad.
7. VinayakaSahakaraSangam, Macherial, Adilabad.
8. Handloom Weavers Cooperative Ltd. Society, Jagtial, Karimnagar.
9. Chaitanya MahilaMandali, Khammam.
10. SETMA, DLTC, ITI. Metugada, Mahaboobnagar.
11. Handloom Society, Dubbaka, Medak.
12. Abighna Ladies Tailors, Dubbaka, Medak.
13. Local Saree Weaving ,Dubbaka, Medak.
14. S.R.T Centre Siripuram, Ramnnapet, Nalgonda.
15. Susanth Apparels, Gajwel, Nalgonda.
16. M.P.S.K Stitching Centre, Nalgonda.
17. Society OfChenethaHandloon, Mothkur, Nalgonda.
18. Garment Center, Nalgonda
19. Satya Vocational Institute, Nizamabad
20. R.A. Apparel Mulugu Road, Warangal.

X. Qualifications for Teaching Staff in Commercial Garment

Must possess a second class degree of M.Sc Textiles and Clothing (Home Science) with not less than 50% of marks of a university in India established or incorporated by or under a central Act, State Act or a Provincial Act or an institution recognised by the University Grants Commission or an equivalent qualification. (GoMs.No.302, Education (IE.I) Dept., dated 30.12.1993)

XI. VERTICAL MOBILITY

A**) Without Bridge Course**:

1. B.Sc (Hons). Community Science, PJTSAU, Hyderabad.
2. Any other degree.

B) With Bridge Course:

1. EAMCET
2. TTC
3. Lateral entry into polytechnic course

XII. LIST OF REFERENCE BOOKS :

1. Textile fiber and their use-Hess.
2. Fundamentals of textiles and their care - SusheelaDautyagi
3. Household textiles & laundry Work - DurgaDeulkar
4. Modern Textiles - Dorothy Lyle
5. How would you look and dress - Bytra Carson
6. The standard hand book of Textiles - AJ Hall
7. Introduction to textiles - E.E. stout
8. Fashion and Fabrics - Rathboya - Tarpley
9. Dress Pattern Designing - N.Bray
10. A Manual for Children Clothing - Mrs. SavithriPandit
11. Family Clothing - Tate and Gibson
12. Textile Fabrics and their selection – Isabel Wingate
13. Clothing for moderns - Erwin and Kichner
14. Practical clothing construction _ Mary Mathews (Part-I)
15. Practical Clothing Construction _ Mary Mathews (Part- II)
16. Basic Process of clothing construction - Doongaji and Deshpande
17. Commercial Method of Cutting - V.B. Jeevekar
18. Pocket Book of Cutting-V.B. Jeevekar
19. Textiles: Sara J Kadolph (2013); Pearson Education Ltd, Asia
20. Textbook of Textiles and Clothing- Vatsala, R. 2003, New Delhi. Indian Council of Agriculture Research
21. Textiles- Fiber to Fabric, Corbman B. P (1983) McGraw-Hill lnt., USA
22. Techniques of Dyeing and printing, Hemalatha Jain (2010), Ane Books Pvt, Ltd
23. Fashion Concepts, Comdex: Fashion Design Vol I, Kaur, N (2011) Dreamtech Press
24. Fundamentals of designing for textiles and other uses by J. W. Parchure, Textile Associate of India, woodhead publishing India.
25. Textile Design - Theory and concepts, Charu Swami, New Age International Publications.

Magazines:

1. Femina
2. Grazia
3. Vogue
4. Elle
5. Marie Claire
6. You & I

XIII. EQUIVALENCY:

In the new curriculum 2017 there is no equivalency paper to any paper. Hence the old syllabi students will be given two chances to clear their backlogs (i.e. March & ASE 2018) for I year and (March & ASE 2018) for II year.

XIV. LIST OF SUBJECT EXPERT COMMITTEE MENBERS

1.	**Dr. A. Padma,** Professor & University Head, Department of Apparel and Textiles, College of Home science, PJTSAU, Saifabad, Hyderabad.
2.	**Ms. S. SirishaDeepthi**, Assistant Professor, Department of Apparel and Textiles, College of Home Science, PJTSAU, Saifabad, Hyderabad
3.	**Mrs. G. Shalini** Teaching Associate, Department of Apparel and Textiles, College of Home science, PJTSAU, Saifabad, Hyderabad
4.	**Mrs. P. Selma Raja kumari,** Junior Lecture, MAMGJC (G), Nampally, Hyderabad
5.	**Co-ordinator:** Sri.K.Vishweshwar, S.I.V.E O/o The Commissioner of Intermediate Education Telangana, Hyderabad

Sd/- Dr A. Ashok
COMMISSIONER OF INTERMEDIATE EDUCATION

30% DELETED CONTENT IN VIEW OF COVID-19 PANDEMIC

FIRST YEAR

PAPER-I: PRINCIPLES OF GARMENT MAKING

S/No	Unit no. Name of the unit	Topic/ Sub topic to be deleted in detail heads	Two marks questions deleted	Six marks questions deleted
1	UNIT-1	1.0.7 Commercial patterns 1.1(d) Hem Gauge, Hem marker, 1.3 Button hole scissors, Electric scissors, Care of scissors and shears 1.5 Pin cushion, Dress form	5. What is hem marker?	NIL
2	UNIT-2	2.3 Threading the machine 2.4 Machine troubles, its causes and remedies	NIL	NIL
3	UNIT-3	3.1.5 Pin basting 3.2.5 Over sewing 3.2.6 Whipping, Suitability of stitches of various fabrics	3. How do you start tacking? 8. What is whipping? 10. Combination stitch is more technically called as what and why?	4. Why temporary stitches are preferred than permanent stitches while learning garment construction? 5. Differentiate between over casting and over sewing stitches?
4	UNIT-4	4.1Principles of pattern making	NIL	NIL
5	UNIT-5	5.5 Slot seam 5.6 Herringbone finish	5. What is herringbone finish done to seam?	3.Differentiate between A) lapped seam and French seam B) plain seam and slot seam
6	UNIT-6	6.2 Cross tucks 6.5 Shirring of gauging 6.6 Flare 6.7 Godet	2. What is a godet? 5. Differentiate between box pleat and inverted box pleat?	1. What is the difference between gathering and shirring? 3. Give the procedure for making Godet?
7	UNIT-7	NIL	NIL	NIL
8	UNIT-8	8.3 Cord piping 8.4 Collar	5. What is cord piping? 6. Write about collar?	NIL
9	UNIT-9	9.4 Zipper 9.5 Velcro	3. List the fasteners used on children’s garment? 6. What is Velcro?	NIL

COMMERCIAL GARMENT TECHNOLOGY - FIRST YEAR

PAPER-II: TEXTILE SCIENCE

S. No	Unit no. Name of the unit	Topic/ Sub topic to be deleted in detail heads	Two marks questions deleted	Six marks questions deleted
1	UNIT-1	1.0 Yarn count, Denier, Tex system 1.2 Difference between cellulose and synthetic fibres	7. What is solubility? 10. Write about Tex system?	NIL
2	UNIT-2	2.1 Man-made mineral fibres	3. What is the difference between the regenerated and synthetic fibers? 4. List out the man-made mineral fiber?	NIL
3	UNIT-3	3.0 Cultivation of cotton 3.1 Manufacture of hand-made cotton in India 3.5 Fabrics in cotton	2. Give the steps for recent advances in handmade sector? 6. What are the reasons for fiber blends in cotton?	3. Write short notes on following A. Muslin B. Flannelette and flannel C. Organdie 4. What are the characteristics of cotton?
4	UNIT-4	4.1 History of silk 4.2 Production of silk, dyeing, printing, finishing and weighing of silk 4.3 History of wool	2. What are the physical properties of silk? 8. What are the physical properties of wool	4. How do you manufacture wool fiber?
5	UNIT-5	5.1 History of rayon 5.1.4 Physical properties of rayon fabric- cleanliness and washability, Reaction to bleaches, shrinkage and effect of heat 5.2.1 Types of polyester yarn 5.2.2 Physical properties of polyester- Dimensional stability, shrinkage, cleanliness and washability	1. What is man-made fiber? Who was the father of rayon industry? 6. What are uses of polyester? 8. Write the drapability in polyester fiber?	4. Write in detail, about manufacturing process of polyester fiber?
6	UNIT-6	6.1 Conventional spinning, Direct	3. Write about continuous filament	NIL

		spinning 6.2.1 Napping twist, average twist, Hard twist, crepe yarns 6.2.4 Types of novelty yarns	yarns?	
7	UNIT-7	7.2 Difference between weaving and knitting 7.2 Identification of Warp knits 7.3 Nets and braids Braids	1. What is plain weave? 5. What is weft knitting? 6. What is warp knitting?	2. How do you identify warp knit fabrics?
8	UNIT-8	8.2 Characteristics of woven fabrics 8.3.3 Suitability of weaves, various end uses	3. Which is the strongest of all basic weaves? Why?	1. With neat labelled diagram draw the parts of loom? 3. What are the characteristics of woven fabrics?
9	UNIT-9	9.3 Gum and glue stains, stained brass, candle wax, Mildew, Jams and stains, chewing gum, hair dye, ointment stain, medicine	4. Write the steps involved in removing the mildew stains?	NIL
10	UNIT-10	10.0 Classification of finishes 10.4 Burnt out or etched finish Starch less finish Wash and wear Sizing, stiffing and starching	7. What are finishes? Write about calendaring and singeing?	4. How is burnt out finish is different from parchmentization?

COMMERCIAL GARMENT TECHNOLOGY - FIRST YEAR
PAPER-III: GARMENT CONSTRUCTION

S No	Unit no. Unit Name	Topic/ Sub topic to be deleted in detail heads	Two marks questions deleted	Six marks questions deleted
1	UNIT-1	1.4 Body measurements for men, women and children	9. How should the body be held while taking measurements? 10. Different measurements are required for different garments. Justify?	4. Write short notes on taking children's measurements. Indicate the additional measurements required for children?
2	UNIT-2	2.6 Importance of selection of material and supportive fabrics 2.7 Introduction to selection of material for various garments 2.12 Decorative and safety considerations in children's clothing	18. What is a fluorescent material? 19. What is the purpose of a reflective tape? 20. What is a reflective- Fluorescent material?	6. Discuss about the safety and decorative considerations in children's clothes? 7. List out various children's garments preferred by Indian mothers. Indicate the type of material suitable for each one of them?
73	UNIT-3	3.2.4 Metallic yarn 3.2.9 Synthetic fabrics 3.2.10 Finished fabrics	5. What are the steps followed to embroider on a synthetic fabric like nylon? 6. Felt fabrics need extra care for embroidering. Explain?	3. What is a metallic yarn? What are the techniques followed by embroidering with metallic yarns?
4	UNIT-4	4.2 Fashion and latest trends Maintenance and up keep of clothes Religious beliefs and norms	2. Adolescence select clothes based on fashion. Elaborate? 5. Many professions have a specific dress code. Elaborate on this statement by citing appropriate examples? 10. The income of a family has an effect on the clothing choice of the family. Elaborate?	3. Write about the following which influence the selection of clothing A. Fashion trends B. Occupation C. Occasion
5	UNIT-5	5.2.3 Special layouts	2. What are the different ways of straightening the fabric? 5. What is a layout? 10. Why do we need to pre shrink fabrics?	4. What are the common ways of transferring marking onto fabrics? Illustrate?
6	UNIT-6	6.2 Dress making techniques that influences good fit.	3. How can one achieve balance in kameez? 10. List out the possible areas in a garment that can show wrinkles because of poor fit?	NIL

COMMERCIAL GARMENT TECHNOLOGY - SECOND YEAR
PAPER-I: APPAREL MANUFACTURE

S No	Unit no. Name of the unit	Topic/ Sub topic to be deleted in detail heads	Two marks questions deleted	Six marks questions deleted
1	UNIT-1	1.5.5 Banded puff-bottom 1.5.8 Cowl sleeve 1.5.9 Dolman sleeves	1.What is the difference between set in sleeve and sleeve bodice combination?	1.Write in detail about set in sleeves and its variations along with Illustrations?
2	UNIT-2	2.5 Creating variety in collar design	2. How do you Decorate collar?	NIL
3	UNIT-3	3.1.1 Uses of yokes	NIL	NIL
4	UNIT-4	4.3 Selection of pocket design	3. What is the difference between patch pocket and Welt pocket?	NIL
5	UNIT-5	5.6 Methods of Grading 5.8 Machines used for grading	1.Write in detail about Computerized grading machine 6. What are the principles that are involved in grading?	NIL
6	UNIT-6	6.4 Sewing machine shapes 6.5.3 Safety stitching machine 6.5.4 Blind stitching machine	4. Write about the features and uses of over locking Machine?	NIL
7	UNIT-7	7.1 Clothing industry 7.8.1 More advanced machinery	5. Write about sewing-assembling operations	NIL
8	UNIT-8	8.6 Writing specifications for apparel manufacturing	3. What are the uses of specifications in apparel industry	NIL

COMMERCIAL GARMENT TECHNOLOGY - SECOND YEAR
PAPER-II: FABRIC EMBELLISHMENT

S No	Unit no	Topic/ Sub topic to be deleted in detail heads	Two marks questions deleted	Six marks questions deleted
1	UNIT-1	1.3.5 Embroidery 1.3.6 Quilting 1.3.8 Applique	3. Define quilting? 4. Define applique?	NIL
2	UNIT-2	2.3.3 Goose or hansa motif 2.3.4 Lotus motif or Kamal 2.3.8 Conch shell motif	8. Differentiate between Naturalistic and Abstract motifs? 9. Write about the origin of Indian Traditional motifs?	2. Define pattern layout. Enumerate the types of pattern layouts with suitable Diagrams?
3	UNIT-3	3.5.9 French knot 3.5.10 Double knot 3.5.11 Bullion knot	3. Write the procedure for fish bone and herringbone with illustrations? 5. How is embroidery helpful in embellishing the Fabric?	1.Explain the procedure of different knot stitches with Illustrations?
4	UNIT-4	4.4.12 Marbling 4.4.13 Liquid embroidery	5. Write short notes On liquid embroidery?	NIL
5	UNIT-5	5.3.5.4.3 Handling corners	3. How are patch/ applique/ quilting different from embroidery? 7. What is molac or sanblas applique? Explain its process of stitching?	5. Explain the procedure for Designing and stitching a cushion cover using combination of triangles and squares? 7. Explain different types of finishing edges of a quilt?
6	UNIT-6	6.2.4 Kinds of bagh	2. List down the unique features of phulkari Embroidery? 9. Explain gavanti and menthi stitches in kasuthi Embroidery?	4. What are the different Kinds of Bagh? Explain? 6.Explain the types of Stitches used in chikan kari? 7. What are different traditional embroideries you have studied? Write the unique features of the Embroidery?

COMMERCIAL GARMENT TECHNOLOGY - SECOND YEAR
PAPER-III: APPAREL AND FASHION DESIGNING

S No	Unit no. Name of the unit	Topic/ Sub topic to be deleted in detail heads	Two marks questions deleted	Six marks questions deleted
1	UNIT-1	1.3.7 Lace	3. What is the use Of the lace? How many ways it can Be used? 7. Write about lace motif?	NIL
2	UNIT-2	2.4 Visual effects of Shapes Incorporating shape in dress	4. Discuss the use of design lines in Dresses?	4. Explain effects of texture on physical Proportion?
3	UNIT-3	3.1.3 Rhythm through transition Rhythm by continuous line movement 3.1.5 Proportion and body confirmation	7. Write about the proportion for suitable for a small person? 9. What are the physical effects of harmony?	4.How are art principles useful in clothing design? Explain with suitable dress Design
4	UNIT-4	4.8 Munsell colour system	6. Which are the colors that make a person appear thin and fat?	4. What does munsell colour system talk about colour?
5	UNIT-5	5.3 Fashion adoption theories	5. List out the fashion theories? 7. What is trickle across theory?	2. Explain fashion theories in detail?
6	UNIT-6	6.5 Inverted triangle body type 6.6 Straight/ rectangular body type	NIL	NIL
7	UNIT-7	7.1.1 Designing aspects for hat 7.1.2 Designing aspects for hand bags 7.1.3 Design aspects for shoes 7.24 Espadrilles 7.25 Mary Jane shoes	6. Name the types of heels?	4. Emphasize on various types of Indian jewelleries?

VOCATIONAL CURRICULUM-2020

(For the Academic year 2020-21)

[70% CONTENT IN VIEW OF COVID-19 PANDEMIC]

PRE SCHOOL TEACHER TRAINING

(COURSE CODE: 410)

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,

Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

Dr. A. Ashok I.A.S
COMMISSIONER

INTERMEDIATE EDCATION
Government of Telangana
Nampally, Hyderabad- 500001
Phone: 040-24655915

Fore word

In any developing society with a booming population, Vocational Education occupies an important position for generating large scale employment opportunities. Viewed in this context the importance of Vocational Education for our country cannot be over emphasized. Vocationalization of Secondary Education was introduced in 1988 at the Intermediate level. Recently, the Government of India has developed a National Skills Qualification Framework for establishing a clear path for vocational education from the school level to the highest level. The Department of Intermediate Education has recently framed a new curriculum to bring greater value to the system of vocational education. The primary aim of this reform is to prepare the students with employable skills for absorption in organized sectors and in few cases, even for self-employment.

State Institute of vocational education and Board of Intermediate Education, Telangana have reviewed the curriculum of vocational courses of second year from the academic year 2019-20 in order to reorient them for their practical approach. Greater emphasis is now being placed on Laboratory work and on the job training.

Simultaneously, The State Institute of Vocational Education and the department of Intermediate Education are presently making efforts to upgrade the quality of infrastructure in the colleges to meet the challenges of the changed curriculum. I am confident that the revised curriculum of second year for Vocational Courses would prove to be beneficial to the students in the vocational stream and help them train in need based productive courses leading to gainful employment.

Sd/- Dr. A.Ashok
COMMISSIONER OF INTERMEDIATE EDUCATION

SCHEME OF INSTRUCTION AND EXAMINATION

ANNUAL SCHEME OF INSTRUCTION AND EXAMINATION

PRESCHOOL TEACHER TRAINING

FIRST YEAR

Part-A		**Theory**		**Practicals**		**Total**	
		Periods	**Marks**	**Periods**	**Marks**	**Periods**	**Marks**
1.	English	150	50	0	0	150	50
2.	General Foundation course	150	50	0	0	150	50
	Part-B						
3.	**Paper-I** Introduction to child development	135	50	135	50	270	100
4.	**Paper-II** Organization & management of Creches	135	50	135	50	270	100
5.	**Paper-III** Health & Nutrition	135	50	135	50	270	100
Part-C							
6.	**OJT**	0	0	365	100	365	100
	Total	**705**	**250**	**770**	**250**	**1475**	**500**

*on the Job Training for 1st year from 1st November to 31st December

SECOND YEAR

Part-A		**Theory**		**Practicals**		**Total**	
		Periods	**Marks**	**Periods**	**Marks**	**Periods**	**Marks**
1.	English	150	50	0	0	150	50
2.	General Foundation course	150	50	0	0	150	50
	Part-B						
3.	**Paper-I** Early Childhood Care & Education	110	50	115	50	225	100
4.	**Paper-II** Organization & Management of Pre-School	65	50	160	50	225	100
5.	**Paper-III** Parent Education, Nutrition & Health	85	50	140	50	225	100
Part-C							
6.	**OJT**	-	-	450	100	450	100
	Total	**630**	**250**	**795**	**250**	**1425**	**500**
TOTAL FIRST YEAR AND SECOND YEAR MARKS 1000							

*OJT Programme for 2nd year students from 1st August to 31st October.

EVALUATION OF ON THE JOB TRAINING:

The "On the Job Training" shall carry 100 marks for each year and pass marks is 50. During on the job training the candidate shall put in a minimum of 90 % of attendance.
The evaluation shall be done in the last week of January.

Marks allotted for evaluation:

S.No	Name of the activity	Max. Marks allotted for each activity
1	Attendance and punctuality	30
2	Familiarity with technical terms	05
3	Familiarity with tools and material	05
4	Manual skills	05
5	Application of knowledge	10
6	Problem solving skills	10
7	Comprehension and observation	10
8	Human relations	05
9	Ability to communicate	10
10	Maintenance of dairy	10
	Total	100

NOTE: The On the Job Training mentioned is tentative. The spirit of On the Job training is to be maintained. The colleges are at liberty to conduct on the job training according to their local feasibility of institutions & industries. They may conduct the entire on the job training periods of (365) First year and (450) Second year **either by conducting classes in morning session and send the students for OJT in afternoon session or two days in week or weekly or monthly or by any mode which is feasible for both the college and the institution**. However, the total assigned periods for on the job training should be completed. The institutions are at liberty to conduct On the Job training during summer also, however there will not be any financial commitment to the department.

PRESCHOOL TEACHER TRAINING
FIRST YEAR
PART-B VOCATIONAL SUBJECT
PAPER- I: INTRODUCTION TO CHILD DEVELOPMENT (THEORY)

S.No	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
1	**Concepts in child development** Growth - Meaning and principles- Maturation and learning - Meaning– Interrelationship- and environment- Meaning–importance-Developmental needs and developmental tasks of children (Birth – 2 Years)	**10**	**04**	**02**	**-**
2	**Areas of development- Development during Infancy.** Physical development, Motor development –Emotional development –Social development — Speech development	**30**	**16**	**02**	**02**
3	**Delayed development** Delayed development – Identification.-Mentally challenged – classification, characteristics and causes - Physically challenged - Blind, deaf, dumb and -Services for Mentally and	**30**	**16**	**02**	**02**
4	**New born baby** Meaning and characteristics – Reflexes of new born - Care of Newborn baby –APGAR test	**20**	**08**	**01**	**01**
5	**Premature baby** Meaning and Identification - Causes of prematurity- - Feeding Methods	**20**	**08**	**01**	**01**
6	**Post-natal care** Care of mother – Nutrition and Health Care, care of breast - Care of infant - Nutrition and Health Care- Breast feeding,- advantages and Disadvantages- Bottle sterilization.	**25**	**16**	**02**	**02**
	Total	**135**	**68**	**10**	**08**

PRESCHOOL TEACHER TRAINING
FIRST YEAR
PART-B VOCATIONAL SUBJECT
PAPER- II ORGANIZATION AND MANAGEMENT OF CRECHES (THEORY)

S.No	NAME OF THE UNIT	No. Of Periods	Weight age in marks	Short answer questions	Essay/ Problem questions
01	**1.0. Introduction to crèche** Definition of crèche- Aims and objectives of crèche - Types of crèches – Based on organization – Government, private, voluntary and Industrial. Based on location – Rural, Urban, Tribal and mobile Crèche	**25**	12	03	01
2	**Need and Importance of crèche**	15	08	01	01
3	**Physical set up of crèche** Location of the crèche-Building requirements of crèche-Space requirements of crèche - Selection and care of equipment	30	14	01	02
4	**Crèche staff** Staff pattern - Responsibilities of crèche supervisor- Responsibilities of ayah/care taker.	20	08	01	01
5	**Planning activities for crèche** Importance of Toilet training, Feeding and Sleeping.	35	18	03	02
6	**Maintenance of records** Types of records- Advantages of record keeping.	10	08	01	01
	TOTAL	135	68	10	08

PRESCHOOL TEACHER TRAINING
FIRST YEAR
PART-B VOCATIONAL SUBJECT
PAPER- III HEALTH AND NUTRITION (THEORY)

S.No	NAME OF THE UNIT	No. Of Periods	Weight age in marks	Short answer questions	Essay type Questions
1	**Immunization** Need and Importance of Immunization- Immunization Schedule-Care after Vaccination	20	08	01	01
2	**Weaning** Importance of weaning- Supplementary feeding – stages – Liquid, Semi-solid, solid- Supplementary foods during 6 months to 2 years-Principles to be followed while introducing supplementary foods	20	10	02	01
3	**Nutritional needs of children (Birth -3 years)** Importance of nutrition- Nutrient requirements of children- Planning of balanced diets.	20	10	02	01
4	**Nutritional deficiency diseases** Meaning, Symptoms, Causes and prevention of— Protein Energy Mal nutrition (PEM)— Kwashiorkor— Marasmus— Vitamin 'A' deficiency — Vitamin 'B' deficiency - Vitamin 'C' deficiency -Vitamin ’D' deficiency— Iron deficiency	30	16	02	02
5	**Common ailments in children** Symptoms, causes and care during— Redsore buttocks— Constipation— Diarrohea— Ear ache— Cold and cough— Fever— Vomiting— Colic— Precautions for treating sick child— Teething problems.	30	16	02	02
6	**Habit formation** Importance of habit formation- Eating habits- Sleeping habits- Toilet Training	15	08	01	01
	TOTAL	135	68	10	08

PRESCHOOL TEACHER TRAINING
SECOND YEAR
PART-B VOCATIONAL SUBJECT
PAPER-I: EARLY CHILDHOOD CARE AND EDUCATION (THEORY)

S. No	Major Units	No. Of Periods	Weight age in marks	Short answer questions	Essay type Questions
1	**Pre-school Period** Significance of pre-school years-Characteristics of pre-school children-Developmental needs and developmental tasks	20	10	02	01
2	**Development during early childhood period**. **(2 to 6 years)** Physical development - pattern - factors influencing Physical development. Motor development- types - factors influencing motor development. Emotional development- types - factors influencing Emotional development. Social Development-pattern of Socialization – techniques- Social forms- Agents - factors influencing Social development. Cognitive development- pattern - Cognitive Skills - factors influencing Cognitive development. Speech & Language development-types of speech – speech disorders-language skills- tasks in Learning Language Skills- Factors influencing Language development	20	24	03	03
3	**Concept development** Importance and learning of various concepts -Size-Shape-Colour-Weight-Time-Number and Social concept.	20	08	01	01
4	**Pre-school education** Significance of Pre-school Education -Need for Pre-school education -Aims and objective of pre-school education.	15	08	01	01
5	**Play –**Definition - Importance of play – Categories –stages - types and factors influencing play-play material and equipment for different ages	20	10	02	01
6	**Disciplining children** Importance of discipline - Methods of disciplining the children.	15	08	01	01
	Total	110	68	10	08

PRESCHOOL TEACHER TRAINING
PART-B VOCATIONAL SUBJECT
II YEAR
PAPER-II: ORGANISATION AND MANAGEMENT OF PRE SCHOOLS

S. No	Major Units	No. Of Periods	Weight age in marks	Short answer questions	Essay type Questions
1	**Physical setup of pre-school** Selection of Site –ECCE Centre Requirements - Building requirements - Selection and care of equipment.	**15**	**08**	**01**	**01**
2	**Methods of pre-school education** Kindergarten-Montessori-Nursery School-Play way method-Anganwadi, Thematic approach	**15**	**08**	**01**	**01**
3	**Management of Pre-school** Staff Pattern and qualifications-Importance of Records and Reports-Budget –types- stages involved in Planning Income and expenditure –Balance Sheet	**20**	**08**	**01**	**01**
4	**Pre-school teacher** Characteristics of Pre-school teacher-Roles and Responsibilities of Pre-school teacher-Need for Parent teacher co-operation.	**20**	**08**	**01**	**01**
5	**Planning Pre-school programmes** Principals involved in planning Pre-school programme-Types-Short term and long term planning-Importance of Informal talk, rhymes or Action songs, stories, creative activities, Science experiences, field trips, Role plays/dramatization.	**20**	**24**	**03**	**03**
6	**Organizations working for Pre-school education.** —NIPCCD-objectives and activities — NCERT- objectives and activities — ICDS— objectives and activities __UNICEF- objectives and activities — CARE- objectives and activities	**20**	**12**	**03**	**01**
	TOTAL	**110**	**68**	**10**	**08**

PRESCHOOL TEACHER TRAINING
PART-B VOCATIONAL SUBJECT
SECOND YEAR
PAPER-III: PARENT EDUCATION, NUTRITION AND HEALTH (THEORY)

S.No	Major Units	No. Of Periods	Weight age in marks	Short answer questions	Essay type Questions
1	**Parent Education** Meaning and importance of parent education- Methods of Parent education.	**20**	**08**	**01**	**01**
2	**Nutrition for Pre-School Children** Need and importance - Nutritional requirements of pre-school children.	**20**	**08**	**01**	**01**
3	**Dental Health** Importance of dental care in children- Types of Teeth- Care of teeth- Complications During Teething - Dental Carries - Prevention of dental carries.	**20**	**08**	**01**	**01**
4	**Health of Pre-school child** Role of Pre-school in promoting child's health- Common communicable diseases-symptoms, causes and prevention of:— Pneumonia— Malaria— Typhoid— Diphtheria — Measles— Mumps— Chicken Pox— Whooping Cough— Tuberculosis— Conjunctivitis — Scabies	**20**	**18**	**03**	**02**
5	**Behaviour Problems** Definition – Causes- Common behaviour problems - symptoms, causes, Management and prevention - Aggression — Thumb sucking— Nail biting— Hair pulling—Temper Tantrums — Stealing— Social withdrawal — Bedwetting.	**20**	**18**	**03**	**02**
6	**First-aid and safety measures** Definition – Importance of first aid - Contents of First Aid Box – First Aid - Procedures for Various Emergencies - Providing child safe preschool environment	**10**	**08**	**01**	**01**
	TOTAL	**110**	**68**	**10**	**08**

PRE SCHOOL TEACHER TRAINING
MODEL QUESTION PAPER
FIRST YEAR
PAPER-I: INTRODUCTION TO CHILD DEVELOPMENT

Time: 3 Hours **Max. Marks: 50**

SECTION-A

Note: (I) answer all the Questions
(ii) Each Question carries 2 marks **10X2=20**

1. Define growth.
2. What is meant by development?
3. Mention the types of motor skills with examples?
4. What is emotional development?
5. What is delayed development?
6. How do you identify the gifted children?
7. Who is called neonate/new born baby?
8. Who is called premature baby?
9. What is meant by post-natal care?
10. What is burping.

SECTION-B

Note: Answer any five questions. 5*6=30M

Each question carries six marks.

11. Explain the components/pattern of physical development in children
12. Write about the stages of social development in infants.
13. How do you identify hearing impaired children?
14. Discuss the services available for disabled children?
15. Explain the characteristics of new born baby?
16. Write the causes of prematurity.
17. Write short notes on a) Care of breast b) Clothing for new born baby
18. Breast feeding is best discuss?
19. Write the advantages and disadvantages of bottle feeding?
20. Explain the characteristics of a premature baby?

PRE SCHOOL TEACHER TRAINING
MODEL QUESTION PAPER
FIRST YEAR
PAPER-II : ORGANIZATION AND MANAGEMENT OF CRECHES

Time: 3 Hours **Max. Marks: 50**

SECTION-A

Note: (I) answer all the Questions
(ii) Each Question carries 2 marks **10X2=20**

1. What is quality day care?
2. Define creche.
3. Write the aims and objectives of a creche.
4. What are the provisions made under the Factories Act of 1948?
5. Write the space requirement of a creche child.
6. What is the minimum and maximum strength of a creche?
7. Who are the people with whom children interact in the creche?
8. List out the activities of a creche.
9. What is meant by free play?
10. Write the contents of admission register.

SECTION-B

Note: Answer any five questions. 5*6=30M
Each question carries six marks.

11. Explain the types of creches based on location.
12. Explain the role of creche in meeting the needs of parents and community?
13. Write in detail about the building requirements of a creche.
14. Write the points to be kept in mind while selecting the equipment for a creche.
15. Write the responsibilities of a creche supervisor.
16. What are the important points to be remembered while feeding creche children?
17. Briefly explain the importance of toilet training and sleeping activities of a creche.
18. Discuss the advantages of record keeping.
19. Briefly write about the individual case record.
20. Write the responsibilities of a creche ayah.

PRE SCHOOL TEACHER TRAINING
MODEL QUESTION PAPER
FIRST YEAR
PAPER-III: HEALTH AND NUTRITION

Time: 3 Hours **Max. Marks: 50**

SECTION-A

Note: (I) answer all the Questions
(ii) Each Question carries 2 marks **10X2=20**

1. What is Immunization?
2. Define weaning?
3. List out the problems in weaning?
4. Define balanced diet.
5. Write the importance of nutrition for a healthy life.
6. What is nutritional deficiency disease?
7. Mention the rich sources of vitamin A.
8. List out the common ailments occur in children.
9. What is meant by constipation?
10. Define habit?

SECTION-B

Note: Answer any five questions. 5*6=30M
Each question carries six marks.

11. Mention the care to be taken for children after vaccination?
12. What are the principles to be followed while introducing supplementary foods for children?
13. Write in detail about the nutritional requirements (RDA) of children up to 3 years.?
14. Write the symptoms, causes and prevention of PEM.
15. Write short notes on the following a) Scurvy b) Rickets
16. Write the causes, prevention and treatment for red sore buttocks.
17. Write the precautions to be taken for treating a sick child?
18. What ae the points to be remembered in inculcating eating habits in children.
19. Briefly discuss the deficiency diseases of B-Complex vitamins.
20. What are the steps involved in planning a balanced diet for children from 1-3 years

SECOND YEAR

PAPER – I: EARLY CHILDHOOD CARE AND EDUCATION (THEORY)

Time: 3 Hours **Max. Marks: 50**

SECTION-A

Note: (I) answer all the Questions

(ii) Each Question carries 2 marks **10X2=20**

1. What are the other names given to preschool period?
2. What is the significance of preschool years?
3. Mention the agents of socialization.
4. What are the types of motor development?
5. Mention the factors involved in speech development in early childhood period
6. What is meant by concept?
7. Write any two sentences about the need for preschool education.
8. Define play.
9. Write the importance of play.
10. What is discipline?

SECTION-B

Note: Answer any five questions. 5*6=30M

Each question carries six marks.

11. Explain the characteristics of preschool children.
12. Write about the pattern of physical development in preschool children.
13. Discuss the emotional development in preschool children.
14. Explain the concepts of size and weight development during early childhood period.
15. Write about the aims and objectivists of preschool education.
16. Write about the stages of play in children.
17. Explain the factors which influence play in children.
18. Write about the best method of disciplinary technique.
19. Write in detail about the permissive disciplinary technique in children.
20. Explain the factors influencing cognitive development in Preschool children.

PRE SCHOOL TEACHER TRAINING

MODEL QUESTION PAPER

SECOND YEAR

PAPER – II ORGANISATION AND MANAGEMENT OF PRESCHOOL (THEORY)

Time: 3 Hours **Max.Marks: 50**

Section-A

Note: (i) answer all the Questions

(ii) Each Question carries 2 marks **10X2=20**

1. What is the space requirement of a preschool child?
2. Write the main activities of Anganwadi.
3. What is meant by budget?
4. What is meant by child centered group activities?
5. Write the importance of field trip.
6. Write the Importance of readiness activities.
7. Write the importance of prayer.
8. Expand UNICEF and ICDS.
9. List out the activities of NIPCCD.
10. Write the objectives of CARE.

SECTION-B

Note: Answer any five questions. 5*6=30M

Each question carries six marks.

11. Write about the building requirement of a preschool.
12. Discuss the criteria for selecting equipment and play material for preschool children.
13. Discuss any one method of preschool education.
14. Explain briefly about the different types of nursery schools.
15. Explain the staff pattern and qualifications required for the staff in a ECE centre
16. Discuss the importance of records and reports maintained in a preschool
17. Discuss the characteristics of a preschool teacher
18. What are the major principles involved in planning preschool programme
19. Discuss the types of program planning with examples.
20. Write the importance of outdoor play and informal talk.

PRE SCHOOL TEACHER TRAINING
MODEL QUESTION PAPER

SECOND YEAR

PAPER – III: PARENT EDUCATION, NUTRITION AND HEALTH (THEORY)

Time: 3 Hours **Max. Marks: 50**

SECTION-A

Note: (i) Answer all the Questions

(ii) Each Question carries 2 marks **10X2=20**

1. What is parent education?
2. Mention the calorie and protein requirement of a preschool child.
3. What is Dental carries?
4. Define health
5. Write the symptoms of conjunctivitis.
6. What is triple vaccine?
7. What is meant by behaviour problem?
8. What is meant by social withdrawal?
9. Mention the causes of behaviour problem.
10. Define first-aid.

SECTION-B

Note: Answer any five questions. 5*6=30M

Each question carries six marks.

11. Briefly write about the need and importance of parent education.
12. Discuss the need and importance of nutrition for preschool children.
13. Discuss the importance of dental care in children.
14. Explain the role of preschool in promoting child's health.
15. Write the symptoms and causes of typhoid.
16. Write short notes on the following

    a).Symptoms of chickenpox b).Causes of pneumonia
17. Write short notes on the following

    a). Aggression b). Steeling
18. Write short notes on the following

    a).Thumb sucking b).Bed Wetting
19. Discuss about the child safe preschool environment.
20. Write first-aid procedure for electric shock, cuts and scratches.

LIST OF EQUIPMENT FOR CRECHE

S.NO	NAME OF THE EQUIPMENT	Quantity
	FURNITURE	
1.	Tables (Decolam Top)	2
2.	Chairs for staff & parents	06
3.	Steel Almairahs	4
4.	Steel Open racks	2
5.	Display boards	2
6.	Cradles	6
7.	Baby cots	6
	BEDLINEN	
8.	Matresses and Bed sheets	6
9.	Pillows and Covers, blankets	15
	TOYS / PLAY MATERIAL	
10.	Rubber squeegee toys	20
11.	Pull and push toys	20
12.	Mechanical toys	20
13.	Soft toys	20
14.	Puzzles	20
15.	Picture books	20
16.	Linoleum carpet	20 mts
17.	Rubber balls	10
18.	Wooden/ Plastic beads	4 sets
19.	Tricycles	4
20.	Nesting toys	10
21.	Blocks –Soft material	10 sets
22.	Sea saw	1
23.	Slider	1
24.	Crib toys	6
25.	Rattles	6
26.	Picture cards	4 sets
	OTHER EQUIPMENT	
27.	Wall Clock	1
28.	Aqua Water filter	1
29.	Water drum	1
30.	Colour TV and DVD Player	2
31.	Tape Recorder	1
32.	Steel plates	20
33.	Steel glasses	20 (10 big, 10 small)
34.	Steel spoons	20
35.	Refrigerator	1
36.	Gas stove and cylinder	2
37.	First aid box	1
38.	Infanto meter	1
39.	UNICEF BAR scale/ Salter scale	1

40.	Fiber glass tape	5

LIST OF EQUIPMENT FOR PRE-SCHOOL

S.No	Name of the equipment	Quantity
	FURNITURE	
1.	Child sized tables (Round/ Bean shaped)	6
2.	Child Size chairs	20
3.	Open steel racks	2
4.	Steel almirahs	4
5.	Carpet (big)	1
6.	Carpet (small)	1
7.	Easel boards	6
8.	Display boards	4
9.	Wooden/steel show case (with glass)	2
	OUTDOOR EQUIPMENT	
10.	Jungle gym	1
11.	Sea-saw	1
12.	Swings	4
13.	Merry-go-round	1
14.	Sandpit (6/4)ft	1
15.	Tricycles	6
16.	Doll house/play house	1
17.	Tunnel (fiber)	2
	INDOOR EQUIPMENT	
18.	Wooden blocks (different sizes, shapes and colours)	6
19.	Wooden beads and strings (different sizes, shapes and colours)	20 strings
20.	Puzzles	20
21.	Picture books	20
22.	Models (Plastic, wooden)	20
23.	Puppets	20
	OTHER EQUIPMENT	
24.	Height rod	2
25.	Weighing machine	1
26.	Fiber glass tape	5
27.	Wooden/steel show case (with glass)	2
	MISCELLANEOUS	
28.	Water, colours, crayons, assorted chalks, brushes	20
29.	Assorted charts	1
30.	Clay/plasticine	10 boxes
31.	Gardening equipment	2 Pkts.
32.	Plastic bowls	20
33.	Water tub	1

Note: The above material can be procured from ALPAKS, Toys Emporium, Kukatpally, Hyderabad
Contact Person: Mr.Tarun, Director
Contact No. 9347001848

(A) Collaboration Institutions for Curriculum transaction

1) Sarva Siksha Abhiyan (SSA) under directorate of School education (DSE)
2) ICDS Schemes under women and child Welfare Department
3) 'Velugu' Projects under Rural Development Department.

(B) On the Job Training centers

1) Crèches and Anganawadi centers under Women and Child welfare Department, Industrial Crèches, Mobile Crèches, Private Day care centers, Sishu vihars, Lab schools of Universities, Crèches existing in State and Central Government Offices
2) Local Hospitals, Well baby clinics, early intervention units for observing New born and premature babies
3) Nursery schools, Kindergarten schools, Montessori schools, DPEP Primary schools, primary schools run by private organisations

Reference Books:

1. **Pre-school Education, Philosophy and Practice -by Dr.G.Pankajam**

   Published by: D.K.Vaid for the Indian Publications, 2963/3, Nai Wali Gali, Kacha Bazar, Post Box No.49, Ambala Cant (India)

   Price: Rs.975/-

2. **Pre-school Children Development Care Education**

   By: Aparajita Chowdhury & Rita Chowdhury Published by:

   New Age International (P) Limited Publishers, 4835/24, Ansari Road, DARYAGANJ, New Delhi - 110002.

   Price: Rs.

3. **a. History and Philosophy of pre-primary and Nursery Education**

   b. Methods & Materials of Nursery Education- J.C.Agarwal

   Published by: Doaba House, 1688, Nai Sarak, Delhi-110006. Ph: 3274669, 3259773

   a) Rs.70/- b) Rs.60/-

4. **S.V.K. Packaage**

   Sishu Vikasa Darshini 1,2,3.

   Andhra Mahila Sabha

   Rs.600/-

5. **Preparation of chart on good habits by Vinitha kaul, NCERT, New Delhi**
6. **Manual of Child welfare programs by Paul Choudary**
7. **Parenting Children below 2 yrs by – Dr. N. Jaya, Mrs. N. Subhadra**

   Published by – Abacus Foundation, 141, Ramalingam Colony, Bharathi park road, Coimbatore – 641043. Price: Rs. 120/-

30% DELETED CONTENT IN VIEW OF COVID-19 PANDEMIC

FIRSTYEAR

PAPER -1: INTRODUCTION TO CHILD DEVELOPMENT

S.NO	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	Unit-1 Concepts in Child Development	1.4 Heredity and Environment	3) What is heredity?	NIL
2	Unit-2 Areas of Developments-Development During Infancy	2.6 Cognitive development	10) What is cognitive development?	7)Explain the stages of cognitive development
3	Unit-3 Delayed Development	3)Orthopedically Impaired/Handicapped	7) How do you identify orthopedic impairment?	NIL
4	Unit-4 New Born Baby	4.3) Physiological functions of new born baby 4.5)Sensory capabilities of new born baby	3)Define reflex	NIL
5	Unit-5 Premature Baby	5.3 Care of premature baby	NIL	1)How do you take care of premature baby
6	Unit-6 Post Natal Care	6.3 Bottle feeding Bathing, Diapering Lifting Babies Sleeping, facilities/Pattern	NIL	NIL

PRE SCHOOL TEACHER TRAINING (PSTT) - FIRST YEAR
PAPER -2: ORGANIZATION AND MANAGEMENT OF CRECHES

S.NO	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	Unit-1 Introduction to Crèche	NIL	NIL	NIL
2	Unit-2 Importance of Crèche	NIL	NIL	NIL
3	Unit-3 Physical Set up of Crèche	3.5 Licensing	NIL	NIL
4	Unit-4 Crèche Staff	4.2 Crèche requirements	NIL	NIL
5	Unit-5 Planning Activities of Crèche	5.1 Importance of stimulation 5.2 Stimulating activities.	1.Write the importance of stimulation	4. Write stimulating activities for different areas of development.
6	Unit-6 Maintenance of Records	6.1 Importance of maintaining records 6.3 G) Menu Register	NIL	NIL

PRE SCHOOL TEACHER TRAINING (PSTT) - FIRST YEAR
PAPER -III: HEALTH AND NUTRITION

S.NO	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	Unit-1 Immunization	NIL	NIL	NIL
2	Unit-2 Weaning	2.1.3 Need for weaning	NIL	NIL
3	Unit-3 Nutritional Needs of Children (Birth -3 Years)	3.3 b) Balanced diet for a child belonging to 1-3 years old for a day.	NIL	NIL
4	Unit-4 Nutritional Deficiency Diseases	4.2 H) Iron deficiency	NIL	5. Write the causes, symptoms and prevention of anaemia.
5	Unit-5 Common Ailments in Children	5.2 H) Colic I) Teething	6.Mention the types of colic 7.Mention the problems occur during teething	NIL
6	Unit-6 Habit Formation	6.1 Habits are classified into three groups	3.Write the classification of habits	NIL

PRE SCHOOL TEACHER TRAINING (PSTT) - SECOND YEAR
PAPER -I: EARLY CHILDHOOD CARE AND EDUCATION

S.NO	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	Unit-1 Pre School Period	1.5)Developmental tasks	2)Define developmental task 3)Mention any four developmental tasks of preschool children	NIL
2	Unit-2 Development During Early Childhood Period	2.3 Understanding of emotions during early childhood 2.5)Types of Knowledge (Piaget) 2.6) Language skills in early childhood Tasks in learning speech skills	10)Mention the tasks involved in learning speech and language skills	6) Write briefly about the cognitive development in early childhood period. 7) Explain briefly about speech development in early childhood period.
3	Unit-3 Concept Development	3.1 Development of understanding 7. Social concept	NIL	NIL
4	Unit-4 Pre School Education	NIL	NIL	NIL
5	Unit-5 Play	5.4 Types of play 5.6 Play material and equipment for different ages	5)Mention the types of equipment required for preschool children 6)Mention the types of play	3)Explain the types of play
6	Unit-6 Discipline Children	Demandingness and Responsiveness	NIL	NIL

PRE SCHOOL TEACHER TRAINING (PSTT) - SECOND YEAR
PAPER -II: ORGANIZATION AND MANAGEMENT OF PRESCHOOLS

S.NO	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	Unit-1 Physical Setup of Preschool	ECE center requirements	2) Briefly write about the requirements of ECE Centre.	NIL
2	Unit-2 Methods of Preschool Education	2.2.4 Thematic approach	NIL	2.What is thematic approach and write its benefits
3	Unit-3 Management of Preschool	3.5 Income & Expenditure	NIL	NIL
4	Unit-4 Preschool Teacher	4.5 Need for Parent Teacher co-operation	2) Mention the need for parent teacher cooperation in a pre-school.	NIL
5	Unit-5 Planning Pre School Programme	5.10 Importance of Puppet Show	NIL	NIL
6	Unit-6 Organizations Working for Pre School Education	6.2..4 National Council For Educational Research and Training(NCERT)	1)Expand the following : b) NCERT	3. Write the objectives and activities carried out by NCERT.

PRE SCHOOL TEACHER TRAINING (PSTT) - SECOND YEAR
PAPER -III: PARENT EDUCATION NUTRITION AND HEALTH

S.NO	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	Unit-1 Parent Education	NIL	NIL	NIL
2	Unit-2 Nutrition for Pre School Children	2.2 TABLE 1 : Food group requirement to meet Recommended Daily Allowances	NIL	NIL
3	Unit-3 Dental Health	3.4 Care of teeth	NIL	2) Write about the care of teeth
4	Unit-4 Health of Pre School Child	4.3 D) Diphtheria H)Whooping Cough	7.Write the symptoms of Diphtheria	2)Discuss the symptoms, causes and prevention of whooping cough
5	Unit-5 Behavior Problems	5.4 D)Hair Pulling E) Temper Tantrums	NIL	NIL
6	Unit-6 First Aid and Safety Measures	6.5 vii)Fainting viii)Convulsions	NIL	1.Write short notes on the following a)Convulsions b)Fainting

VOCATIONAL CURRICULUM-2020

(For the Academic year 2020-21)

[70% CONTENT IN VIEW OF COVID-19 PANDEMIC]

TOURISM & HOSPITALITY MANAGEMENT

(COURSE CODE: 506)

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

Dr. A.Ashok I.A.S
COMMISSIONER

INTERMEDIATE EDCATION
Government of Telangana
Nampally, Hyderabad- 500001
Phone: 040-24655915

Fore word

In any developing society with a booming population, Vocational Education occupies an important position for generating large scale employment opportunities. Viewed in this context the importance of Vocational Education for our country cannot be over emphasized. Vocationalization of Secondary Education was introduced in 1988 at the Intermediate level. Recently, the Government of India has developed a National Skills Qualification Framework for establishing a clear path for vocational education from the school level to the highest level. The Department of Intermediate Education has recently framed a new curriculum to bring greater value to the system of vocational education. The primary aim of this reform is to prepare the students with employable skills for absorption in organized sectors and in few cases, even for self-employment.

State Institute of vocational education and Board of Intermediate Education, Telangana have reviewed the curriculum of vocational courses of second year from the academic year 2019-20 in order to reorient them for their practical approach. Greater emphasis is now being placed on Laboratory work and on the job training.

Simultaneously, The State Institute of Vocational Education and the department of Intermediate Education are presently making efforts to upgrade the quality of infrastructure in the colleges to meet the challenges of the changed curriculum. I am confident that the revised curriculum of second year for Vocational Courses would prove to be beneficial to the students in the vocational stream and help them train in need based productive courses leading to gainful employment.

Sd/- Dr. A.Ashok
COMMISSIONER OF INTERMEDIATE EDUCATION

SCHEME OF INSTRUCTION AND EXAMINATION
ANNUAL SCHEME OF INSTRUCTION AND EXAMINATION FOR TOURISM AND HOSPITALITY MANAGEMENT
FIRST YEAR

Part-A		Theory		Practicals		Total	
		Periods	**Marks**	**Periods**	**Marks**	**Periods**	**Marks**
1.	English	150	50	0	0	150	50
2.	General Foundation course	150	50	0	0	150	50
	Part-B						
3.	**Paper-I** Fundamentals of Tourism and Travel	135	50	135	50	270	100
4.	**Paper-II** Hospitality Service	135	50	135	50	270	100
5.	**Paper-III** Front Office Operations & Computer Applications	135	50	135	50	270	100
Part-C							
6.	**OJT**	0	0	365	100	365	100
	Total	**705**	**250**	**770**	**250**	**1475**	**500**

*on the Job Training for 1st year from 1st November to 31st December

SECOND YEAR

Part-A		Theory		Practicals		Total	
		Periods	**Marks**	**Periods**	**Marks**	**Periods**	**Marks**
1.	English	150	50	0	0	150	50
2.	General Foundation course	150	50	0	0	150	50
	Part-B						
3.	**Paper-I** Tourism Profile in Telangana	110	50	115	50	225	100
4.	**Paper-II** Travel Agency and Tour Operations	110	50	115	50	225	100
5.	**Paper-III** Accommodations Operations	110	50	115	50	225	100
Part-C							
6.	**OJT**	-	-	450	100	450	100
	Total	**630**	**250**	**795**	**250**	**1425**	**500**
TOTAL FIRST YEAR AND SECOND YEAR MARKS 1000							

*OJT Programme for 2nd year students from 1st August to 31st October.

EVALUATION OF ON THE JOB TRAINING:

The "On the Job Training" shall carry 100 marks for each year and pass marks is 50. During on the job training the candidate shall put in a minimum of 90 % of attendance.
The evaluation shall be done in the last week of January.

Marks allotted for evaluation:

S.No	Name of the activity	Max. Marks allotted for each activity
1	Attendance and punctuality	30
2	Familiarity with technical terms	05
3	Familiarity with tools and material	05
4	Manual skills	05
5	Application of knowledge	10
6	Problem solving skills	10
7	Comprehension and observation	10
8	Human relations	05
9	Ability to communicate	10
10	Maintenance of dairy	10
	Total	100

NOTE: The On the Job Training mentioned is tentative. The spirit of On the Job training is to be maintained. The colleges are at liberty to conduct on the job training according to their local feasibility of institutions & industries. They may conduct the entire on the job training periods of (365) First year and (450) Second year **either by conducting classes in morning session and send the students for OJT in afternoon session or two days in week or weekly or monthly or by any mode which is feasible for both the college and the institution**. However, the total assigned periods for on the job training should be completed. The institutions are at liberty to conduct On the Job training during summer also, however there will not be any financial commitment to the department.

TOURISM AND HOSPITALITY MANAGEMENT
FIRST YEAR
Part – B: VOCATIONAL SUBJECTS
PAPER – I: FUNDAMENTALS OF TOURISM AND TRAVEL (THEORY)
Time Schedule, Weightage & Blue Print

S.No.	**Name of the Unit**	**No. of Periods**	**Weightage in Marks**	**Short Answer Questions**	**Essay Questions**
1	Introduction Tourism	20	10	2	1
2	Tourism Role &Tourism Impacts	30	16	2	2
3	Tourism Organization & Tourism As Industry	25	16	2	2
4	Geography & Tourism Resources	20	10	2	1
5	Nature Based Tourism Products	20	10	2	2
		115			

Note: The Question paper contains two sections.

Section –A of question paper contains 10 questions carries 2 marks each. The student has to answer **all** the questions.

Section – B of question paper contains 8 questions carries 6 marks each. The student has to answer **Five** questions.

Detailed Syllabus:

1.	**INTRODUCTION TO TOURISM** 1.1 Meaning, definition of Tourism 1.2 Nature, Tourist Meaning and Types 1.3 Definition by W.T.O 1.4 Tourism-Abbreviations 1.5 Types of Tourism ~~1.6 History of Tourism~~
2.	**TOURISM ROLE &TOURISM IMPACTS** 2.1 Introduction 2.2 The Role of Tourism for a Nation, State, or Region 2.3 Various advantages and disadvantages of Tourism 2.4 Benefits of Tourism 2.5 Impacts of Tourism on Economy, Culture and Society **2.6** Environmental Impacts
3.	**TOURISM ORGANIZATION & TOURISM AS INDUSTRY** 3.1 Introduction 3.2 Tourism as an Industry 3.3 Features of Tourism Industry ~~3.4 Current trends and Tourism as a system~~ 3.5 Government organisations - MOT,DOT,STDC,ITDC 3.6 Non-Governmental organisations - TAAI,FHRAI,IATO 3.7 International Organisations – IATA, WTO, PATA,UFTAA

4.	**GEOGRAPHY&TOURISM RESOURCES** 4.1 Physical Features of India Geography, Various Climate Stages 4.2 Physical Features of Telangana Geography ~~4.3 Various Climate Stages of Telangana State~~ 4.4 Various Natural and Man- Made Tourism Resources of Telangana 4.5 Brief History of Telangana and Culture
5.	**NATURE BASED TOURISM PRODUCTS** 5.1 Introduction 5.2 Various tourism products based on Climate, Landscape ~~5.3 Mountains~~ 5.4Valleys 5.5 Caves 5.6 Deserts 5.7 Rivers 5.8 Lakes 5.9 Beaches 5.10 Waterfalls 5.11 Wildlife Sanctuaries 5.12 National parks

TOURISM AND HOSPITALITY MANAGEMENT
FIRST YEAR
Part – B: VOCATIONAL SUBJECTS
PAPER – II: HOSPITALITY SERVICE (THEORY)
TIME SCHEDULE WEIGHTAGE & BLUE PRINT

S. No.	Name of Unit	No of Periods	Weightage in Marks	Short Answer Questions	Essay Questions
1	Introduction To Hospitality Industry	20	10	2	1
2	Staff Organization F&B Service	30	16	2	2
3	Restaurant Operations	25	16	2	2
4	Meals And Menu Planning	20	10	2	1
5	Kitchen Operations	20	10	2	1
6.	Principles Of Cooking & Menu Planning	20	08	1	1
	Total	135			

COURSE CONTENTS

S.No	SYLLABUS
1.	**Introduction To Hospitality Industry** • ~~Growth and development of catering industry~~ • Career opportunities • Classification of catering industry • Types of service operations
2.	**Staff Organization F&B Service** • Staff organization of F&B service department • Duties & responsibilities • ~~Coordination with other departments~~ • Attributes of a waiter
3.	**Restaurant Operations** Types and styles of food & beverage service: Factors to be considered while deciding upon style of service **1.** Table service: • Silver service • American service • English service • French service • Russian service • Guerdon service • Bar **2.** Assisted service • Carvery **3.** Buffet Self service • Counter service • Free flow

	• Echelon • Super market • Single point service • Take away • Drive through • Fast food • Vending • Kiosk • Food court ~~**4.** Specialized form of service~~ • Tray service • Trolley • Home delivery • Lounge • Room service • Drive in
4.	**Meals And Menu Planning** • Origin and functions & Objectives of Menu planning • Types of menu **Types of meals:** • Early morning tea • Breakfast (Continental, English, American, Indian) • Brunch • Lunch • Afternoon / High tea • Dinner • Supper **Non-alcoholic beverages** • Classification (Nourishing, Stimulating & Refreshing) • Tea: Origin, manufacturing, types & brands • Coffee: Origin, manufacturing, types & brands • Juices & soft drinks: Brand names of juices, soft drinks, mineral water, tonic water, energy drinks • ~~Cocoa and malted beverages: origin and manufacture~~
5.	**Kitchen Operations** • The Hierarchy • Grooming & Personal hygiene • Duties & responsibilities • ~~Coordination with other departments~~
6.	**Principles Of Cooking & Menu Planning** • Introduction to food • ~~International cuisine & their appreciation~~ • National cuisine and its role in promoting international tourism • Principles of Menu • Menu planning – points to be considered while planning

TOURISM AND HOSPITALITY MANAGEMENT
FIRST YEAR
Part – B: VOCATIONAL SUBJECTS
PAPER – III: FRONT OFFICE OPERATIONS & COMPUTER APPLICATIONS (THEORY)
TIME SCHEDULE: WEIGHTAGE & BLUE PRINT

S. NO.	Name Of The Unit	No. Of periods	Weightage And marks	Short Answer Questions	Essay Question
1	Introduction to Hospitality Industry	20	10	2	1
2	Front Office Operations	20	16	2	1
3	Reservations	30	16	1	1
4	Registration & Check Out And Settlement Of Bills	25	10	2	1
COMPUTER APPLICATIONS					
5	Introduction Of Computer	10	10	1	1
6	Ms-Office	10	08	1	1
7	Ms-Excel & Power Point	10	08	1	1
8	Basics Of Internet	10	08	1	1
		135			

COURSE CONTENTS:

1. Introduction To Hospitality Industry

Evolution and growth of the Hospitality Industry

a. Indian
b. International

1. Classification of hotels
   a. Size
   b. Target Market
   c. Levels of service
   d. Management & affiliation
   e. Star categorization in India
   f. Others
2. Types of rooms
3. Examples of hotels in each category
~~**4.** Hierarchy of front office~~
5. Job description of front office staff
~~**6.** Inter departmental and intra departmental coordination with other departments~~
7. Attributes of front office staff
~~**8.** Lay out of lobby~~

2. Front Office Operations

1. Guest cycle
2. Formats and equipment used in front office
3. Categorization of guests
   a. FIT
   b. Groups
   c. Crews etc

	5. Associated functions in the guest cycle and the operating staff **6.** Basis of charging room tariff a. Check in checkout basis b. 24 hr basis c. Packages **7.** Different types of tariff a. Rack rate/printed tariff b. Discounted rates i. CVGR ii. Government rate. iii. Group rate. iv. Hospitality membership. ~~**8.** Food plans~~ a. European Plan b. Bermuda Plan etc… ~~**9.** Basis for pricing a room~~ a. Hubbarts formula b. Rule of thumb c. Market condition approach d. Day rate. e. Hourly rate
3.	**RESERVATIONS** ~~a) Importance of reservations~~ b) Formats & reports used at reservations c) Handling telephonic reservations d) Telephone etiquettes o Telephone equipment used o Standard phrases o Handling calls for reservations o Handling calls for enquiries e) Handling reservations via other media f) Understanding CVGR and credit lists
4.	**Registration & Check Out And Settlement Of Bills** ~~a) Formats used at hotel reception~~ b) A day as a front office assistant a. Pre registration of guests b. VIP blocks c. Rooms inventory d. Flight schedule c) Check in procedure for a. i. FIT ii. DFIT iii. FFIT b. Group/Crew c. VIP/CIP/DG d. Walk in d) Check in procedure a. Receiving of guests b. Filling of relevant forms

	c. Key handling d. Mode of payment & advance payment policy e. Room allotment e) Standard guest check out procedure f) Check out procedure at Front Office & House Keeping g) Handling various methods of payment a. Cash b. Credit card c. Bill to company d. Travel agents vouchers etc…
	COMPUTER APPLICATIONS
1.	**INTRODUCTION OF COMPUTER** 1.1 Meaning and definition of Computer 1.2 Historical Evolution of Computer 1.3 Computer terminology and Abbreviations 1.4 Components of computer ~~1.5 Characteristics of computer~~ ~~1.6 Types of computer~~ 1.7 Role of Computer in Tourism Industry
2.	**Ms-Office** 2.1 Introduction 2.2 Components of MS- Office 2.3 Introduction to MS–Word ~~2.4 Parts of Word Window~~ 2.5 Using Word Commands 2.6 Mail-merge
3.	**MS-EXCEL & POWER POINT** 3.1 Introduction to MS-Excel 3.2 Main functions of MS-Excel and preparation of Excel Sheet 3.3 Introduction to Power Point 3.4 Main features of Power point ~~3.5 Power Point presentation with slide show~~
4.	**BASICS OF INTERNET** 4.1 Introduction to Internet ~~4.2 Components of Internet~~ 4.3 Functions, Advantages and Disadvantages of Internet 4.4 Role of Internet in Tourism and Hospitality

TOURISM AND HOSPITALITY MANAGEMENT
SECOND YEAR
PAPER-I: TOURISM PROFILE IN TELANGANA (THEORY)

S.no.	Name of the unit	No. Of the periods	Weightage in marks	Shor answer questions	Essay questions
1	History outline of Telangana	20	10	2	1
2	Tourism profile in Telangana	20	16	2	2
3	Tourism Destinations of Telangana	20	16	2	2
4	Tourism Significance of contribution to State Economy	20	10	2	1
5	Tourism facilities in Telangana	20	10	2	1
6	Tourism planning and policy in Telangana, TelanganaTDC,	10	08	1	1
		110			

Detailed Syllabus

1.	**HISTORY OUTLINE OF TELANGANA** 1.1 Introduction ~~1.2 Early History of Telangana~~ 1.3 Medieval History of Telangana 1.4 Modern History of Telangana
2.	**TOURISM PROFILE IN TELANGANA** ~~2.1 Tourist flows to the Telangana~~ 2.2 Tourism attractions of the Telangana state 2.3 Types and Forms of Tourism in Telangana
3.	**TOURISM DESTINATIONS OF TELANGANA** 3.1 Introduction 3.2 Tourist spots in Telangana – Religious destination 3.3 Tourist spots in Telangana – Museums, galleries, Eco-adventure, nature 3.4 Tourist attraction in Hyderabad 3.5 Tourism related festivals in Telangana
4.	**TOURISM SIGNIFICANCE IN TELANGANA** 4.1 Introduction 4.2 Impacts of Tourism 4.3 Telangana Culture
5.	**TOURISM FACILITIES IN TELANGANA** 5.1 Introduction 5.2 Tourist Accommodation in Telangana 5.3 Transportation in Telangana
6.	**TOURISM PLANNING AND POLICY OF TELANGANA** 6.1 Introduction 6.2 Telangana State level agencies associated with tourism 6.3 Tourism planning in Telangana

TOURISM AND HOSPITALITY MANAGEMENT
SECOND YEAR
Part – B: VOCATIONAL SUBJECTS
PAPER-II: TRAVEL AGENCY AND TOUR OPERATIONS (THEORY)
TIME SCHEDULE, WEIGHTAGE&BLUE PRINT

S. no	Name of the unit	No.of periods	Weightage in marks	Short answer question	Essay questions
1	Introduction of Travel agency	20	10	2	1
2	History of travel and tour operations	25	8	1	1
3	Functions And Structure Of A Travel Agency	20	16	2	2
4	Recognition Of Travel Agencies And Tour Operators	25	8	1	1
5	Package tour operations	10	10	2	1
6	Travel Documents, Air Ticketing And Literature	10	16	2	2
	Total	**110**			

COURSE CONTENTS

1.	**INTRODUCTION TO TRAVEL AGENCY** 1.1 Introduction ~~1.2 Travel Agency Meaning & Types~~ 1.3 Travel Agency Role and Importance 1.4 Online Travel Agency
2.	**HISTORY OF TRAVEL AND TOUR OPERATIONS** 2.1 Introduction ~~2.2 Origin~~ 2.3 First Travel Agent 2.4 Travel Business in America
3.	**FUNCTIONS AND STRUCTURE OF A TRAVEL AGENCY** 3.1 Introduction 3.2 Functions of a Travel Agency ~~3.3 Travel Agency Structure~~ 3.4 Travel Agency Revenue and Linkages 3.5 Tour Operator Functions and Role 3.6 Tour Operator Revenues
4.	**RECOGNITION OF TRAVEL AGENCIES AND TOUR OPERATORS** 4.1 Introduction 4.2 Setup for a Travel Agency ~~4.3 Travel Agency Approval by MOT~~ 4.4 Travel Agency Approval by IATA 4.5 Setup for a Tour Operator 4.6 Tour Operator Approval as Domestic Tour Operator by MOT 4.7 Tour Operator Approval as Inbound Tour Operator by MOT

5.	**PACKAGE TOUR OPERATIONS** 5.1 Meaning of Package Tour 5.2 Types of Package Tours ~~5.3 Preparation and costing of Various Package tour~~ 5.4 Various Packages of TSTDC
6.	**TRAVEL DOCUMENTS, AIR TICKETING AND LITERATURE** 6.1 Passport, Visa and Health Permit 6.2 Basics of Air Ticketing Skills, Types of Air Ticketing 6.3 Airline Literature (ABC Blue\Red, Air Tariff and TIM) 6.4 Airports and City Codes, Currencies and its Values 6.5 Learning about CRS

TOURISM AND HOSPITALITY MANAGEMENT
SECOND YEAR
Part – B: VOCATIONAL SUBJECTS
PAPER-III: ACCOMMODATIONS OPERATIONS (THEORY)
TIME SCHEDULE, WEIGHTAGE & BLUE PRINT

S.No.	Name of the Unit	No. of periods	Weightage in marks	Short answer question	Essay questions
1.	The hotel industry An-overview	10	16	2	2
2.	The House Keeping Department	05	16	2	2
3.	Hotel Guest Rooms	30	10	2	1
4.	Supervision In House Keeping	30	10	2	1
5.	Safety And Security	10	16	2	2
	Total	**110**			

Detailed Syllabus

1.	**The hotel industry An-overview** ~~1.1 Classification of hotels~~ 1.2 Star rating of hotels 1.3 Hotel departments
2.	**THE HOUSE KEEPING DEPARTMENT** 2.1 Importance of house keeping 2.2 Housekeeping personal 2.3 Job description of the accommodation staff 2.4 Personal attributes of housekeeping staff ~~2.5 Lay out housekeeping department~~ ~~2.6 Interdepartmental Coordination with other departments~~ ~~2.7 Housekeeping in other Institutions~~
3.	**HOTEL GUEST ROOMS** 3.1 Importance of guest room to a guest 3.2 Types of guest rooms 3.3 Guest rooms status codes 3.4 Guest room accessories ~~3.5 Placement of guest supplies~~ ~~3.6 Bed making~~
4.	**SUPERVISION IN HOUSE KEEPING** ~~4.1 Role of supervisor~~ 4.2 Role & functions of supervisors 4.3 Housekeeping control desk Forms, Formats, Records, Registers etc. 4.4 Handling telephone calls 4.5 Handling difficult situations ~~4.6 Handling room transfers~~
5.	**-SAFETY AND SECURITY** 5.1 Theft by the employees & guest ~~5.2 Fire prevention and Fire Fighting (Fire & Bomb threats)~~ 5.3 First aid Breathing disorders, Cardiac arrest , Burns & Scalds, Fainting ~~5.4 Dealing with Emergencies~~ 5.5 Keys and their control 5.6 Lost and Found articles ~~5.7 Basic hotel laws~~

MODEL QUESTION PAPER
TOURISM AND HOSPITALITYMANAGEMENT
FIRST YEAR
PAPER-I : FUNDAMENTALS OF TOURISM AND TRAVEL

Time: 3 Hrs **Max. Marks: 50**

SECTION – A

Note: (i) Answer all the questions **10 x 2=20**

(ii) Each questions carries two (2) marks

1.Define Tourism ?

2. What is Eco Tourism ?

3. Expand GDP ?

4. Write any two benefits ofTourism ?

5. What is PPP ?

6. When did the Indian Tourism get the Industrial Status ?

7. When did the Telangana State formed?

8. Name any two Waterfalls of Telangana ?

9. What is Valley ?

10. Thar Desert situated in which state ?

SECTION – B

Note: (i) Answer any five (5) questions **5x 6=30**

(ii) Each questions carries six (6) marks

11. Write about the types of Tourism.

12. Write in detail about the Nature and Scope of Tourism.

13. Explain the Advantages and Dis-advantages of Tourism.

14. How Tourism influence the Environment.

15. Write the main features of Tourism.

16. Write the role of TAAI in the development of Indian Tourism.

17. Describe about the Culture of Telangana.

18. Explain about any six manmade tourism places of Telangana.

19. Explain about the River system in India.

20. Discuss about the Rock classification.

MODEL QUESTION PAPER
TOURISM AND HOSPITALITYMANAGEMENT
FIRST YEAR
PAPER -II : HOSPITALITY SERVICE

Time: 3 Hrs **Max. Marks: 50**

SECTION – A

Note: (i) Answer all the questions **10 x 2=20**

(ii) Each questions carries two (2) marks

1.Define Welfare Catering ?

2. What is Fastfood Restaurant ?

3. Define Coffee shop ?

4. What is Bar ?

5. What do you understand by French service ?

6. What do you understant by Russian service ?

7. What is Supper?

8. Give any two examples for Nourishing Drinks ?

9. Which items are prepared by Vegtable Cook ?

10. Define Menu ?

SECTION – B

Note: (i) Answer any five (5) questions **5x 6=30**

(ii) Each questions carries six (6) marks

11. Explain in detail about Primary or Profit Oriented catering establishments.

12. Explain in detail various types of Transport catering.

13. What is difference between Discotheque and Pub.

14. List out various attributes of a waiter.

15. What are various types of services available in F&B service department.

16. What are various types of Menu ? describe in detail ?

17. Describe about various types of Tea ?

18. Explain about the organization of Kitchen Staff.

19. Write the Do's for personal hygiene of a Kitchen Staff.

20. Write about the principles of Menu Planning.

MODEL QUESTION PAPER
TOURISM AND HOSPITALITYMANAGEMENT
FIRST YEAR
PAPER-III : FRONT OFFICE OPERATIONS & COMPUTER APPLICATIONS

Time: 3 Hrs **Max. Marks: 50**

SECTION – A

Note: (i) Answer all the questions **10 x 2=20**

(ii) Each questions carries two (2) marks

1.Define INN ?

2. How Hotels are classified based on size ?

3. Define Crew ?

4. What is room change slip ?

5. Abbreviate CVGR ?

6. What is FIT & DFIT ?

7. Define No show?

8. Define Computer ?

9. What is Skype ?

10. Name any two Web browsers ?

SECTION – B

Note: (i) Answer any five (5) questions **5x 6=30**

(ii) Each questions carries six (6) marks

11. Explain about the various types of Rooms .

12. List the equippments used in Front office.

13. What are the modes of Reservation.

14. Explain the procedure of Resrvation check in.

15. What are the general uses of computers in different sectors?

16. What are the components of MS-Office? Explain.

17. Describe the main features of MS-Excel?

18. What are the advantages of MS-Power point?

19. Write the importance of Internet services in our daily life.

20. How the Internet influence the Tourism Industry.

MODEL QUESTION PAPER
TOURISM AND HOSPITALITYMANAGEMENT
SECOND YEAR
PAPER I: TOURISM PROFILE IN TELANGANA

Time: 3 Hrs **Max. Marks: 50**

SECTION – A

Note: (i) Answer all the questions **10 x 2=20**

(ii) Each questions carries two (2) marks

1. When was Telangana State formed ?
2. Who was the founder of Qutb Shahi dynasty ?
3. Name any two tourist places in Rajanna Sircilla district?
4. What is Heritage Tourism ?
5. Name any two Buddhist sites of Telangana.
6. Write about the Kite festival in Telangana.
7. What is the official bird of Telangana state?
8. Expand UNWTO.
9. What is Transportation?
10. Expand PMU.

SECTION – B

Note: (i) Answer any five (5) questions **5x 6=30**

(ii) Each questions carries six (6) marks

11. Explain about Kakatiya dynasty.
12. Depict the final Telangana Movement.
13. Write about any three districtsof Telangana.
14. Write about types of Tourism in Telangana.
15. Explain the tourism related festivals in Telangana.
16. Hyderabad is famous Tourist attraction. Explain?
17. Describe the Culture of Telangana.
18. Explain about the Tourist accommodation in Telangana State.
19. Write a detailed note on Road Transportation of Telangana.
20. Describe the various plannings for Tourism development in Telangana.

MODEL QUESTION PAPER
TOURISM AND HOSPITALITYMANAGEMENT
SECOND YEAR
PAPER II: TRAVEL AGENCY AND TOUR OPERATIONS

Time: 3 Hrs **Max. Marks: 50**

SECTION – A

Note: (i) Answer all the questions **10 x 2=20**

(ii) Each questions carries two (2) marks

1. Give the definition of a Travel Agency ?
2. Name any two Online travel agencies of India ?
3. Who is known as Father of Travel Agency?
4. In which year American Express Company started?
5. Define the Tour Operator.
6. Expand IATA.
7. Define Inbound Tour Operator.
8. Define Package Tour.
9. Abbreviate TIM
10. State any two Airports of India along with codes.

SECTION – B

Note: (i) Answer any five (5) questions **5x 6=30**

(ii) Each questions carries six (6) marks

11. Describe briefly about the various functions of Travel Agency.
12. Write about the importance of Travel Agency.
13. Write a brief note upon contribution of Thomas Cook in Travel Agency business.
14. Write about the Travel Agency linkages.
15. Describe the functions of Tour Operator.
16. Write a brief note upon the approval of a Travel Agency by IATA.
17. Write a short note on various packages of TSTDC.
18. Explain about the different types of Package Tours.
19. What is VISA? Explain different types of Visa.
20. List out any Six country's currencies and it's values along with their symbols.

MODEL QUESTION PAPER
TOURISM AND HOSPITALITYMANAGEMENT
SECOND YEAR
PAPER III: ACCOMMODATION OPERATIONS

Time: 3 Hrs **Max. Marks: 50**

SECTION – A

Note: (i) Answer all the questions **10 x 2=20**

(ii) Each questions carries two (2) marks

1. Abbreviate HRACC.
2. Name any two Five star Hotels?
3. What is the mean by House Keeping?
4. Mention any two attributes of House Keeping staff?
5. Who is Skipper?
6. What is DNCO?
7. Define House Keeping Control Desk?
8. What is SOPs book?
9. Define Fire Doors.
10. What is Cardiac Arrest.

SECTION – B

Note: (i) Answer any five (5) questions **5x 6=30**

(ii) Each questions carries six (6) marks

11. Write about the various Star categorizations.
12. Describe the Role and Importance of House Keeping department.
13. Write about the job description of Executive Housekeeper.
14. Write a brief note upon Room status terminology.
15. Explain about the different Room types in Hotels.
16. State the functionsof Housekeeping Control Desk.
17. Write about Handling of various Difficult situations.
18. Explain about the different types of Keys.
19. Write about the theft of Employee and Guest.
20. Write a note on Lost and Found articles.

LIST OF EQUIPMENT & SOFTWARE

List of tools and equipments

1. Computers Pentium III and above
   - Hard Disk Drive min.
   - 3.5. Floppy Disk Drive
   - Compact disk drive
   - 128 MB Ram and above
   - VGA MONO Monitor
   - Key Board (101 keys)
2. Printer 132 column Dot Matrix
3. Software for
   1) Windows 95 and above
   2) Ms.Office 2000 and above
4. Manual for various software/Assorted reference books
5. a) Stationary items Files, Pads, Paper etc.
   b) Computer stationary & Printer peripherals
6. Demonstration stand
7. File Covers
8. Cupboards
9. Labour saving devices
   Suppliers Punch machines
   Staples
10. Overhead projector
11. Documentary films can be borrowed from department of tourism,travel offices and hotels
12. Time tables, TIM, Air tariff
13. Tourist guides etc.
14. Maps (Indian & State geography, Tourist, air route, railway, road etc..)

Suggested Reference Books:

1. Michael Casavana - Hotel Front office operations
2. Richard Kotas - Book-keeping in Hospitality Industry
3. House Keeping Operations – Raghubalan

Suggested Software:

1. Microsoft Windows 95 or above
2. Microsoft Office 2000 or above
3. HMS/PMS-any software that deals with Hotel Front Office

Operations: like

FIDELIO of Micros, USA

LITE of Intellect Data Systems, Bangalore

FOMS of Institute of Hotel Management, Hyderabad

(A) COLLABORATING INSTITUTIONS

The following are suggested as collaborating Institutions:
- Government of India Tourism, Government of Telangana
Tourism, DOT, TelanganaTDC, A.P. Forest Office, District Tourism Office.
- TAAI(A.P.), HRATelangana, NGO's (Wild life, adventure)
- Travel Agencies and Tour Operators
- Coach and Car Rentals
- Shops
- Amusement/Theme parks, Entertainment Centres
- Catering establishment
- Airlines
- Railways
- Hotels and resorts
- Activity bound Tourism Project offices
(a) Resorts hotels (b) Water Sports (c) Adventure Clubs
- I HMCT & AN and Food craft Institutes

(B) ON THE JOB TRAINING SITES

NAME OF THE SITES : TOUR AGENCY/TOUR OPERATORS / COACH AND CAR RENTALS / TOURISM PROJECT OFFICES.

SYLLABUS: Collection, maintenance, updating of tourist information
- Procurement and operational handling of travel documents
- Maintenance of operational kits
- Escorting the tourist group
- Organising adventure sports, special interest, wild life, fairs and festivals, theme events etc.,
- Booking documentation and clearance of cargo-courier

NAME OF THE SITE : SHOPS/ENTERTAINMENT CENTRES/ CATERING ESTABLISHMENTS/HOTELS/MOTELS AND RESORTS
SYLLABUS:
- Receiving guest and clients
- Handling enquiries, suggestions and complaints
- Arranging :
Marketing and sales
Tour and excursion events
Travel services
- Packaging
- Liaisoning

NAME OF THE SITE: AIR PORTS AND RAILWAYS
SYLLABUS:
- Training on CRS
- Receiving clients
- Booking documentation and clearance of cargo/courier
- Handling complaints
- Liaisoning

NAME OF THE SITE: HOTELS/MOTELS/INNS

SYLLABUS: Front office Operations
- Room Service
- Food Service
- Food & Beverages
- Housekeeping

EVALUATION OF ON-THE-JOB TRAINING (OJT)

Evaluation of the various components of OJT is required to be done by
Adopting the following techniques

1. Observation
Since the major emphasis of the OJT programme is on the development of performance skills, work habits and attitudes, observation technique is to be adopted for assessment of the Students, the supervisor in consultation with the Vocational Teacher develops a rating sheet and records his observation on various criteria.

2 Interview and viva
Occasionally either the supervisor or the vocational teacher conducts one or two sessions with the students to assess his ability to communicate, his maturity, self-confidence, Comprehension and his overall disposition.

4. Report
The student should prepare a report to be examined by the supervisor and teacher for the jobs assigned to him by the supervisor and submit before the termination of the training.

30% DELETED CONTENT IN VIEW OF COVID-19 PANDEMIC

FIRST YEAR

PAPER I - FUNDAMENTALS OF TOURISM AND TRAVEL

S No	Unit No. Name of the Unit	Topic /Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 Introduction to Tourism	1.6) History of Tourism	3) What is Silk Route?	2) Explain the History of Travel and Tourism in India.
2	Unit-2 Tourism Role and Tourism Impact	2.5.2) Socio-cultural impacts of Tourism	7) Depict "Tourism as a Force for Peace".	1) Describe the role of Tourism to solve various socio-economic and cultural problems. 4) Write the Tourism impacts on Socio-Economic areas in the country.
3	Unit-3 Tourism as Industry & Tourism Organizations	3.4) Current Trends and Tourism as a System 3.7.3) United Federation of Travel Agents Association (IFTAAR)	NIL	2) Write the role of Tourism in the current 21 St century.
4	Unit-4 Geography and Tourism Resources	4.1.1) Political geography 4.3) Various Climate Stages of Telangana	2) Expand LOC	NIL
5	Unit-5 Nature Based Tourism Products	5.3) Mountains	NIL	4) Describe about the Himalayan range. 8) Depict about the classification of the Rivers. 9) Describe about the Rivers of India.

TOURISM AND HOSPITALITY MANAGEMENT - FIRST YEAR
PAPER - II: HOSPITALITY SERVICE

Sl No	Unit No. Name of the Unit	Topic /Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 Introduction to Hospitality Industry	1.1) Growth and development of catering industry	NIL	3) Write a short note of Indian hotel industry?
2	Unit-2 Staff Organization, F & B Service	2.3) Coordination with other departments	NIL	1) Give the duties and responsibilities of Room Service Manager. 4) What are the etiquettes of a waiter?
3	Unit-3 Restuarant - Operations	3.4) Specialized Services	NIL	3) Write about the Specialized Services.
4	Unit-4 Meals and Menu Planning	4.1.3) Objectives of Menu Planning 4.4.5) Cocoa	NIL	7) Write the processing and manufacturing of Cocoa 8) Explain about the origin of Cocoa.
5	Unit-5 Kitchen Operations	5.4) Coordination with other Departments	NIL	6) Explain about the coordination of kitchen department with Sales and Marketing.
6	Unit-6 Principles of Cooking and Planning Menu	6.2) International Cuisine & Their Appreciation	NIL	2) Write about the role of the National cuisine in promoting the Tourism.

TOURISM AND HOSPITALITY MANAGEMENT - FIRST YEAR

PAPER – III: FRONT OFFICE OPERATIONS AND COMPUTER APPLICATIONS

Sl. No.	Unit no, name of the unit	Topic / sub topic to be deleted in detail heads	Two marks questions deleted	Six marks questions deleted
1	UNIT-1 : Introduction to Hospitality Industry	1.4 : Hierarchy of Front Office 1.6 : Inter departmental and Intra departmental coordination with other departments 1.8 : Layout of Lobby	6. Define Lobby 8. Mention the uses of Lobby 9. What is reception desk	NIL
2	UNIT – 2 : Front Office Operations	2.6 : Food Plans 2.7 : Basis for pricing a room	NIL	3. What are the different types of food plans offered in a Hotel 6. Explain about the different Methods in basis of pricing room.
3	UNIT-3 : Reservations	3.1 : Importance of Reservations	NIL	NIL
4	UNIT-4 : Registration, Checkout and Settlement of Bills	4.2 : Formats used at Hotel Reception	NIL	1. Draw the format of reservation form 4. Write a note on the VIP blocks and room inventory
5	UNIT – 1 : Introduction to Computers	1.5 : Characteristics / Features of Computer 1.6 : Types of Computers	5. Writer the names of Computer categories	4. What are the general uses Computers in different sectors
6	UNIT – 2 : MS-Office	2.4 : Parts of Word Window	4. Write the difference between scroll bars and status bars	NIL
7	UNIT – 3 : MS-Excel and MS-PowerPoint	3.2 (Sub topic) : Operational procedures of Excel 3.5 PowerPoint presentation with slide show	4. Name the types of view options 5. Write any three Drawing Tools	4. Write a brief note on MS-Excel sheet 5. Explain about the uses of PowerPoint Presentation
8	UNIT – 4 : Basics of Internet	4.2 Components of Internet	NIL	4. Write about the components of Internet

TOURISM AND HOSPITALITY MANAGEMENT - SECOND YEAR

PAPER – I: TOURISM PROFILE IN TELANGANA

Sl. No.	Unit no, name of the unit	Topic / sub topic to be deleted in detail heads	Two marks questions deleted	Six marks questions deleted
1	UNIT-1 : History-Outline of Telangana	1.2 : Early History of Telangana	1. Write any two Historical places in the period of Satavahanas 6. What is the Capital of Ikshavaka Dynasty	1. Write detailed note on Early History of Telangana 2. Describe about the period of after the Satavahanas in Telangana
2	UNIT – 2 : Tourism Profile in Telangana	2.1 : Tourist flows to the Telangana State	NIL	NIL
3	UNIT-3 : Tourist Destination of Telangana	3.4.2 : Palaces 3.4.6 : Others	5. Write any two lakes in Warangal District	6. Discuss about Eco-Tourism in Telangana
4	UNIT-4 : Tourism Significance and Contribution to State Economy in Telangana	4.2: P.P.P.	6. What is Tourism Impact	NIL
5	UNIT – 5 : Tourism Facilities in Telangana	NIL	NIL	1. Write about the Transportation in Telangana
6	UNIT – 5 : Tourism Planning and Policy in Telangana	NIL	NIL	NIL

TOURISM AND HOSPITALITY MANAGEMENT - SECOND YEAR

PAPER -II: TRAVEL AGENCY AND TOUR OPERATIONS

Sl No	Unit No. Name of the Unit	Topic /Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 Introduction to Travel Agency	1.2.2) Travel Agency Types	3) What are the two main roles of a Retail Travel Agency?	NIL
2	Unit-2 History of Travel and Tour Operations	2.2) Origin	3) Which is the World's oldest Travel Agency?	3) Trough the light on Travel Agency history of India.
3	Unit-3 Functions and Structure of Travel Agency	3.3) Travel Agency Structure	1) Write the technical definition Of a Travel Agent?	1) Explain the organizational structure of a large and medium type of Travel Agency.
4	Unit-4 Recognition of Travel Agencies and Tour Operators	4.3) Approval for Travel Agency from Ministry of Tourism, Government of India	1) Write the definition of travel agency, given by Ministry of Tourism?	1) Explain the procedure of approval of a travel agency by Ministry of Tourism.
5	Unit-5 Package Tour Operations	5.3) Preperation and costing of various Package Tour	2) What is an Itinerary?	4) Describe, how the package tour is costing.
6	Unit-6 Travel Documents, Air Ticketing and Literature	6.2.3) Classification of Air Ticket 6.4.1) Cities with multiple airports	NIL	5) Explain about the various types and classification of Air Ticketing.

TOURISM AND HOSPITALITY MANAGEMENT - SECOND YEAR

PAPER – III- ACCOMMODATIONS OPERATIONS

Sl. No.	Unit no, name of the unit	Topic / sub topic to be deleted in detail heads	Two marks questions deleted	Six marks questions deleted
1	UNIT-1 : The Hotel Industry an Overview	1.1 : Classification of Hotels	NIL	1. Explain about the classification of Hotels
2	UNIT – 2 : The Housekeeping Department	2.5 : Layout of Housekeeping Department 2.6 : Interdepartmental Coordination with other departments 2.7 : Housekeeping in other institutions	NIL	6. Draw the Layout of Housekeeping department
3	UNIT-3 : Hotel Guest Rooms	3.5: Placement of Guest Supplies 3.6: Bed making	NIL	4. Write about the placement of Guest Supplies 5. Write about the Bed making process
4	UNIT-4 : Supervision in Housekeeping	4.1 : Role of Supervisor 4.6 : Handling Room Transfers	NIL	1. Write about the role of Supervisor
5	UNIT – 5 : Safety and Security	5.2 : Fire Prevention and Fire Fighting (Fire and Bomb Threats) 5.4 : Dealing with Emergencies 5.7 : Basic Hotel Laws	1. Define Fire Doors 2. What is Fire Escape Routes	2. Write the general causes of fires 7. Write the procedure of dealing with emergencies 8. Write about the various hotel rules and management policies

VOCATIONAL CURRICULUM-2020

(For the Academic year 2020-21)

[70% CONTENT IN VIEW OF COVID-19 PANDEMIC]

COMPUTER GRAPHICS & ANIMATION

(COURSE CODE:508)

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

Dr. A. Ashok I.A.S
COMMISSIONER

INTERMEDIATE EDCATION
Government of Telangana
Nampally, Hyderabad- 500001
Phone: 040-24655915

Fore word

In any developing society with a booming population, Vocational Education occupies an important position for generating large scale employment opportunities. Viewed in this context the importance of Vocational Education for our country cannot be over emphasized. Vocationalization of Secondary Education was introduced in 1988 at the Intermediate level. Recently, the Government of India has developed a National Skills Qualification Framework for establishing a clear path for vocational education from the school level to the highest level. The Department of Intermediate Education has recently framed a new curriculum to bring greater value to the system of vocational education. The primary aim of this reform is to prepare the students with employable skills for absorption in organized sectors and in few cases, even for self-employment.

State Institute of vocational education and Board of Intermediate Education, Telangana have reviewed the curriculum of CGA vocational course and it is started for the first year from the academic year 2019-20. Greater emphasis is now being placed on Laboratory work and on the job training.

Simultaneously, The State Institute of Vocational Education and the department of Intermediate Education are presently making efforts to upgrade the quality of infrastructure in the colleges to meet the challenges of the changed curriculum. I am confident that the revised curriculum of CGA Vocational Course would prove to be beneficial to the students in the vocational stream and help them train in need based productive courses leading to gainful employment.

Sd/- Dr. A.Ashok
COMMISSIONER OF INTERMEDIATE EDUCATION

SCHEME OF INSTRUCTION AND EXAMINATION
ANNUAL SCHEME OF INSTRUCTION AND EXAMINATION FOR
FIRST YEAR COMPUTER GRAPHICS & ANIMATION COURSE

Part-A		Theory		Practicals			Total	
		Periods	Marks		Periods	Marks	Periods	Marks
1.	English	150	50		-	-	150	50
2.	General Foundation	150	50		-	-	150	50
Part-B								
3.	Paper-I Computer Fundamental & MS Office	135	50	Paper-I Windows & MS Office	135	50	270	100
4.	Paper-II Programming in "C"	135	50	Paper-II C-Programming	135	50	270	100
5.	Paper-III Fundamentals of Computer Graphics & Animation	135	50	Paper-III Engineering Drawing.	135	50	270	100
6.	OJT	-	-		365	100	365	100
	Total	**705**	**250**		**770**	**250**	**1475**	**500**

EVALUATION OF ON THE JOB TRAINING:

The "On the Job Training" shall carry 100 marks for each year and pass marks is 50. During on the job training the candidate shall put in a minimum of 90 % of attendance.
The evaluation shall be done in the last week of January.

Marks allotted for evaluation:

S.No	Name of the activity	Max. Marks allotted for each activity
1	Attendance and punctuality	30
2	Familiarity with technical terms	05
3	Familiarity with tools and material	05
4	Manual skills	05
5	Application of knowledge	10
6	Problem solving skills	10
7	Comprehension and observation	10
8	Human relations	05
9	Ability to communicate	10
10	Maintenance of dairy	10
	Total	100

NOTE: The On the Job Training mentioned is tentative. The spirit of On the Job training is to be maintained. The colleges are at liberty to conduct on the job training according to their local feasibility of institutions & industries. They may conduct the entire on the job training periods of (365) I year and (450) II year **either by conducting classes in morning session and send the students for OJT in afternoon session or two days in week or weekly or monthly or by any mode which is feasible for both the college and the institution**. However, the total assigned periods for on the job training should be completed. The institutions are at liberty to conduct On the Job training during summer also, however there will not be any financial commitment to the department.

COMPUTER GRAPHICS & ANIMATION
FIRST YEAR
PART-B - VOCATIONAL SUBJECTS
PAPER-I: COMPUTER FUNDAMENTAL AND MS-OFFICE [THEORY]

UNIT. NO.	UNITS	NO.OF PERIODS	WEIGHTAGE OF MARKS	NO. OF SHORT QUESTIONS	NO.OF ESSAY QUESTIONS
I	Introduction to Computer Systems and Hardware	10	8	1	1
II	Overview of Hardware Components and Operating Systems	10	8	1	1
III	MS Word	30	18	3	2
IV	MS Excel	30	16	2	2
V	MS Power Point	20	8	1	1
VI	MS Access	35	10	2	1
	Total	135	68	10	8

Note: After completion of every unit one assignment will be given to the students

Note:- The question paper contains TWO Sections.

SECTION – A contains 10 short questions carries 2marks each,

SECTION – B contains 8 Long questions carries 6marks each.

The student has to answer **ALL** questions in **SECTION – A** and any **FIVE** Questions in **SECTION-B**.

Additions/ Deletions/changes

1. In Unit II, "Introduction of Hardware Components" and Introduction to Linux operating system has been added in addition to the overview of Operating Systems.

SYLLABUS

UNIT **I. Introduction to Computer Systems and Hardware**

- Introduction to Computers, generations of computer
- Classification of Computers based on Purpose, Operation & Size
- Anatomy of Computers
- Number Systems
- Basic I/O Devices
- Block Diagram of CPU
- Memory units- Primary and Auxiliary memory
- Programming Languages, general software features trends and utilities.

UNIT II. Overview of Hardware Components and Operating Systems

- Identifying the peripherals of the computer (Processor, Memory chips, Mother Boards, Disk Drives and Controller card such as AGP board, Network Card , Sound card and as well as Parallel and Serial Ports etc.,)
- ~~Disassembling and Assembling PC in working condition.~~ Load the operating system with partitions for windows , Configure for Network.
- Introduction to Windows (Meaning of Multitasking, File system, desktop components, control panel, Windows Explorer , Device manager, File Manager and Program Manager , Display properties, taskbar properties etc.)
- Introduction to Linux Operating system (Ubuntu or RedHat) , function and its types
- Features of Linux
- Working with Linux Commands like ls, mkdir, chdir, chmod etc.
- Introduction to bash shell and shell scripting

UNIT. III. MS-Word

- Introduction to Word Processing
- Editing a Document
- Move and Copy Text and Help System
- Formatting Text and Paragraph
- Finding and Replacing Text and Spell Checking
- Using Tabs
- Enhancing Document
- Columns, Tables and Other Features
- ~~Using Graphics~~, Templates and Wizards
- Using Mail Merge
- Miscellaneous features of Word

UNIT.IV MS-Excel

- Introduction to Spreadsheet
- Creating Worksheets & feeding data
- Using functions
- Editing Cells and Using commands and functions
- Moving and Copying, Inserting and Deleting Rows and Columns
- Formatting a Worksheet
- Opening, Saving and Printing a Worksheet

- Working with Charts
- ~~Working with Macros~~
- ~~Pivot tables~~

UNIT.V MS-PowerPoint

- Creating Presentations using AutoContent Wizard, Template & Blank Presentation
- Working with Master's Slide, Title handout and Notes
- Viewing a Presentation
- Drawing Objects & Inserting OLE
- Drawing freeform shapes
- Rotating Objects
- Animation in slides/objects

UNIT.VI MS-Access

- Concept of data and information.
- Introduction to Database management systems.
- Creating a database.
- Concepts of related tables and integrity constraints.
- Designing tables.
- Use of queries, types of queries and creating queries.
- ~~Creating Forms and Reports~~

Reference Books:

1. Rajaraman V, "The Fundamentals of Computer", Prentice Hall of India.
2. Fundamentals of MS-Office — BPB Publication.
3. Fundamentals of Information technology — M.L. Sai Kumar
4. Fundamentals of Information technology — Galgotia Publications

COMPUTER GRAPHICS & ANIMATION (THEORY)
FIRST YEAR
PAPER-II: PROGRAMMING IN 'C' (THEORY)

PERIODS PER WEEK : 4 **PERIODS PER YEAR : 135**

UNIT. NO.	UNITS	NO.OF PERIODS	WEIGHTAGE OF MARKS	NO. OF SHORT QUESTIONS	NO.OF ESSAY QUESTIONS
I	Introduction to Problem Solving Techniques	5	10	2	1
II	Features of 'C'	50	24	3	3
III	Functions	50	16	2	2
IV	Arrays in 'C'	20	10	2	1
V	Structures and Unions in C	10	8	1	1
	Total	135	68	10	8

Note: After completion of every unit one/two assignments will be given to the students

UNIT.I. Introduction to Problem Solving Techniques

- Procedure and Algorithms
- Flowcharts
- ~~Pseudo code~~

UNIT.II Features of 'C'

- Introduction to 'C'
- Structure of a 'C' Program
- Data types in 'C' – Constants & Variables- operators and Expressions
- Statements – data definition- assignment-
- Selection Statements (if, if-else, nested – if)
- Control structures (for, while, do-while)
- Structure for looping and nested looping
- Branching (switch, break, continue)
- Unconditional branching (go to statement) simple programs covering above units
- Simple programs based on Control structures

UNIT.III Functions

- What is a function?
- Difference between a function and a procedure
- Advantages of functions

- User defined and library functions, main function
- Return types.
- Concepts associated with functions – Recursion, scope of a function, extent of a variable.
- Use of various categories of built-in functions for mathematical and string operations.

UNIT.IV Arrays in 'C'

- Array as Data structure- defining single and multidimensional arrays, simple operations on arrays, simple programs on arrays.
- ~~File operations like fopen( ), fclose( ), fprint( ), fscan( ) fread() fwrite() fseek()~~

UNIT.V Structures and Unions in C

- Structures:- definition - declaration – operation on structures, ~~array of structures, array with structures~~, structure as data types, operations on structures
- Unions – definition – difference between union and structure. Creating and using a structure

Reference Books:

1. Programming using C by C.Kochan.
2. Let us C by YashwantKanetkar
3. Programming in – Kerningham and Ritchie
4. Programming in C — E. Balaguruswamy

COMPUTER GRAPHICS & ANIMATION
FIRST YEAR
PART-B - VOCATIONAL SUBJECTS
PAPER-III: FUNDAMENTALS OF COMPUTER GRAPHICS & ANIMATION (THEORY)

TIME SCHEDULE, WEIGHT AGE & BLUE PRINT

S.NO.	UNITS	NO.OF PERIODS	WEIGHT AGE OF MARKS	NO. OF SHORT QUESTIONS	NO.OF ESSAY QUESTIONS
I	What is Multimedia	10	8	1	1
II	Text or Typography	10	6		1
III	Images	10	8	1	1
IV	Sound	10	8	1	1
V	Animation	10	8	1	1
VI	Video	15	8	1	1
VII	Creating Multimedia content	20	10	2	1
VIII	Multimedia Jobs / Skills	15	6		1
IX	Planning and costing	10	2	1	
X	Multimedia & Internet	25	4	2	
	Total	**135**	**68**	**10**	**8**

Fundamentals of Computer Graphics and Animation:

1. **What is Multimedia (10 hours)**
   - Definition –
   - Multimedia elements
     - Text
     - Graphics
     - Audio
     - Video
     - Animation
     - Interactivity
   - Where to use – (4)
     - Business
     - Schools
     - Home
     - Public places
     - Virtual reality
   - Delivering multimedia –(3)
     - CDROM, DVD, Flash Drives
     - Internet
2. **Text or Typography -10 Hours**
   - About Fonts & Faces
   - Using Text in Multimedia
   - Computers and text
   - The power of text with examples (Ads)

3. **Images (10 Hours)**
    - Making still images
        - Bitmaps
        - Vector drawing
        - Vector vs. bitmap
        - 2d-3d drawing
    - Color
        - Understanding natural light and color
        - Computerized color
        - Color palettes
    - Image file formats
4. **Sound (10 Hours)**
    - Sound Theory
    - Digital audio
    - Midi audio
    - Midi vs. digital audio
    - Sound in multimedia
    - Audio file formats
    - The power of sound(examples)
5. **Animation (10 Hours)**
    - About motion graphics
    - Principles of animation
    - Animation by computer
        - Animation techniques
        - Animation file formats
    - Display of animated content
6. **Video (15 Hours)**
    - Using video
    - Analog video
    - Digital video
    - Characteristics of video
    - Digital video containers
        - Codec
        - Video format converters
        - Video formats
    - How to get video clips
    - Shooting and editing video
        - Shooting platform
        - Storyboarding
        - Lighting
        - Chroma keys
        - Composition
        - Titles and text
        - Nonlinear editing(NLE)

7. **Creating Multimedia content (20 Hours)**
    - Stages of multimedia project
    - Creativity & Observation skills
    - Organization of MM Assets
    - Communication process
        - SMR in detail
    - Hardware
        - windows vs. Macintosh
        - memory and storage devices
        - input devices
        - output devices
        - connectors (ports)
    - software
        - word processors
        - OCR software
        - Painting / drawing tools
        - 2d / 3d modeling and animation software
        - Image editing tools
        - Sound editing tools
        - Animation, video and digital movie tools
        - Other helpful tools (current trends)
    - What is authoring?
8. **Multimedia Jobs / Skills (15 Hours)**
    - Project Manager
    - Multimedia Designer
    - Interface designer
    - Writer
    - Video specialist
    - Audio specialist
    - Multimedia programmer
    - Multimedia producer for web
    - Animator (specialization)
9. **Planning and costing (10 Hours)**
    - Idea
    - Prototype development
    - Alpha testing
    - Beta testing
    - Delivery
    - Scheduling
    - Estimating
10. **Multimedia & Internet (25 Hours)**
    - Designing and Producing
        - From Layout to Production
    - Content and talent

        - Research skills
        - What exactly industry requires (skill-set)
    - The internet and Multimedia
        - Rich Media Content examples
    - Designing for WWW using
        - Text
        - Graphics
        - Audio
        - Video
        - Animation
        - Interactivity / authoring
    - Delivering Multimedia content
        - Online
        - Offline

Note:

Only Studio Visits if course scope permits

Display of Multimedia CD's & Animation content for knowledge

Provides strong foundation for 2nd year syllabus.

REFERENCE BOOKS

Primary:

Multimedia BASICS by Suzanne (Suzanne Weixel) Weixel, Jennifer Fulton, Karl Barksdale and Cheryl Beck Morse (Mar 14, 2003)

Secondary:

Digital Multimedia by Nigel Chapman and Jenny Chapman (Apr 14, 2009)
Exploring Multimedia for Designers (Design Exploration) by Ray Villalobos (Sep 21, 2007)
Multimedia Learning by Richard E. Mayer (Jan 12, 2009)
An Introduction to Digital Multimedia by T.M. Savage and K.E. Vogel (Oct 14, 2008)

COMPUTER GRAPHICS & ANIMATION (THEORY)
II YEAR
PART-B - VOCATIONAL SUBJECTS
PAPER-I: GRAPHIC DESIGN

PERIODS/WEEK: 04 **TOTAL PERIODS: 110**

TIME SCHEDULE, WEIGHATAGE & BLUE PRINT

S.NO.	UNITS	NO.OF PERIODS	WEIGHTAGE OF MARKS	NO. OF SHORT QUESTIONS	NO.OF ESSAY QUESTIONS
I	All about design? a. What is Design? b. Role of Design in Society c. Role and responsibility of Designers	20		2	2
II	Introduction to Digital Photography	5			1
III	Color theory	6			1
IV	Elements and Principles of Design	6			1
V	Drawing for Designers	5		1	
VI	Introduction to Typography	3		1	
VII	Introduction to Illustrator	25		2	1
VIII	Introduction to Photoshop	25		3	1
IX	Introduction to Indesign	15		1	1
	Total	**110**	**68**	**10**	**8**

1. **All about design?(20)**
   a. **What is Design?(5)**
      i. Introduction to design
      ii. Introduction to Graphic Design
   b. **Role of Design in Society(10)**
      i. Impact/function of Design
      ii. Indigenous Design Practices
      iii. C. Finer Communication Techniques (Gutenberg to Digital; movable types to digitally transferable posters/works etc.)
      iv. Printing/publishing technology
      v. Role of design in the changing social scenario.
   c. **Role and responsibility of Designers.(5)**

2. Introduction to Digital Photography (5)
- How digital camera works
- Technical specifications & terminology

3. Color theory (6)
- How color works

- Colors of light & pigments
- Primary, Secondary, & tertiary
- Color mixing techniques
- Psychology of color

4. Elements and Principles of Design (6)

- Elements of design
- Principles of design

5. Drawing for Designers (5)

- Define drawing & sketching
- Basic drawing & sketching practices

6. Introduction to Typography (3)

- What is Typography
- The Anatomy of Fonts

7. Introduction to Illustrator (25)

- Getting started
- Setting Up the Document
- Toolbox
- Toolbox Description
- Making selections
- Working with layers
- Creating basic shapes
- Inserting and formatting text
- Placing images
- Working with objects
- Arranging
- Grouping
- Locking
- Applying Transparencies
- Applying Styles, Effects and Appearances
- Working with symbols
- Saving

8. Introduction to Photoshop (25)

- getting started
- interface layout
- palettes
- toolbox
- selection tools
- alteration tools
- drawing and selection tools
- assisting tools
- color boxes and modes

- basic image editing
- cropping
- resizing
- correcting
- sharpening/softening
- saving

9. Introduction to Indesign (25)

- Getting Started
- Toolbox
- Organizing the Document
- Column Specifications
- Rulers
- Guides
- Inserting/Formatting Text
- Type Menu
- Using Colors
- Working With Objects (Images, Graphics, and Elements)
- Placing Images
- Enabling Text Wraps
- Layers and Arranging
- Grouping
- Locking
- Saving
- Exporting to PDF

REASONS FOR CHANGE:

As it is found that the content provided is not sufficient to make the student employable, we enhanced the content with the latest trends available in the market

COMPUTER GRAPHICS & ANIMATION (THEORY)
II YEAR
PART-B - VOCATIONAL SUBJECTS
PAPER-II: 3D ANIMATION

PERIODS/WEEK: 04 **TOTAL PERIODS: 110**

TIME SCHEDULE, WEIGHT AGE & BLUE PRINT

S. NO.	UNITS	NO.OF PERIODS	WEIGHTAGE OF MARKS	NO. OF SHORT QUESTIONS	NO.OF ESSAY QUESTIONS
I	Fundamental Module	5	10	2	1
II	Introduction to Maya	5	4	2	
III	Modeling	14	8	1	1
IV	Texture Mapping	15	8	1	1
V	Lighting and Rendering	10	8	1	1
VI	Rigging	15	8	1	1
VII	Animation	40	20	1	3
VIII	Dynamic Effects & Visual Effects	6	2	1	
	Total	**110**	**68**	**10**	**8**

1. **Fundamental Module(5)**
    a. Animation principles and history
    b. Animation process
    c. Importance of drawing in animation context
    d. Types of animation
    e. Animation software tools
2. **Introduction to Maya (5)**
    a. Learn the basics of 3D computer graphics using Autodesk Maya. Lectures will cover the application of Maya in the film, television and game industries.
3. **Modeling (14)**
    a. Surface Modeling
        i. This course offers in-depth training of advanced modeling tools, as well as specific techniques for modeling architecture, vehicles, and environments.
    b. Polygon Modeling
        i. This course is a comprehensive look at the complete suite of Maya's polygonal and subdivision surface modeling tools.
4. **Texture Mapping / Shading(15)**
    a. Learn to use texturing techniques as tools for achieving a level of complexity that would be difficult or too computationally expensive by modeling alone.
5. **Lighting and Rendering (10)**
    a. This course covers how to achieve successful lighting effects with the Maya renderer through a mix of technical and aesthetic lessons.
6. **Rigging (15)**

a. Set up a character for a wide range of complex body movement, with controls that are intuitive and flexible. Learn advanced Units related to body and head deformations in Maya, including rigid/soft binding, stitching and advanced facial deformation.

7. **Animation (40)**
8. **Dynamic Effects & Visual Effects (6)**

COMPUTER GRAPHICS & ANIMATION (THEORY)
II YEAR
PAPER-III: INTERNET TECHNOLOGIES

PERIODS/WEEK: 04 **TOTAL PERIODS: 110**

TIME SCHEDULE, WEIGHT AGE & BLUE PRINT

S. NO.	UNITS	NO.OF PERIODS	WEIGHTAGE OF MARKS	NO. OF SHORT QUESTIONS	NO.OF ESSAY QUESTIONS
I	Basics of Internet	10	12		2
II	Basics of Web Designing	10	12		2
III	Introduction to HTML	3	2	1	
IV	HTML Document	3	2	1	
V	Hyper Links	3	2	1	
VI	Embedded contents	3	2	1	
VII	Tables	10	6		1
VIII	Forms	10	12		2
IX	Sections	5	2	1	
X	Style and Script	3	2	1	
XI	Introduction to CSS	10	6		1
XII	Styling	10	2	1	
X111	Box model	10	2	1	
XIV	Layout	10	2	1	
XV	Advanced CSS	10	2	1	
	Total	**110**	**68**	**20**	**48**

1. Basics of Internet: (10 Hours)

a. What is Networking
b. Types of Networks
c. About Internet
   i. History & its evolution
d. Browsing
e. Search Engines
   i. Normal
   ii. Meta search
f. Email
g. Social Media sites and online forums.
   i. Knowledge of facebook, orkut etc.

2. <u>Basics of Web Designing</u>:(10Hours)

a. Where to get started for Web designing.
b. The creative process from design to execution.
c. What software you should use.
d. What is HTML and do you need to know it?
e. How to layout out a webpage.
f. How to style text with DHTML.
g. How to create buttons and other images with Adobe Photoshop.
h. Why and how you save images as GIF or JPEG.

i. Proper ways to name your files.
j. Maintaining good file structure within your website.

3. Introduction to HTML(3 Hours)
   a. What is HTML?
   b. Tag syntax
   c. Create HTML

4. HTML Document(3)
   a. HTML Document
   b. Metadata
   c. Basic content (basic tags)

5. Hyper Links(3)
   a. Hyper Links
   b. Link options

6. Embedded contents(3)
   a. Image
   b. Video

7. Tables(10)

8. Forms(10)
   a. Form
   b. Form controls

9. Sections(5)

10. Style and Script(3)
   a. Style Sheet
   b. Script

11. Introduction to CSS (10)
   a. What is CSS?
   b. Syntax
   c. Selectors
   d. Create CSS

12. Styling(10)
   a. Texts
   b. Fonts
   c. Lists
   d. Links

13. Box model(10)
   a. Box model
   b. Paddings and Margins
   c. Background
   d. Borders

14. Layout(10)
   a. Floating

15. Advanced CSS(10)
   a. Inheritance
   b. Priority level of selector

MODEL QUESTION PAPER
COMPUTER GRAPHICS & ANIMATION-
FIRST YEAR
PAPER-I : COMPUTER FUNDAMENTALS & MS-OFFICE (THEORY)

Time:-3 Hrs **Max. Marks:-50**

SECTION-A **10 x 2=20**

Note:- 1. Answer ALL Questions:

2. Each Question carries 2Marks.

01. What is a Computer?
02. What is Control Panel?
03. What is autocorrect?
04. What is thesaurus?
05. What is formatting a text?
06. What is spread sheet?
07. What are the shortcut keys for Bold, Italic and Underline?
08. What is power point presentation?
09. Define DBMS.
10. What is filter?

SECTION-B

Note:- 1. Answer any FIVE Questions from the following **5 x 6= 30.**

2. Each Question carries 6Marks.

11. Write about generations of Computers.
12. Draw the Block diagram of digital computer and explain each unit in it.
13. Explain about various Hardware components of a Computer.
14. Explain any six Linux commands with syntax with example.
15. Write about Mail merge.
16. Write about Find and Replace commands.
17. Explain about functions in MS-Excel.
18. Explain about various Charts.
19. Write the steps to create save and preview a presentation.
20. Explain the terms tuple, attribute, cardinality, degree, domain and relation.

MODEL QUESTION PAPER
COMPUTER GRAPHICS & ANIMATION
FIRST YEAR
PAPER-II: PROGRAMMING IN C (THEORY)

Time:-3 Hrs **Max. Marks:-50**

SECTION-A

Note:- 1. Answer ALL Questions: **10 x 2=20**
2. Each Question carries 2Marks.

01. What is an Algorithm?
02. What are the symbols used in Flowchart?
03. What is Variable and Constant in C?
04. What are the basic data types in C?
05. What is String Constant?
06. What is storage class?
07. What is recursion?
08. What is an Array?
09. Write a C program to print 'IPE' using one dimensional array.
10. What is Union? Write the syntax of Union.

SECTION-B

Note:- 1. Answer any FIVE Questions from the following **5 x 6= 30.**
2. Each Question carries 6Marks.

11. Differentiate between Algorithm and Flowchart.
12. Draw the flowchart to find roots of Quadratic equation $ax^2+ bx+c =0$.
13. Explain various Operators in C.
14. Explain various conditional Control statements in C.
15. Explain various conditional Looping statements in C.
16. What is Function? Explain in detail.
17. Write a C program to generate Fibonacci series using recursion.
18. Write a C program to sort a list of numbers.
19. Write a C program for addition of two matrices.
20. What is Structure (' Struct') ? Explain in detail.

MODEL QUESTION PAPER
COMPUTER GRAPHICS & ANIMATION-
FIRST YEAR
PAPER-III: FUNDAMENTALS OF COMPUTER GRAPHICS & ANIMATION
(THEORY)

Time:-3 Hrs **Max. Marks:-50**

SECTION-A

Note: Answer all the questions. 10*2=20M
Each question carries two marks.

1. List out the features of multimedia.
2. What is clipart?
3. What is digital audio
4. What is Animation?
5. What is NTSC and PAL
6. What is creativity?
7. What is Flatbed scanner?
8. What is Pre-Testing
9. What is touch screen
10. List out different audio file formats

SECTION-B

Note: Answer any five questions. 5*6=30M
Each question carries six marks.

11. Explain about Applications of Multimedia.
12. Explain about Fonts and Faces.
13. Explain digital images
14. Explain about power of sound
15. Explain about the principles of Animation.
16. Explain about Video.
17. Explain about Hardware.
18. Explain about animation industry
19. Explain about fonts and Character set
20. Expalin about MIDI audio.

COMPUTER GRAPHICS AND ANIMATION
II YEAR PAPER-I
GRAPHIC DESIGNING

Time:3 Hours Max Marks:50

SECTION-A

Note: Answer all the questions. 10*2=20M
Each question carries two marks.

1. Define Design.
2. What are the various disciplines available in design field?
3. What is contour drawing?
4. What is typography?
5. What is Adobe Illustrator?
6. Write about Vector and raster graphics.
7. Define layer.
8. Define Photoshop.
9. What is cropping?
10. What is Adobe InDesign.

SECTION-B

Note: Answer any five questions. 5*6=30M
Each question carries six marks.

11. Write about the role of both design and designer in society.
12. Explain how the digital camera works
13. Write about three elements of design.
14. Name three primary colors, and explain why theory are called as primary colors
15. Write about the interface of Illustrator.
16. Explain different types of tools in Photoshop.
17. Explain in detail about the concept of export
18. Write the procedure of saving the file in photoshop.
19. What are links in InDesign
20. List important features of adobe illustrator

COMPUTER GRAPHICS AND ANIMATION
II YEAR PAPER-II
3D ANIMATION

Time:3 Hours Max Marks:50

SECTION-A

Note: Answer all the questions. 10*2=20M
Each question carries two marks.

1. Write about Winsor Mc.cay
2. Write about applications areas of animation
3. Write about Autodesk maya in general
4. What are primitives in Maya
5. Define 3D Modeling
6. What is Bump Map?
7. List various types of lights in Maya
8. what is skinning
9. Define mass and force.
10. What is rigid body dynamics

SECTION-B

Note: Answer any five questions. 5*6=30M
Each question carries six marks.

11. Write about 2d classical and 3d computer animation
12. What is the importance of solid drawing in Animation?
13. Write about displacement map in detail
14. Write about various mapping techniques in Maya
15. What is character rigging. Explain in detail with example
16. What are the various rendering methods available in Maya?
17. What is keyframe animation?
18. Writ about principles of animation
19. Write about walk cycle in detail.
20. List important rendering effects

COMPUTER GRAPHICS AND ANIMATION
II YEAR PAPER-III
INTERNET TECHNOLOGIES

Time:3 Hours Max Marks:50

SECTION-A

Note: Answer all the questions. 10*2=20M
Each question carries two marks.

1. What is HTML?
2. What is the use of <head> and <title> tags?
3. Write the procedure to insert a video file?
4. Define the term hyperlink.
5. Define sections in html.
6. Write the syntax for simple style.
7. Write the syntax for CSS text styling
8. Define Box model.
9. What is padding
10. What is the use of embedded tag

SECTION-B

Note: Answer any five questions. 5*6=30M
Each question carries six marks.

11. What browsers available on the internet today for the users of windows?
12. Define network and write about its importance.
13. Write the procedure to create a simple HTML page?
14. How to create a nested table.
15. What are the attributes associated with table tag?
16. What are forms write in detail with proper example?
17. What are the common buttons that you see in any form, write in general?
18. What is the correct HTML for referring to an external, internal and inline style sheet write in detail?
19. How many web standards have the W3C published and which are widely supported by browsers manufacturers today?
20. What percentage of web users use each browser?

SUPPORTING HARDWARE AND SOFTWARE

LAB requirement:

With a bare minimum of 15 systems to cater 30 students
with the following configuration.

Hardware:

Inter Core i3/i5/i7 processor
Intel based motherboard
2 GB RAM
10 GB free hard drive space
Qualified hardware-accelerated OpenGL® graphics card
Three-button mouse with mouse driver software
DVD-ROM drive
HDD: IDE, SATA, SATA 2, SAS, SCSI
Monitor LCD display with 19" or 21"
Microphone
Stereo speakers
Webcam
Microsoft Internet Explorer 7.0 or higher, Apple Safari, or Mozilla Firefox web browsers
Microsoft® Windows® 7 Professional, Microsoft® Windows Vista® Business (SP2)(or higher)

Multimedia equipment:

Multimedia Projector
Stereo Sound system
Digital camera
Laser Pointers

Software:

Related DVD collection (Multimedia content CDS/animated movies)
MSOffice Suite 2007/2010
Turbo C
Creative suite design premium cs5 (Illustrator, Photoshop, Indesign, Dreamweaver, Flash, Flash catalyst, Fireworks, ACrobatX, Bridge, Device Central)
Autodesk Maya unlimited 2012

Collaborating institutions for curriculum transactions

DTP centres locally available
Data Conversion centres
TV production centres
Advertisement agencies

30% DELETED CONTENT IN VIEW OF COVID-19 PANDEMIC

COMPUTER GRAPHICS & ANIMATION

FIRST YEAR

PAPER-I: COMPUTER FUNDAMENTALS & MS-OFFICE

S No	Unit No. & Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1: Introduction to Computers	Language/Software	SAQ's-33-46	13Q: Write about different types of software in details
2	UNIT-2: Overview of Computer Hardware and Operating System	Disassembling and Assembling a PC	12Q: What is Motherboard?	2Q: Write the procedure to Assemble a Computer system
3	UNIT-3:MS-Word	Graphics, Clipart, Smart art, Word arts & watermark	23Q: What is Clip art? 24Q: What is Smart art? 25Q: What is Watermark?	13Q: Write about word art.
4	UNIT-4:MS-Excel	Macros Pivot Tables	23Q: What is a macro 25Q: What is a PivotTable?	8Q: Write about Macros 10Q: Write about PivotTables in Excel.
5	UNIT-5:MS-Powerpoint	Word art, Clip Art, Smart art, Word art, Photo Album & Printing	13Q: What is word art? 18Q: What is Clip art? 19Q: What is Smart art? 20Q: What is Photo album?	9Q: Write about the printing of a presentation.
6	UNIT-6:MS-Access	Forms & Reports	15Q: What is Form Wizard? 16Q: What are form views? 19Q: What is report wizard?- 20Q: What are the views in report design?	7Q: Write the steps to create form by using form wizard? 8Q: Write about creating a form. 9Q: Write the steps for creating a report by using Report Wizard? 10Q: Write about creating a report.

COMPUTER GRAPHICS & ANIMATION - FIRST YEAR
PAPER-II: PROGRAMMING IN "C" (THEORY)

S. No	Unit No.& Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1Introduction to Problem solving Techniques	Pseudo code	3Q: What is Pseudo Code?	NIL
2	UNIT-2:Features of 'C'	Bitwise operator, Differences between Break & continue	NIL	8Q: Write the differences between Break and Continue statements.
3	UNIT-3:Functions	Function Prototypes, Call by value, Call by Reference	4Q: Write differences between Global and Local variables.	4Q: Discuss about Global and Local variables. 5Q: Explain about Call by Value with an example 6Q: Explain about Call by Reference with an example.
4	UNIT-4:Arrays in C	Matrix multiplication String handling functions, File Operations	6Q: What is the String handling functions.	6Q: Write a program for multiplication of two matrices. 8Q: Explain String handling functions in C. 10Q: Explain about File operations like fopen(), fclose() ,fprintf(), fscanf().
5	UNIT-5:Structures in C	Nested Structures Structures containing Arrays & Arrays of structures contain Arrays	6Q: What is a Nested structure? 7Q: What are the advantages of structures over an Array?	2Q: Explain the advantages of structures type over the array variable. 3Q: Explain about structures and Arrays.

COMPUTER GRAPHICS & ANIMATION - FIRST YEAR
PAPER III: FUNDAMENTALS OF COMPUTER GRAPHICS & ANIMATION

S NO	UNIT No. Name of the unit	Topic/Sub Topic to be deleted	Two Marks Questions Deleted	Six Marks Questions Deleted
1	Unit-1 Introduction to Multimedia	1. Categories of Multimedia	Define Categories of Multimedia	Nil
2	Unit-2 Text or Typography	1. Multimedia Building Blocks	List out the multimedia Building Blocks	Nil
3	Unit-3 Images	Nil	Nil	Nil
4	UNIT -4 Sound	1. Formula for determining the size of the digital audio. 2. Red Book Standard	1. What is Red Book Standard? 2. How to determine the size of digital audio	Nil
5	UNIT – 5 Animation	Animation Techniques	Nil	Explain about Animation Techniques
6	UNIT-6 Video	Optimizing Video Files for CD-ROM	Nil	Explain about Optimizing video files for CD-ROM
7	UNIT-7 Creating Multimedia Content	1.Communiction Devices 2. Software	1. Define modems and ISDN 2. What is OCR Software	Explain about Software
8	UNIT -8 Jobs in Multimedia Industry	What is Multimedia	What is Multimedia?	Nil
9	UNIT –9 Planning and Costing	RFPS and Bid Proposals	Nil	Explain RFPS and Bid Proposals
10	UNIT-10 Multimedia and Internet the Convergence	Introduction Multimedia Internet & Multimedia	1.What is multimedia 2.What is internet	1.Explain briefly about multimedia 2. Explain briefly about Internet

COMPUTER GRAPHICS & ANIMATION - SECOND YEAR
PAPER – I: GRAPHIC DESIGNING

S NO	UNIT No. Name of the unit	Topic/Sub Topic to be deleted in Details heads	Two Marks Questions Deleted	Six Marks Questions Deleted
1.	UNIT -1 All about Design	Finer Communication Techniques	4. Write about communication general	Nil
2.	UNIT -2 Introduction Digital Photography	Some Specifications	Nil	Nil
3.	UNIT-3 Color Theory	Tetradic Color Schemes	5. What is a Triadic Color Scheme? Pick three colors that would fit this scheme? 6. What is Tetradic color scheme? Pick four colors that would fit this scheme?	Nil
4.	UNIT-4 Elements and Principles of Design	To use contrast and Brightness	3. What is the element that refers to the sense of touch? 4. What is another word for brightness?	Nil
5	UNIT-5 Drawing for Designers	1. Steps for Drawing. Visual Communications.	3. What do you mean by visual communication? 6. List important drawing techniques? 8. What is the key to learn drawing?(self-research question)	Nil
6.	UNIT-6 Introduction to Typography	When choosing Type Faces	2. Who is Typography for? 3. Why does Typography Matter? 4. What is good Typography? 7. Write about the Anatomy of type?	Nil
7.	UNIT -7 Introduction to illustrator	Inserting and Formatting Text	2. Who are the competitors to Adobe Illustrator? 3. What is the latest version available in market? 5. What kind of material we can create in illustrator?	Nil

8.	UNIT-8 Introduction to Photoshop	Palettes	2. List out any four interface tools present in Photoshop	Nil
9.	UNIT-9 Introduction to InDesign	Organizing the documents	1. Who are the competitors to Adobe InDesign? 2. What is the latest version available in the market? 5. What kind of material we can create in InDesign? 8. Write about PDF File Format? (both advantages and disadvantages)	Nil

COMPUTER GRAPHICS & ANIMATION - SECOND YEAR
PAPER – II- 3D ANIMATION

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT -1 Fundamental Module	System Requirements. Importance of Drawing in Animation context.	2. Animation is illusion of movement Elucidate? 3. Expand FPS? 5. List important 2D and 3D Animation S/W Applications	5. List Important events in History of Computer Animation?
2	UNIT-2 Introduction to Auto desk Maya	Viewing Maya 3D Scene	2. List other important 3D Modeling and Animation. Software, similar to Maya	3. List important short cut keys of Transformations?
3	UNIT-3 Modeling	Sculpting Technology	5. Define Polygon, NURBS and Sub division Surface Modeling in brief	5. What is the role of modelling in 3D Animation Project Pipeline
4	UNIT-4 Texture Mapping	What is Texture and Surface Relief? What is Specularity	4. What is the Role of Lighting in Texture mapping	2. Differentiate opaque and Transparency with proper examples
5	UNIT-5 Light and Rendering	Color Applications and Light or illumination	2.Write about the effect of lighting sense 4.Define Color and How it appears	2.List important Renders available in 3D animation Software World/ 3.Differentiate mental ray and vector render
6	UNIT-6 Rigging	Skeleton of cat	3. What are the parent child joins in Rigging?	3. Why Anatomy knowledge is so much important in character setup elucidate?

7	UNIT-7 Animation	Persistence of vision	3.Write about your favorite animation character(s) (in general) 5.List important animation Techniques in Maya	2. What is persistence of vision?
8	UNIT-8 Dynamic effects and Visual effects	Physical Properties	1. Dynamic is branch of physics, elucidate? 3.Briefly explain Newton Law of motion 4.Explain at least 3 important naturally occurring phenomenon	

COMPUTER GRAPHICS & ANIMATION - SECOND YEAR
PAPER – III: INTERNET TECHNOLOGIES

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 Basics of Internet	Nil	Nil	Nil
2	UNIT -2 Basic of Web Designing	Basic of Web Designing	1.What are qualities of a good designer 2.What is the difference between graphic & Web design	1.What is the use of thinking about browser compatibility issue while making a webpage 2. Write about software applications in making a webpage 3.What is the role of the navigation and content in webpage design context
3.	UNIT-3 Introduction to HTML	Nil	Nil	Nil
4.	UNIT-4 HTML Document	Nil	Nil	Nil
5	UNIT-5 Hyper Links	Nil	Nil	Nil
6	UNIT – 6 Embedded Contents	Nil	Nil	Nil
7	UNIT-7 - **Tables**	Nil	Nil	Nil
8	UNIT-8 - **Forms**	Summary	2.What is CGI Write its full form	Nil
9	UNIT-9 - **Sections**	DIV Tag	4.What is the use of DIV Tag	Nil
10	UNIT-10 Styles and Scripts	Nil	3. Write and explain a simple Java Script?	Nil
11	UNIT-11 Introduction to CSS	Nil	Nil	Nil
12	UNIT-12 - **Styling**	CSS List	4.Create a List through CSS	Nil

13	UNIT-13**Box Model**	Nil	Nil	Nil
14	Unit-14 **Layout**	Nil	Nil	Nil
15	UNIT-15 Advanced CSS	Advanced CSS	1. What is float in CSS? 2.Write the syntax for CSS float 3.What is the use of left right none attributes 4.What is the use of clear and ID property 5.What is Inheritance 6.Write about Priority level selector 6.What exactly a # sign before a word indicates	1.Write about Floating boxes in general

VOCATIONAL CURRICULUM-2020

(For the Academic year 2020-21)

[70% CONTENT IN VIEW OF COVID-19 PANDEMIC]

PHARMA TECHNOLOGY

(COURSE CODE: 616)

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,

Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

Dr. A. Ashok I.A.S
COMMISSIONER

INTERMEDIATE EDCATION
Government of Telangana
Nampally, Hyderabad- 500001
Phone: 040-24655915

Fore word

In any developing society with a booming population, Vocational Education occupies an important position for generating large scale employment opportunities. Viewed in this context the importance of Vocational Education for our country cannot be over emphasized. Vocationalization of Secondary Education was introduced in 1988 at the Intermediate level. Recently, the Government of India has developed a National Skills Qualification Framework for establishing a clear path for vocational education from the school level to the highest level. The Department of Intermediate Education has recently framed a new curriculum to bring greater value to the system of vocational education. The primary aim of this reform is to prepare the students with employable skills for absorption in organized sectors and in few cases, even for self-employment.

State Institute of vocational education and Board of Intermediate Education, Telangana have reviewed the curriculum of vocational courses of second year from the academic year 2019-20 in order to reorient them for their practical approach. Greater emphasis is now being placed on Laboratory work and on the job training.

Simultaneously, The State Institute of Vocational Education and the department of Intermediate Education are presently making efforts to upgrade the quality of infrastructure in the colleges to meet the challenges of the changed curriculum. I am confident that the revised curriculum of second year for Vocational Courses would prove to be beneficial to the students in the vocational stream and help them train in need based productive courses leading to gainful employment.

Sd/- Dr. A. Ashok

COMMISSIONER OF INTERMEDIATE EDUCATION

SCHEME OF INSTRUCTION AND EXAMINATION
ANNUAL SCHEME OF INSTRUCTION AND EXAMINATION FOR FIRST YEAR

Part-A		Theory		Practicals		Total	
		Periods	Marks	Periods	Marks	Periods	Marks
1.	English	150	50	0	0	150	50
2.	General Foundation course	150	50	0	0	150	50
	Part-B						
3.	**Paper-I** Human anatomy and Physiology	135	50	135	50	270	100
4.	**Paper-II** Pharmaceutical Technology I	135	50	135	50	270	100
5.	**Paper-III** Pharmaceutical Chemistry and Quality Management systems	135	50	135	50	270	100
Part-C							
6.	**OJT**	0	0	365	100	365	100
	Total	**705**	**250**	**770**	**250**	**1475**	**500**

SECOND YEAR

Part-A		Theory		Practicals		Total	
		Periods	Marks	Periods	Marks	Periods	Marks
1.	English	150	50	0	0	150	50
2.	General Foundation course	150	50	0	0	150	50
	Part-B						
3.	**Paper-I** Pharmacology and Pharmaceutical Regulations	110	50	115	50	225	100
4.	**Paper-II** Pharmaceutical Technology- II	110	50	115	50	225	100
5.	**Paper-III** Pharmaceutical Engineering	110	50	115	50	225	100
Part-C							
6.	**OJT**	-	-	450	100	450	100
	Total	**630**	**250**	**795**	**250**	**1425**	**500**
TOTAL FIRST YEAR AND SECOND YEAR MARKS 1000							

EVALUATION OF ON THE JOB TRAINING:

The "On the Job Training" shall carry 100 marks for each year and pass marks is 50. During on the job training the candidate shall put in a minimum of 90 % of attendance.
The evaluation shall be done in the last week of January.

Marks allotted for evaluation:

S.No	Name of the activity	Max. Marks allotted for each activity
1	Attendance and punctuality	30
2	Familiarity with technical terms	05
3	Familiarity with tools and material	05
4	Manual skills	05
5	Application of knowledge	10
6	Problem solving skills	10
7	Comprehension and observation	10
8	Human relations	05
9	Ability to communicate	10
10	Maintenance of dairy	10
	Total	100

NOTE: The On the Job Training mentioned is tentative. The spirit of On the Job training is to be maintained. The colleges are at liberty to conduct on the job training according to their local feasibility of institutions & industries. They may conduct the entire on the job training periods of (365) First year and (450) Second year **either by conducting classes in morning session and send the students for OJT in afternoon session or two days in week or weekly or monthly or by any mode which is feasible for both the college and the institution**. However, the total assigned periods for on the job training should be completed. The institutions are at liberty to conduct On the Job training during summer also, however there will not be any financial commitment to the department.

PHARMA TEFCHNOLOGY
PART B – VOCATIONAL SUBJECTS
FIRST YEAR
PAPER – I: HUMAN ANATOMY AND PHYSIOLOGY (THEORY)

TIME SCHEDULE, WEIGHTAGE & BLUE PRINT

S. No	Name of the Unit	No of Periods	Weightage in marks	Short Answer Questions	Essay/ Problem Questions
1.	Basic Introduction 1) Scope of Anatomy and Physiology 2) Structure of cell, function of its components with special reference to mitochondria and microsomes. ~~3) Elementary tissues of the body.~~	12	12	3	1
2	Blood & Components Disorders and Drugs affecting Blood disorders 1) Composition of blood, functions of blood elements. Blood group and coagulation of blood ~~2) Disorders affecting blood and blood cells~~	10	12	3	1
3	Central Nervous System(CNS) and Autonomous Nervous System(ANS) , Disorders and Drugs affecting CNS and ANS 1) Parts of brain and spinal cord ~~2) Physiology of the CNS and ANS~~ ~~3) Diseases affecting CNS and ANS~~	35	18	3	2
4	Cardiovascular system , Disorders 1) Structure and functions of various parts of the heart and Blood vessels 2) Disorders of the Cardiovascular system	20	12	3	1
5	Skeletal & Muscular System 1) Structure and functions of skeletal system 2) Physiology of muscle contraction 3) Disorder of Skeletal and muscle system	8	6	3	-
6	Respiratory System, Disorders and Drugs affecting respiratory system 1) Various parts of respiratory system and their functions. 2) Physiology of respiration. 3) Disorder of respiratory system	7	8	4	-

	4) Drugs affecting respiratory system				
7	Digestive System , Parts of the Gastro intestinal system(GIT) 1) Digestion of food and absorption 2) Structure and functions of liver 3) Diseases affecting the GIT system	8	12	-	2
8	Endocrine System , Disorders Parts of the Endocrine system 1) Mechanism of Hormonal release 2) Diseases of Endocrine system	8	10	2	1
9	Urinary System(Excretory system,Parts of the Urinary system 1) Physiology of Urine formation and excretion 2) Diseases affecting urinary system	6	2	1	1
10	Reproductive System,Parts of Male reproductive system ~~1) Diseases of male reproductive system~~ 2) Parts of Female reproductive system ~~3) Diseases of Female reproductive system~~ 4) Family planning methods	10	10	1	1
11.	Health education- a) General hygiene b) Water and air borne diseases c) ~~Environmental pollution~~	11	10	1	1

Text Books:

- Principles of Anatomy and Physiology by Tortora G.J., and N.P. Anagnokokos,
- Principles of Anatomy and Physiology by Ross & Wilson.
- Goyal, R. K, Natvar M.P, and Shah S.A, Practical anatomy, physiology and biochemistry, latest edition, Publisher: B.S Shah Prakashan, Ahmedabad.

Reference Books:

- Human Physiology by C.C. Chatterjee, Medical Allied Agency, India.
- Text Book of Medicinal Physiology by A.C. Guyton, W.B. Prism Books Pvt. Ltd.,
- Ranade VG, Text book of practical physiology, Latest edition, Publisher: PVG, Pune
- Anderson Experimental Physiology, Latest edition, Publisher: NA

PHARMA TEFCHNOLOGY
PART B – VOCATIONAL SUBJECTS
FIRST YEAR
PAPER – II: PHARMACEUTICAL TECHNOLOGY – I (THEORY)
TIME SCHEDULE, WEIGHTAGE & BLUE PRINT

S.No	Name of the Unit	No of Periods	Weight age in marks	Short Answer Questions	Essay/ Problem Questions
1.	**Introduction to Pharmaceutical Sciences**; 1) History of Pharmacy ~~2) Pharmacy in India~~ 3) Classification of Dosage forms	10	8	1	1
2.	**Metrology**–Systems of weights and measures, Percentage calculations **Preformulation studies** 1) Solubility 2) Partition coefficient 3) Powder flow 4) Bulk density , tapped density, porosity, hausner ratio, carr's index of powders/granules ~~5) Specific gravity and viscosity.~~	12	10	2	1
3.	**Over view of oral solids dosage forms** 1) Definition of Tablets and Capsules and types of tablets and capsules 2) Different methods of manufacture of tablets and capsules. I. a) dry granulation b) wet granulation II. direct compression III. Introduction to tablet coating i) Film coating ii) Sugar coating ~~3) General equipment for different processes.~~ 4) Excipients used in OSD 5) a) In-process quality controls for tablets and capsules b) Defects in tablet formulations and possible reasons for		10	2	1

	observed defects . 6) Quality control tests for finished tablets and capsules. 7) Introduction to controlled release tablets and pellets a) Matrix systems b) Reservoir systems 8) a) Wruster coating of pellets for controlled release and delayed release products. b) Construction , operation and performance of fluid bed coater (FBC) and fliud bed drier(FBD) . c)Top spray granulation.				
4.	**Over view of liquid oral dosage forms** Types of Liquid oral dosage forms 1. Different processes of formulating liquid oral dosage forms 2. General equipment for different processes. 3. Excipients used in liquid oral dosage forms. 4. ~~General in process checks and methods for performing these tests~~.	15	10	2	1
5.	**Over view of injectable dosage forms** 1) Types of injectable dosage forms Different processes involved in manufacturing injectable dosage form General equipment for different processes 2) Water for injection and other excipients used in injectable dosage forms ~~3) General in process checks and methods for performing these tests~~	23	10	2	1
6.	**Over view of semisolid dosage forms** 1) Types of semi-solid dosage forms	23	10	2	1

	2) Different processes involved in manufacturing semisolid dosage form 3) General equipment for different processes 4) Excipients used in dosage form ~~5) General in process checks and methods for performing these tests~~				
7.	**Over view of Pharmaceutical Packaging** 1) Types of packaging for different dosage forms 2) Regulatory guidelines regarding labeling ~~3) In process checks in packaging~~ 4) Visual Inspection of finished dosage forms	23	10	2	1
8.	**Safety Health and Environment Concepts of safety** ~~1) Use of Materials safety data sheet~~ 2) Process safety analysis and hazard 3) Fire safety 4) PPEs Used in different production operations ~~5) Industrial and Job Safety Analysis for Various production equipment and machinery.~~ 6) Managing Emergency Procedures 7) First Aid	8	10	2	1

Text Books:

1. Cooper and Gunns Dispensing for pharmacy students.
2. A text book Professional Pharmacy by N.K.Jain and S.N.Sharma
3. L. Lachman, H.A. Lieberman and J.L. Kanig, Theory and Practice of Industrial Pharmacy Varghese Publishing House, Mumbai, 3 Rd Edn, 1991.
4. Ansel's Phramceutical dosage forms and Drug delivery systems, 8 Th edn, 2004, Lippincott Williams & Wilkins, USA.
5. Micheal E Aulton, Pharmaceutics – The science of dosage form design, 1St edition, 1998, Churchill living stone.
6. Martin, J. Swarbrick & A. Cammarata, "Physical Pharmacy" Lea and Febiger, Philadelphia, III Edition, 1983.
7. C.V.S. Subrahmanyam, Essentials of Physical Pharmacy , Vallabh Prakashan, Delhi,
   i. 2005
8. Blake, R.P., "Industrial Safety", Prentice Hall, 1953.
9. Lees, F.P., "Loss Prevention in Process Industries", 2nd Edition, Butterworth Heinemann, 1996.
10. Mechanical and Industrial Measurements R.K. Jain
11. Industrial Instrumentation and Control S.K. Singh
12. http://ncerthelp.com/cbse%20notes/class%2011/physics/Physics%20Notes%20Class%2011%20CHAPTER%202%20UNITS%20AND%20MEASUREMENTS%20.pdf
13. http://saba.kntu.ac.ir/eecd/ecourses/inst%2086/Projects/Velocity%20Measurement/Velocity%20Measuremnt.pdf
14. http://enggyd.blogspot.in/2011/05/pressure-measuring-instruments.html
15. http://nptel.ac.in/courses/101106040/chapter%205.pdf
16. http://www.engineeringtoolbox.com/flow-meters-d_493.html

Reference Books

1. A.R. Gennaro, Remington: The Science and Practice of Pharmacy, 20th Edition, Vol. 1,Lippincott Williams & Wilins, Philadelphia, 2004.
2. E.A. Rawlins, Bentely's Textbook of Pharmaceutics, 8Th Edition, Baillere Tindill, London,2002.
3. The Prevention of Food Adult eration Act 1954 with Rules.
4. Vijay Malik Drugs & Cosmetic Act 1940, 10 Th edition.
5. Introduction to Pharmaceutical dosage forms by Howard C. Ansel
6. Remington's Pharmaceutical Sciences.
7. Register of General Pharmacy by Cooper and Gunn
8. General Pharmacy by M.L.Schroff

PHARMA TEFCHNOLOGY
PART B – VOCATIONAL SUBJECTS
FIRST YEAR
PAPER – III: PHARMACEUTICAL CHEMISTRY & QUALITY MANAGEMENT SYSTEMS (THEORY)
TIME SCHEDULE , WEIGHTAGE & BLUE PRINT

S.No	Name of the Unit	No of Periods	Weight age in marks	Short Answer Questions	Essay/ Problem Questions
1.	I) To have a detailed knowledge about Basics of pharmaceutical Science and Chemistry inclusive of 1) Organic Nomenclature System 2) Organic Reaction Mechanism II) Basic Analytical Chemistry fundamentals including 1) Balancing chemical equations 2) Chemical equilibrium 3) Acid and base chemistry 4) Stoichiometric calculations 5) Reduction and oxidation chemistry III) Interaction of light with matter	30	10	2	1
2.	Organization of quality control lab in industry and process flow.	8	4	2	-
3.	Types of samples and sample preparation methods (air, liquid and solids).	8	10	2	1
4.	Good laboratory practices 1) Glassware and other utensils cleaning , drying and storage. 2) Weighing and measuring procedures and documentation. 3) Calibration, preventive maintenance and regular use maintenance. 4) Installation qualification , operational qualification and performance qualification (IQ,OQ AND PQ).	15	10	2	1

5.	Wet lab a. Volumetric analysis b. Gravimetr b. Gravimetric analysis mointure analyser, ash values etc c. Spectral analysis – IR & UV d. Water by Karl-Fischer (KF).				
6.	**Chromatography** a. Paper and thin layer b. HPLC c. GC **QUALITY MANAGEMENT SYSTEMS** Introduction to quality management systems. ICH-Q10: Raw material quality control Conceptual scientific knowledge --Identification tests ~~--LOP and water KF~~ ~~--Ash values~~ ~~--Limit tests~~ ~~In process quality control(IP& C)~~ a) solid oral dosage forms b)liquid oral dosage forms c)sterile products d)semisolids Finished products quality controls Analytical methods, vaidation – introduction and significance Specifications , OOS,OOT,CAPA, change control and documentation as Per QMS. Basics of 1.)Root cause analysis. 2~~.)FMEA(Failure Mode Effect Analysis or fish bone diagram).~~ 3.)~~Auditing.~~ 4) cGMP				

Inorganic Pharmaceutical Chemistry (Practical), 2nd Edition, Dhake & Belsare.

1. Vogel's Text Book of Quantitative Analysis, 5th Ed.
2. Vogel's Quantitative Inorganic Analysis.
3. www.fda.gov/downloads/Drugs/.../Guidances/ucm073517.pdf
4. **Pharmaceutical Manufacturing Handbook: Production and Processes by** Shayne Cox Gad

PHARMA TEFCHNOLOGY
PART B – VOCATIONAL SUBJECTS
SECOND YEAR
PAPER – I: PHARMACOLOGY& PHARMACEUTICALS REGULATIONS (THEORY)

TIME SCHEDULE, WEIGHTAGE & BLUE PRINT

S.No	Name of the Unit	No of Periods	Weightage in marks	Short Answer Questions	Essay/ Problem Questions
1.	General Pharmacology 1. Introduction 2. Routes of drug administration 3. Bioavailability 4. Drug Interactions	7	2		
	DEFINITION ,CLASSIFICATION AND THERAPEUTIC USES OF THE FOLLOWING CLASSES OFV DRUGS				
2.	Drugs acting on blood and blood forming organs 1. Antiplatelet agents 2. Anticoagulants 3. Thrombolytic agents	5	2		
3.	Drugs acting on CNS and ANS CNS 1. Sedatives and Hypnotics 2. General Anaesthetics 3. Analgesics ANS 1. Adrenergic drugs 2. Cholinergic drugs 3. Skeletal muscle relaxants	12	3		
4.	Drugs acting on cardiovascular system 1. Anti Hypertensives 2. Antiarrythemics 3. Pharmacotheraphy of angina pectoris 4. Atherosclerosis	7	4		
5.	Drugs acting on respiratory system 1. Pharmacotheraphy of cough 2. Antiasthmatics	4	2		
6.	Drugs used in disorders of GIT 1. Digestives&Antiflatulents 2. Emetics 3. Laxatives	7	2		

	~~**4.** Pharmacotherapy of peptic ulcer~~				
7.	Drugs acting on endocrine system 1. Anterior pituitary ~~hormones~~ 2. Thyroid hormones and anti thyroid drugs 3. Anti diabetics **4.** Adrenal cortical steroids	10	2		
8.	Diuretics	2	2		
9.	Hormones	3	2		
10.	Anti-biotics , Anti-infectives and antiseptics	7	4		
11.	Immunity and Immunological products	7	3		
PHARMACEUTICAL REGULATIONS					
1	Introduction to Pharmacopoeia 1) Indian Pharmacopoeia 2) British Pharmacopoeia 3) European Pharmacopoeia 4) United States Pharmacopoeia- Drug and drug product Monograph. .	12	8	1	1
2.	a)Drug control administration in India – organization and DCGI . b) Drugs and Cosmetics Act and rules – over view. c) Schedule - M	14			
3.	ICH guidelines : over view and important information from each guideline .	14			
4	a) Introduction to Hatch – Waxman Act and its amendments. ~~b) Brief account of ANDA .~~ c) ~~Over view of approval process of ANDA .~~	18			
5	~~a)Introduction to EMEA and WHO organization.~~ b) Drug product approval process	20			

PHARMA TEFCHNOLOGY
PART B – VOCATIONAL SUBJECTS
SECOND YEAR
PAPER – II: PHARMACEUTICAL TECHNOLOGY (THEORY)

TIME SCHEDULE , WEIGHTAGE & BLUE PRINT

S.No	Name of the Unit	No of Periods	Weightage in marks	Short Answer Questions	Essay/ Problem Questions
1.	**Oral Solid Dosage form Manufacturing:** (1) Process flow diagram of Tablets manufacturing (2) Different types of manufacturing processes **(3) Size separation:** i. Definition and scope ii. Types of sifters iii. Operation, cleaning and maintainence of sifter **(4) Milling:** i. Definition and scope ii. Types of mills iii. Operation, cleaning and maintainence of mills **(5) Mixing andGranulation** i. Definition and scope ii. Types of granulators iii. Operation, cleaning and maintainence of granulators **(6) Drying** i. Definition and scope ii. Types of dryers iii. Operation, cleaning and maintainence of dryers **(7) Blending** i. Definition and scope ii. Types of Blenders iii. Operation, cleaning and maintainence of blenders **(8) Compression:** i. Definition and scope ii. Types of Compression machines iii. Operation, cleaning and maintainence of compression machines and related line equipments iv. Tablet toolings **(9) Capsules filling:**	25	26	5	2

	i. Definition and scope ii. Types of Capsules filling machines iii. Operation, cleaning and maintainence of capsules filling machines iv. defects in filled capsules v. Handling of empty capsules shells **(10) Tablet Coating:** i. Definition and scope ii. Types of Coating machines iii. Operation, cleaning and maintainence of coating machines iv. defects in coated tablets ~~v. Inspection of coated tablets~~				
2.	**Liquid Oral Manufacturing** i. Monophasic Liquid Oral Manufacturing: ii. Process flow diagram of manufacturing iii. Preparation of different types of vehicles iv. Operating and cleaning of tanks, utensils and pipelines v. In process checks **(1)Filtration** i. Definition and scope ii. Types of filtration equipments iii. Operation, cleaning and maintenance of Filtration equipments **(2) Suspension Manufacturing** i. Process flow diagram of manufacturing ii. Preparation of different types of suspensions iii. In process checks iv. Operation cleaning and maintenance of different types of mills and homogenizers **(3) Emulsion Manufacturing** i) Process flow diagram of manufacturing	20	26	5	2

	ii) Preparation of different types of emulsions iii) In process checks iv) Operation cleaning and maintenance of different types of mills and homogenizers **(4)** Operation cleaning and maintenance of Liquid filling equipments and line equipments (5) Visual inspection of filled product				
3.	**Injectable Manufacturing** (a) Introduction to aseptic areas (b)Gowning procedures for sterile area entry and working (c) Process flow diagram for aseptic manufacturing (d) Sterilization: i) Definition and scope ii) Types of sterilization processes iii) Operation, cleaning and maintenance of sterilization equipments like Autoclave, Dry heat sterilizers iv) Operation and maintenance of Laminar hoods v) Operation and maintenance off Isolators (e) Ampoule/Vial washing and sterilization i)Operation, cleaning and maintenance of equipment (f) Ampoule/Vial filling and sealing i) Operation, cleaning and maintenance of equipment (g) Visual Inspection of filled ampoules and vials (h) Lyophilisation: i) Principle and scope ii) Operation, cleaning and maintenance of Lyophilized iii) ~~In process checks~~ iv) Common problems and trouble shooting	20	26	5	2
4.	**Semi solids Manufacturing and Filling** (a) Process flow diagram for Ointment, Ceams and Gels	20	12	3	1

	~~(b) Operation, cleaning and maintainence of manufacturing tanks, transfer pumps, lines and homoginizers and mills~~ ~~(c) Different types of Filling machines (for e.g. for tubes, jars etc)~~ ~~Operation, cleaning and maintainence of filling machines and associated line equipments~~				
5.	**Packaging and Labeling** a) Types of packaging for different dosage forms ~~b) Regulatory guidelines regarding labeling~~ ~~c) Different types of packaging and labeline machines~~ ~~d) Operation, maintainence and cleaning of packaging and labeling machines.~~ e) ~~In process checks for packaging operations~~	25	12	3	1
	Total	110			

PHARMA TEFCHNOLOGY
PART B – VOCATIONAL SUBJECTS
SECOND YEAR
PAPER – III: PHARMACEUTICAL ENGINEERING (THEORY)

TIME SCHEDULE, WEIGHTAGE & BLUE PRINT

S. No	Name of the Unit	No of Periods	Weightage in marks	Short Answer Questions	Essay/ Problem Questions
1	**Size Reduction** Classification of Size Reduction Equipment modes of stress applied in size reduction, Principles, working and construction of ~~(i) Cutter Mill~~ (ii) Roller Mill (iii) Ball Mill				
2	**Mixing** Mechanism of Mixing, Ideal Mixing, ~~Random Mixing, Acceptabe Mixing~~. Principal, Working and Construction of Double Cone blender planetary mixer sigma blade mixer.				
3	**Evaporation** Factors Effecting Evaporation. Principle,Construction and working of Steam Jacket Kettle Evaporator Horizontal Tube Evaporator				
4	**Distillation** Classification of Distillation. Study of Simple Distillation, ~~Flash Distillation~~ and Fractional Distillation				
5	**Filtration** Mechanism of Filtration, Factors Effecting Filtration, Working of Buchner Funnel and Filter Paper ~~Sintered Glass Filter~~ ~~Membrane Filter~~				
6	**Transportation of Solids** Objective and Advantages of Conveying (Transportation) ~~Classification of Conveyors,~~				

	Construction and Working of Belt Conveyer Construction and Working of Screw Conveyor				
7.	**Maintenance Concepts:** Preventive maintenance, predictive maintenance, breakdown maintenance, ~~spares, inspection, keeping the machine efficiency, partnership with operator and maintenance, reliability centered maintenance, operator care, CLITA, how to direct mechanic~~	10	12	3	1
8.	**Machine elements:**Structure, classification, applications, and typical troubles of: bolt and nut; keys; bearing; gear; ~~belt and pulleys; chain and joint.~~	12	3	2	1
9.	**Basics of Electrical Engineering:** 1) ~~Types, grades, shapes and sizes of insulated wires and cables, their proper selection and use, cable termination, cable safety,different type of joints e.g. Britannia, Straight, Tee, Western union, letters signs and symbols used in Electrical Technology~~. 2) Ohm's Law & its application, Concept of Electrical Circuit e.g. Series, Parallel and Mixed Circuits. ~~Identification of AC & DC Meters.~~ 3) Resistance and laws of resistance, Kirchhoff laws and their application, Wheat stone bridge and its application,	9	12	3	1
10.	**Automation of Pharmaceutical Operations**	4	2	1	-
	Total	110			

Ref Books:-

1) S.J Carter, Cooper and Gunn's Tutorial Pharmacy 6th Edition, CBS Publishers, Delhi.
2) Pharmaceutical unit Operations by CVS Subramanyam, Vallabha Prakashan Publications .
3) Pharmaceutical Engineering by K.Smbamurthy.
4) Introduction to Chemical Engineering by Badzer and Banchero.

PHARMA TECHNOLOGY
FIRST YEAR
MODEL QUESTION PAPERS
PAPER – I : HUMAN ANATOMY AND PHYSIOLOGY (THEORY)

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**

ii) Each question carries two marks

1) Define anatomy and physiology?

2)Mention main human blood grouping system.

3) write definitions of organ and system?

4) Mention the number of chambers of heart and their names.

5)what are the two lobes of pituitary gland?

6)what are the steps in the formation of urine?

7)Mention the main classes of estrogens.

8) write the various parts of respiratory system?

9)what is meant by general hygeine?

10)Mention two water born diseases?

SECTION – B

Note: i) Answer any five questions **5 x 6 = 30**

ii) Each question carries Six marks

11) Describe the elementary tissues of the body.

12)Give a shart note on composition of blood.

13)Explain the parts of brain in breif?

14) Write about cardiac cycle?

15) Write the anatomy and physiology of liver?

16) Write about

a)longitudinal section of kidney.

b)microscopic structure of kidney.

17)Discuss the anatomy of respiratory system.

18) Describe the functions of parts of digestive system.

19) Write the scope of anatomy.

20)Classify the bones of human skeleton.

PHARMA TECHNOLOGY
FIRST YEAR
MODEL QUESTION PAPERS

PAPER – II: PHARMACEUTICAL TECHNOLOGY-I (THEORY)

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**

ii) Each question carries two marks

1) Define pharmacy and also state who is father of pharmacy?
2) Write the uses of hydrometers?
3)Name the types of liquid oral dosage forms.
4) Mention the types of oral solid dosage forms.
5) What are the different types of injectable dosage forms?
6) List out the types of tablets.
7) Name the types of semi solid dosage forms.
8) Mention the units of length.mass ,time in CGS system.
9) What are the types of packaging for different dosage forms?
10) Define FIRST AID?

SECTION – B

Note: i) Answer any five questions **5 x 6 = 30**

ii) Each question carries Six marks

11) Write history of pharmacy?
12) Discuss the formulation of tablets.
13) Give an overview of liquid oral dosage forms.
14) Write about different process involved in manufacturing semisolid dosage forms.
15) Explain inprocess checks in packaging?
16) Give a note on fire safety?
17) Discuss about introduction to controled released tablets.
18) Explain the types of packaging for different dosage forms?
19) Explain process sefety analysis?
20) Explain different PPES used in different production operations?

PHARMA TECHNOLOGY
FIRST YEAR
MODEL QUESTION PAPERS

PAPER – III: PHARMACEUTICAL CHEMISTRY AND QUALITY MANAGEMENT SYSTEMS (THEORY)

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**
ii) Each question carries Two marks

1) What is chemical equilibrium?
2) Give the definitions of acid and base?
3) What is the definition of quality management system?
4) What are the safety precautions to be followed while handling a sample?
5) Mention the tests for oral solid dosage forms?
6) Write the uses of PH meter and HPLC?
7) Write about self inspection?
8) What is the necessity of cleanliness of equipment and area used for production?
9) Define pharmaceutical chemistry?
10) Define oxidation and reduction?

SECTION –B

Note: i) Answer any FIVE questions **5 x 6 = 30**
ii) Each question carries SIX marks

11) Write about the basics of pharmaceutical science and chemistry.
12) Describe HPLC operating procedure?
13) Write about interaction of light with matter?
14) Give a short note on spectral analysis?
15) Write about cleaning and maintenance of glassware?
16) Write a short note on spectral analysis?
17) Explain paper chromatography?
18) Write about organic nominclature system?
19) Explain acid base titrations?
20) Write about GLP in breif?

PHARMA TECHNOLOGY
SECOND YEAR
MODEL QUESTION PAPERS
PAPER – I – PHARMACOLOGY&PHARMACEUTICAL REGULATIONS (THEORY)

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**

ii) Each question carries Two marks

1) Define pharmacology?
2) What is meant by bio availability?
3) Write normal values of B.P and define anti hypertensives?
4) Define an emetics?
5) Give two examples of laxatives?
6) Write the definition of analagesic and give examples?
7) Mention any two antocoagulants?
8) Write the definition of antiasthmatics?
9) Define pharmacopoeia?
10) What is meant by antibiotics?

SECTION –B

Note: i) Answer any FIVE questions **5 x 6 = 30**

ii) Each question carries SIX marks

11) Explain the routesof drug administration?
12) Write an overview of ICH guidelines?
13) Classify the immunity.
14) Discuss in brief about drug product approval process.
15) Write the classification of general anaesthetics.
16) Classify antihypertensives.
17) Write about anti diabetics .
18) Classify diuretics and write their uses.
19) Write the classification of sedatives.
20) Discuss the classification of anti infectives.

PHARMA TECHNOLOGY
SECOND YEAR
MODEL QUESTION PAPERS
PAPER-II – PHARMACEUTICAL TECHNOLOGY-II (THEORY)

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**

ii) Each question carries Two marks

1) Define tablet?
2) Mention different types of granulators?
3) What are different types of filtration equipment in liquid oral manufacturing?
4) Write definition of suspension.
5) What is meant by aseptic area?
6) Give definition of sterilisation.
7) Write the parts of capsule.
8) Mention different types of semi solid dosage forms.
9) Mention different types of packaging for tablets.
10) Write the contents of label.

SECTION –B

Note: i) Answer any FIVE questions **5 x 6 = 30**

ii) Each question carries SIX marks

11) Give the process flow diagram of tablet manufacturing and mention the steps.
12) Discuss the various aspects of emulsion manufacturing.
13) Write about different types of sterilisation process.
14) Describe lyophilisation in detail.
15) Write about operating ,cleaning and maintenance of filling machines.
16) Give a note on different types of packaging and labelling machines.
17) Classify different types of shifters.
18) Write a note on types of mills.
19) Give a note on types of filteration equipment.
20) Explain the process flow diagram for ointments?

PHARMA TECHNOLOGY
SECOND YEAR
MODEL QUESTION PAPERS
PAPER – III- PHARMACEUTICAL ENGINEERING (THEORY)

Time: 3 hrs **Marks: 50**

SECTION – A

Note: i) Answer all questions **10 x 2 =20**

ii) Each question carries Two marks

1) Write the importance of size reduction in pharmacy.
2) Define distillation?
3) Mention different equipment for mixing of solvents.
4) Mention objectives of transportation of solids.
5) Define filter medium and give examples?
6) Write the definition of preventive maintenance.
7) Mention different equipment used in size reduction.
8) Define evaperation?
9) What is meant by distillate?
10) Write the definition of residue?

SECTION –B

Note: i) Answer any FIVE questions **5 x 6 = 30**

ii) Each question carries SIX marks

11) Discuss about roller mill.
12) Write about planitory mill.
13) Explain the factors enfluencing the evaporation?
14) Describe the construction and working of steam jacket kettle evaperator.
15) Explain the process of distillation on lab scale.
16) Describe the filtration using filter paper and funnel.
17) Write the construction and working of belt conveyor.
18) Write ohm's law and its applications .
19) Explain wheatstone bridge and its applications.
20) Write the use of computers in automation.

PHARMA TECHNOLOGY REQUIRED LAB EQUIPMENTS

S.No.	Item	Quantity per batch (30 students in a batch)
	Wet / Chemical Lab	Item Qty Required
1	Syringes (2ml, 5ml, 10ml) (Is it for lab?/if it is then required)	5 each
2	UV Analyser (Make: Perkin elmer/shimadzu/Thermo)	1
3	FT-IR (Make: Shimadzu/Thermo)	1
4	Mortar and Pessel (Type: Silica, SS-316L, Agate, Granite)	1
5	Halogen Moisture Analyzer	1
6	Seive Shaker	1
7	Seive meshes (All grade levels like 100, 150, 200, 250 etc,..)	2 each
8	Motor grinder	4
9	Silica(Costs less) / Platinum Crucibles (Costs more)	4 & 2
10	Muffle Furnace	1
11	Loss on Drying Machine with Vaccum, pressure gauge meter	1
12	Refractometer	1
13	Polarimeter	1
14	Auto titrator	1
15	Melting point	1
16	Capillary tubes	1
17	TLC chamber	1
18	Brook filed Viscometer	1
19	Black particle size analyzer	1
20	Density meter	1
21	Bulk density and Tapped density tester	1
22	Friabilator	1
23	Vernier callipers	5
24	Micrometer screw gauge	3
25	Karl Fisher Apparatus (Make: Metrom)	1
26	Particle Size Analyzer (Make: Malvern Master 2000)	1
27	Hardness Tester	1
28	Labelling Machine	1
29	Laboratory Microscopes(40X and 100X)	10
30	Barcode scanner	1
31	Torque tester	1
32	Induction cap sealer	1
33	Bursting strength	1
34	Pin hole tester	1
35	Differential scanning calorimeter	1
	Instrumentation	
1	HPLC (Make: Agilent/Waters/Shimadzu)	1 each

2	Mobile phase filteration kit with filters (MilliQ) with vaccum motor	1
3	Milli-Q / TKA water for HPLC	1 each
4	Syringe Filters (6,6-Nylon,PVTF, PVDFE, PTFE etc..)	1 each
5	Specific optical rotation Analyser (Make: Rudolph Autopol V/ Jasco 2000 or 3000)	1 (any one)
6	HPLC vials	1
7	Crimpers	1
8	Dissolution filters (1 micron)	1
9	Gas chromatographer	1
10	GC vials	1
11	GC injection needle	1
12	HPLC columns (Different sizes)	1 each
13	GC columns	1
14	Dissolution Apparatus	1
15	DT Apparatus	1
	Common for use in lab	
1	Analytical balance with printer	4
2	Pipettes (1mL, 2mL, 5 ml/10 ml)	1
3	Sonicators	1
4	Hot air oven	1
5	Rotary shaker	1
6	water bath	1
7	Glassware drying oven	1
8	Cleaning agents (soap/alconox etc)	1
9	Centrifuge	1
10	Centrifuge tubes	1
11	pH meter with ATC Probe/ Glass electrode	1
12	conductivity meter	1
13	Scale	1
14	Magnetic stirrers	1
15	Hot plate with magnetic stirrer	1
16	LOD bottles	1
17	Dessicator	1
18	Droppers	1
19	Vortex mixer	1
20	Lab equipped with Fume Hoods	1
21	Glassware for Lab	As required to run the lab
22	Burrette stand with white tile	1
	Saftey related	
1	Half Face Mask	4
2	Full Face Mask	4
3	Various Cartridges	4

4	Safety Goggles	4
5	Safety Shoes	4
6	Gum Boots	1
7	Chemical Absorbent	1
8	Self Contained Breathing Apparatus	2
9	PVC Apron	2
10	Gloves(Nitrile, {Heat, acid, chemical} resitant, washing etc..)	2
11	Lab Coat	1 per trainee
12	Surgical Gloves (in Microbiology)	As required to run the lab
13	Eye washer with sprinkler/ Manual bottle eye washer	As required for safety in lab
14	CO2 type Fire Extinguisher	2
15	ABC Type Fire Extinguisher	2

(B) List of on the job training sites

1. Pharmaceutical Industries
2. Pharmacy Colleges
3. Medical Colleges
4. Pharmacies

On job training syllabus –Pharmatechnology

Pharma industry area of training :

a .Pharmatech operators
b. Production supervisor
c. Warehouse assistant
d. Asistant formulation R&D
e. Assistant –analytical R&D
e. Assistant D & A.

GENERAL :

1. Training on standard operation procedures(SOPs)
2. Training on on-site safety procedures.
3. Training on good laboratory procedures(GLPs)
4. Training on documentation.
5. Communication skills and soft skills.

FORMULATION AREA:

1. Flow chart of a particular dosage form . Eg. Tablets
2. Training on all equipment in the flow : installation, operational and performance qualification of each equipment.
3. Setting and operation of each equipment and calibration
4. Dismantling , cleaning and re-installation of parts of equipment .

LIST OF COMPANIES FOR ON JOB TRAINING

1. DR Reddy's laboratories
2. Mylan
3. Aurobindo pharma
4. Hetero drugs.
5. MSN Laboratories
6. NATCO laboratories
7. Neuheit pharma technologies pvt ltd.
8. Sri Krishna Pharma Technologies pvt ltd.

LIST OF COLLEGES

1. **University College of Pharmaceutical Sciences. Kakatiya University.**
2. **Dept of Pharmacy, Palamur University , Mahaboobnagar.**

ANALYTICAL AREA :

1. Overview of various analytical techniques used in pharma industry.
2. Training and practical involvement in all analytical equipment used.
3. Wet lab analysis training .
4. Training to support analysis with sophisticated instruments such as HPLC & GC

5 Hands on experience v with all equipment

30% DELETED CONTENT IN VIEW OF COVID-19 PANDEMIC

FIRST YEAR

PAPER -1: HUMAN ANATOMY AND PHYSIOLOGY (THEORY)

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT- 1 Basic Introduction	• elementary tissues of the body	5. What is the definition of Tissue?	7. Write the classification of different tissues of human body
2	UNIT- 2 Blood and Components	• Disorders affecting blood and blood cells	10. What is meanty by Anemia?	16. Write the functions of W.B.C. and disorders related to W.B.C.
3	UNIT- 3 Central Nervous System (CNS) and Autonomous Nervous System (ANS)	• Physiology of the CNS and ANS, Diseases affecting CNS and ANS	19. Write the functions of spinal cord. 20. Write the differences between sympathetic and parasympathetic systems. 21. What are the functions of cerebrum?	23. Write the functions of Hypothalamus. 24. Mention the disorders affecting nervous system and explain
4	UNIT- 5 Skeletal and Muscular System	• Physiology of muscle contraction, disorders of Skeletal and muscular system	37. Write 'All or none' law. 38. Define neuromuscular junction.	40. Explain neuromuscular transmission.
5	UNIT- 7 Digestive System, parts of the Gastro Intestinal System (GIT)	• diseases affecting the GIT system	NIL	NIL
6	UNIT- 8 Endocrine System, Disorders Parts of the Endocrine System	• Mechanism of hormonal release	NIL	67. Discuss the mechanism of hormonal release in the body
7	UNIT- 9 Urinary System (Excretory System, Parts of the Urinary System)	• Physiology of urine formation and excretion, diseases affecting urinary system	70. What is meant by micturition?	72. Explain the process of urine formation. 73. Discuss the disorders of urinary system.
8	UNIT- 10 Health Education	• Diseases of male and female reproductive systems	77. Define endometritis	79. Mention different male and female reproductive system disorders and explain briefly.
9	11 Health education	• Environmental pollution	83. What is meant by pollution?	NIL

PHARMA TECHNOLOGY - FIRST YEAR
PAPER -2 PHARMACEUTICAL TECHNOLOGY -1

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT- 1 Introduction To Pharmaceutical Sciences	• Pharmacy in India	2. Write the name of father of pharmacy and also who contributed to the development of pharma education in India.	6. Discuss the development of pharmaceutical industry in India.
2	UNIT- 2 Metrology and reformulation studies	• Specific gravity and viscosity	NIL	14. Write about the determination of viscosity
3	UNIT- 3 Over view of oral solid dosage forms	• General equipment for different processes, introduction to controlled release tablets and pellets – matrix systems, reservoir systems, wrester coating of pellets for controlled release and delayed release products	NIL	20. Write about in-process quality controls for tablets and capsules.
4	UNIT- 4 Over view of liquid oral dosage forms	• General equipment for different processes, general in process checks and methods for performing these tests	NIL	27. Explain general equipment used in manufacture of liquid dosage forms. 28. Write about general in process checks for liquid orals.
5	UNIT- 5 Over view of injectable dosage forms	• General in process checks and methods for performing these tests	NIL	36. Explain in process checks and methods generally used for injectable dosage forms.
6	UNIT- 6 Over view of semisolid dosage forms	• General in process checks and methods for performing these tests	NIL	43. Describe in process checks during manufacture of semisolid dosage forms.
7	UNIT- 7 Over view of pharmaceutical packaging	• In process checks in packaging	NIL	49. Write about in process checks in packaging.
8	UNIT- 8 Safety health and environment	• Use of materials safety data sheet, industrial and job safety analysis for various production equipment and machinery	NIL	58. Write about Industrial and Job Safety analysis for various production equipment.

PHARMA TECHNOLOGY - FIRST YEAR

PAPER -3: PHARMACEUTICAL CHEMISTRY& QUALITY MANAGEMENT SYSTEMS-1

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT- 1 basics of pharmaceutical science and chemistry	• organic reaction mechanism, stoichiometric calculations	NIL	7 Explain organic nomenclature system. 8. Write about stoichiometric calculations.
2	UNIT- 4 GLP	• Installation, qualification, operational qualification and performance qualification (IQ, OQ,AND PQ)	25. Define installation qualification. 27. What is meant by operational qualification?	NIL
3	UNIT- 5 WET LAB	• volumetric analysis, gravimetric analysis moisture analyzer, ash values	32. What is meant by gravimetric analysis? 33. What do you mean by ash value?	NIL
4	UNIT- 7 Quality management systems	• Raw material quality control, conceptual scientific knowledge, identification tests, • LOP,AND KF, ash values, limit tests, in process quality control of all dosage forms, QC OF finished products, analytical methods , validation ,introduction and significance, specifications, and basics of root cause analysis, FMEA, AND auditing	43. What is meant by validation?	46. Explain raw material quality control system. 47. Explain about root cause analysis 48. Write a short note on failure mode effect analysis.

PHARMA TECHNOLOGY - SECOND YEAR

PAPER -1: PHARMACOLOGY AND PHARMACEUTICAL REGULATIONS

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT- 4 Drugs acting on CVS	Pharmacotherapy of angina pectoris, atherosclerosis	24. Define angina pectoris and mention the types.	25 Write about the drugs used to treat atherosclerosis. 26. Discus various anti anginal agents.
2	UNIT- 6 Drugs used in disorders of GIT	Pharmacotherapy of peptic ulcer	35. What is peptic ulcer?	NIL
3	UNIT- 9 Hormones	hormones	COMPLETELY DELETED	COMPLETELY DELETED
4	UNIT- 12 Introduction to pharmacopeia	BP, EP AND USP	69. Write the full froms of B.P. and U.S.P.	70. Write about European pharmacopoeia.
5	UNIT- 13 Drug control	Drug control administration in India –organization and DCGI, Drugs and cosmetics act rules – over view	71. What is the purpose of Drugs & Cosmetics Act? When was it enacted? ,72. Expand : (a) DCGI (b) ANDA	74. Write a Short note on Indian Drug Regulatory agency
6	UNIT- 15 Introduction to hatch – Waxman act and its amendments.	Brief account of ANDA, over view of approval process of ANDA	80. Write the full form of ANDA.	82. Explain about the approval process of ANDA.
7	UNIT- 16 Introduction to EMEA and WHO organization	Introduction to EMEA and WHO organization	83. Expand (a) E.M.E.A. (b) W.H.O. 84. What is the primary role of W.H.O.? 85. Mention the member countries of European union.	86. Write a short note on European Medicines Agency. 87. What are the functions of W.H.O.? Explain

PHARMA TECHNOLOGY - - SECOND YEAR
PAPER -2: PHARMACEUTICAL TECHNOLOGY -2

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT- 1 oral solid dosage forms manufacturing	• 1-8-4 tablet toolings, 1-10-5 inspection of coated tablets	NIL	NIL
2	UNIT- 2 oral liquid dosage forms manufacturing	• in process checks	NIL	19. Discuss the inprocess checks in manufacture of emulsions.
3	UNIT- 3 Injectable manufacturing	• in process checks, common problems and trouble shooting	26. What is meant by inprocess checks?	NIL
4	UNIT- 4 Semi solid manufacturing and filling	B)Operation, cleaning, and maintenance of manufacturing tanks transfer pumps, lines and homogenizers and mills c)different types of filling machines Operation, cleaning, and maintenance of filling machines and associated line Equipments	NIL	35. Write about different types of filling machines for semi solids. 36. Discuss the cleaning and maintenance of filling machines. 37. Explain ampoules washing and sterilization. 38. Write a brief note on Lyophilisation
5	UNIT- 5 Packaging and labeling	b) regulatory guidelines regarding labelling c)different types of Packaging and labelling machines d) Operation, cleaning, and maintenance of Packaging and labeling machines e) in process checks for packaging operations	NIL	45. Explain different types of packaging and labeling machines. 46. Write about operation, maintenance and cleaning of packaging machines.

PHARMA TECHNOLOGY - SECOND YEAR
PAPER -3: PHARMACEUTICAL ENGINEERING

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT - 1. Size reduction	Cutter mill	3. Give the principle of cutter mill.	4. Write the construction and working of cutter mill.
2	UNIT - 2. Mixing	Random mixing and acceptable mixing	8. Differentiate between ideal mixing and random mixing.	Nil
3	UNIT - 4. Distillation	Flash distillation	Nil	24. Write a short note on flash distillation.
4	UNIT - 5. Filtration	Sintered glass filter, membrane filter	Nil	32. Write about Buchner funnel, Sintered glass filter and membrane filter.
5	UNIT- 6 Transportation of solids	Classification of conveyors	Nil	Nil
6	UNIT - 7 Maintenance concepts	Spares, Inspection, Keeping the machine efficiency, Partnership with operator and maintenance, Reliability, Operator care, How to direct mechanic.	43. Write about spares. 44. What is meant by partnership with operator? 45. Define reliability centered maintenance.	46. Write a short note on operator care. 47. Explain CLITA maintenance and how to direct mechanic.
7	UNIT - 8. Machine elements	Belt, Pulley, Chain, Joints	Nil	52. Write about belt and pulleys. 53. Explain chain and joint.
8	UNIT - 9. Basics of electrical engineering	1. Types, grades, shapes, sizes of insulated wires and cables, their proper selection and use, cable termination safety, different types of joints, symbols used in electrical technology 2. A.C. and D.C. meters	54. Why is a wire insulated?	Nil

VOCATIONAL CURRICULUM-2020

(For the Academic year 2020-21)

[70% CONTENT IN VIEW OF COVID-19 PANDEMIC]

Medical Lab Technician
[Course Code:617]

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

Dr. A.Ashok I.A.S
COMMISSIONER

500001

INTERMEDIATE EDCATION
Government of Telangana
Nampally, Hyderabad-

Phone: 040-24655915

Fore word

In any developing society with a booming population, Vocational Education occupies an important position for generating large scale employment opportunities. Viewed in this context the importance of Vocational Education for our country cannot be over emphasized. Vocationalization of Secondary Education was introduced in 1988 at the Intermediate level. Recently, the Government of India has developed a National Skills Qualification Framework for establishing a clear path for vocational education from the school level to the highest level. The Department of Intermediate Education has recently framed a new curriculum to bring greater value to the system of vocational education. The primary aim of this reform is to prepare the students with employable skills for absorption in organized sectors and in few cases, even for self-employment.

State Institute of vocational education and Board of Intermediate Education, Telangana have reviewed the curriculum of vocational courses in order to reorient them for their practical approach. Greater emphasis is now being placed on Laboratory work and on the job training.

Simultaneously, The State Institute of Vocational Education and the department of Intermediate Education are presently making efforts to upgrade the quality of infrastructure in the colleges to meet the challenges of the changed curriculum. I am confident that the revised curriculum and the new text books would prove to be beneficial to the students in the vocational stream and help them train in need based productive courses leading to gainful employment.

Commissioner of Intermediate Education
Government of Telangana

MEDICAL LAB TECHNOLOGY

S No.	Contents	Page No.
I	**Introduction**	5
II	**Objectives of the Course**	5
III	**Skills to be provided**	5
IV	**Job Opportunities** a) Wage Employment b) Self-Employment	8
V	**Scheme of Instruction and Examination**	9
	SYLLABUS	
VI	**First year Intermediate** **Theory** Paper I : Bio-Chemistry -I Paper II : Microbiology & Pathology Paper III: Anatomy & Physiology **Practicals** Paper I : Bio-Chemistry -I Paper II : Microbiology & Pathology Paper III: Anatomy & Physiology	12
VIII	**Second Year Intermediate** **Theory** Paper I : Bio-chemistry-II Paper II : Micro-biology Paper III: Pathology **Practicals** Paper I : Bio-chemistry-II Paper II : Micro-biology Paper III: Pathology	22
IX	**Model Question Papers**	37
X	**List of Equipment** a) Collaborating Institutions for curriculum transaction b) On – the – Job Training Sites	49
XI	**Teaching staff and their Qualification**	53
XII	**Vertical Mobility**	53
XIII	**Reference Books**	53
XIV	**List of Participants**	54

I Introduction

Diagnostics play an important and vital role in the field of medicine. Without the aid of proper diagnostics, accurate conclusions cannot be drawn and suitable medical or surgical treatment cannot be given. Preparation of reagents of the purest quality also needs special attention and care. Thus Medical Lab Technology Courses is gaining greater importance. Clinical advances & studies in the fields of medicine, surgery, Pharmaceutical industries and nutrition also require technicians.

The Medical Laboratory Technician course is designed to train man power to effectively carry out medical Laboratory Technical work in various departments of medical, dental, pharmacy colleges, peripheral laboratories, research and diagnostic centers and also to set up and run own clinical laboratories.

II.Objectives of the Course

- To train the students to work in diagnostic labs.
- To train the students to work in manufacturing units of diagnostic regents.
- To train the students to assist the qualified experts in these fields.
- To train the students to understand the organization of Hospitals, Research Laboratories etc.
- To train the students to attend to analytical work and Research & Development [R&D] work in drug labs and pharmaceutical industries.
- To Train the student to attend basic Emergency, diagnostic requirement to the patient in Day and night Duties.

III.Skills to be provided.

GENERAL SKILLS FOR FIRST YEAR MLT STUDENTS

- Identification of patient.
- Giving instructions to patients for 24 hour urine sample collection.
- Giving instructions to patients for GTT.
- Giving instructions to patients for semen sample collection.
- Giving instructions to patients for sputum sample collection.
- Giving instructions to patients for urine sample collection for culture.
- Collecting proper history relevant to the test.
- Preparation of patient for Phlebotomy.
- Technique of phlebotomy.
- Collecting sample in appropriate container.(Sample Collection)
- Preparing the sample for processing.
- Preservation and storage of specimen.
- Accurately processing of specimens.
- Appropriately discarding the specimens.
- Reception and registration of the sample
- Entering the report in register and dispatch of report..
- Handling of the Apparatus.

- Accurately measuring, weighing etc.
- Maintaining the electronic balance.
- Cleaning and sterilization of the apparatus.
- Disposal of Lab waste.
- Know Limitation of the Tests.

SKILLS IN PATHOLOGY FOR FIRST YEAR MLT STUDENTS

- Preparing the anticoagulants
- Preparing the Leishman's stain.
- Preparing peripheral blood smear.
- Staining of peripheral blood smear.
- Preparing and staining thick smear .
- Estimation of haemoglobin by Sahli's method and by photoelectric method.
- Estimation of ESR
- Estimation of PCV by Micro and Macro Methods.
- Physical examination of Urine.
- Chemical Examination of urine for sugars-manual method/strip method.
- Chemical Examination of urine for Ketone bodies-manual method/strip method.
- Chemical Examination of urine for Protiens-manual method/strip method.
- Chemical Examination of urine for blood-manual method/strip method.
- Chemical Examination of urine for bile salts -manual method/strip method.
- Chemical Examination of urine for bile pigments -manual method/strip method.
- Preparing wet smear for urine microscopy.
- Preparing processing the blood sample for reticulocyte count by wet and dry method.
- Charging the improved Neubauer chamber
- WBC Count by manual method.
- Platelet Count by manual method.
- Processing of body fluids for cell count.
- Processing of semen for sperm count.
- Coagulation Tests- Bleeding time, Clotting time, Prothrombin time [PT]& APTT
- Absolute Eosinophil count- Materials required, diluting fluids, procedure,
- Sickle cell preparation.
- Screening of blood donor.

SKILLS IN PATHOLOGY FOR SECOND YEAR MLT STUDENTS

- Performing Coombs Test – a) Direct b) indirect
- Staining of Cytological smears.
- Setting up of tray for bone marrow aspiration
- Preparing bone marrow smears – methods- Imprints smears, crush smears.
- Staining of bone marrow smear.
- Buffy coat preparation.
- Techniques of grouping and cross matching
- Receiving and preserving histopathology specimens.

- Maintaining the registers-receiving register, grossing register, slide register, report issue register.
- Taking the consent for investigation.
- Counseling of patient before and after test.
- Maintaining haematologyanalyser.
- Processing the sample in haematologyanalyser.
- Fixation of Histopathology specimen.
- Preparing the specimen for grossing.
- Processing of histopathology specimen manual and automated method.
- Paraffin embedding and block making
- Trimming of blocks
- Tissue section cutting.
- H&E Staining of tissue sections
- H&E Staining cytology slides.
- Mounting of slides
- Maintaining microtome and tissue processor and tissue floatation bath.
- Sharpening of microtome knife.
- Staining of histopathology sections.
- Fixatives for cytology specimens.
- Processing fluid sample for cytology.
- Preparing tray for FNAC and guided aspiration.
- PAP stain preparation and staining of smears.
- Maintenance & Preservation of cytology slides, histopathology blocks & slides.

SKILLS IN BIO-CHEMISRY FOR FIRST YEAR MLT STUDENTS

- Carefull Study of the requisition for the tests.
- Should learn to talk to patient politely and prepare them for blood drawing.
- Ability to identify the patient sample, and labeling and entry into the register.
- Transport of Sample to the Appropriate table for processing
- Should be able to handle the instruments with adequate care.
- Should be able to assist the senior technician in the lab.
- Should be able to dispose the Bio medical waste.
- Dispatch of the reports.

SKILLS IN BIO-CHEMISRY FORSECOND YEAR MLT STUDENTS

- Should be able to do estimations individually.(With Manual Procedures, Semi Auto Analyzers and Fully auto analyzer)
- Should be able to handle Semiauto analyzers.
- Should be able to handle automated pipettes.

SKILLS IN MICROBIOLOGY FOR FIRST YEAR MLT STUDENTS

- Reception area and its quality control.
- Cleaning and maintenance of equipment, glassware.

- Preparation of stains, culture media and sugar Medias.
- Disposal of lab waste

SKILLS IN MICROBIOLOGY FOR SECOND YEAR MLT STUDENTS

- Preparation of direct smears and staining of smears.
- Techniques of inoculation on media and biochemical sugars for the isolation of bacteria.
- Stool concentration techniques and microscopy of stool.
- Serological tests.
- Antibiotic sensitivity tests.
- Maintenance of stock cultures.
- Mycology processing

IV. Job Opportunities.

A. Wage Employment

1.Laboratory technicians in various departments in diagnostic centers.
2.Laboratory technicians in hospitals of various sectors.
3.Laboratory technicians in various departments in medical and pharmacy Colleges.
4.Laboratory Technicians in Clinical studies in various laboratories like
   i) National Institute of Nutrition.
   ii) Central Drug Research Laboratory
   iii) Molecular Biology Labs.
5.Laboratory Technicians in Quality Control, R&D Sectors of Drug Manufacturing units.

B. Self Employment

1. Preparation and sale of readymade reagent kits and media.
2. Distribution of Lab Chemicals, Glassware, Lab Instruments and their spare parts etc.

V. SCHEME OF INSTRUCTION AND EXAMINATION

ANNUAL SCHEME OF INSTRUCTION AND EXAMINATION

MEDICAL LAB TECHNICIAN

FIRST YEAR

Part-A		**Theory**		**Practicals**		**Total**	
		Periods	**Marks**	**Periods**	**Marks**	**Periods**	**Marks**
1.	English	150	50	-	-	150	50
2.	General Foundation course	150	50	-	-	150	50
Part-B							
3.	**Paper-1** Bio-Chemistry -I	135	50	135	50	270	100
4.	**Paper-II** Microbiology & Pathology	135	50	135	50	270	100
5.	**Paper-III** Anatomy & Physiology	135	50	135	50	270	100
	OJT	-	-	365	100	365	100
	TOTAL	**705**	**250**	**770**	**250**	**1475**	**500**

*on the Job Training for 1st year from 1stNovember to 31st December

SECOND YEAR

Part-A		Theory		Practicals		Total	
		Periods	Marks	Periods	Marks	Periods	Marks
1.	English	150	50	-	-	150	50
2.	General Foundation course	150	50	-	-	150	50
Part-B							
3.	**Paper-1** Bio-chemistry-II	110	50	115	50	225	100
4.	**Paper-II** Micro-biology	110	50	115	50	225	100
5.	**Paper-III** Pathology	110	50	115	50	225	100
Part-C							
6.	**OJT**	0	0	450	100	450	100
	Total	**630**	**250**	**795**	**250**	**1425**	**500**
TOTAL FIRST YEAR AND SECOND YEAR MARKS 1000							

*OJT Programme for 2nd year students from 1stAugust to 30thOctober

EVALUATION OF ON THE JOB TRAINING:

The "On the Job Training" shall carry 100 marks for each year and pass marks is 50. During on the job training the candidate shall put in a minimum of 90 % of attendance.

The evaluation shall be done in the last week of January.

Marks allotted for evaluation: 100

S.No	Name of the activity	Max. Marks allotted for each activity
1	Biometric Attendance and punctuality	30
2	Familiarity with technical terms	05
3	Familiarity with tools and material	05
4	Manual skills	05
5	Application of knowledge	10
6	Problem solving skills	10
7	Comprehension and observation	10
8	Human relations	05
9	Ability to communicate	10
10	Maintenance of logbook	10
	Total	100

NOTE: The On the Job Training programme mentioned is tentative. The spirit of On the Job training is to be maintained. The colleges are at liberty to conduct on the job training according to their local feasibility of institutions & industries. They may conduct the entire on the job training periods/hrs of 365 for 1st year and 450 hrs for 2nd year **either by conducting classes in morning session and send the students for OJT in afternoon session or two days in week or weekly or monthly or by any mode which is feasible for both the college and the institution**. However, the total assigned periods/hrs for on the job training should be completed before 31st December

SCHEME OF INSTRUCTION PER WEEK

	Part-A	**Theory**	**Practicals**	**Total**
1.	English	4	-	4
2.	General Foundation Course	4	-	4
	Part-B			
3.	Paper –I	4	4	8
4.	Paper-II	4	4	8
5.	Paper-III	4	4	8
	Total	**20**	**12**	**32**

MEDICAL LAB TECHNOLOGY
FIRST YEAR
PART B – VOCATIONAL SUBJECTS
PAPER – I : BIO - CHEMISTRY (THEORY)

S.No	NAME OF THE UNIT		No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
I	Introduction and Scope of Biochemistry Ethics and Disciplines Lab Ethics, Lab Discipline Importance of Patient and Patients Management For Medical Lab Technicians		10	2	1	
2.	Reception, Identification, Registration of Bio-Chemical parameters for investigation.		10	2	1	
3.	Glassware and plastic ware used in bio-chemical laboratory.		08	8	1	1
	I.	**Glass ware:**				
	a)	Types of glassware, their identification, applications and uses.				
	b)	Cleaning, drying, maintenance and storage of glassware.				
	II.	**Plastic ware:** Brief outline.				
4.	Instruments used in Bio-Chemistry Lab:		08	8	1	1
	I.	**Colorimetry:**				
		Design (parts), principles and laws involved construction, operation, applications, care and maintenance.				
	II.	**Spectrophotometry:**				
		Principle, theory, types, construction, operation, applications and Maintenance.				
5.	Basic lab operations like-		08	6		1
	I.	Separation of solids from liquids By .				
	a)	**<u>Centrifugation</u>**: Principle, Different types of centrifuges, construction of electrical centrifuge, Procedure, care, maintenance and applications.				
	b)	Filtration – using funnel.				
	II.	Weighing: Different types of balances – simple balance, electronic balance – operation, uses, care and maintenance.				
	III.	-				
	IV.	-				
	V.	-				
	VI.	-				
6.		Water Different Types, Chemicals and related substances	08	2	1	
	I.	-				
	II.	Corrosives.				
	III.	hygroscopic substances				
7.		• **<u>Hazards and Safety</u>** Physical, Chemical and Biological Hazards Awareness responsibility and measures of safety	8	6		1

MEDICAL LAB TECHNOLOGY

S.No	NAME OF THE UNIT		No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
		Prevention, communication and Control of Lab Hazards				
8.		Collection of specimens.	08	8	1	1
	I.	Blood – Phlebotomy [How to draw the blood and precautions], types of Specimens, processing and preservation.				
	II.	-				
9.		Urine biochemical parameters.	08			
10.		Units of measurements.	08			
11.		**Solutions.**	**08**	**6**		**1**
		Types based on solute and solvent, Types based on method of expressing concentration, Percentage calculations.				
12.		**Carbohydrates .**	**04**	**4**	**1**	**1**
		Carbohydrates- Definition, Biological importance, classification, qualitative tests.				
13.		Lipids: Definition, Biological importance, Classification and clinical importance.	4	2		
14.		**Proteins and Amino Acids**	**08**	**4**	**1**	
		Definition, Biological importance of Proteins and Amino Acids Classification,				
15.		**Diagnostic Tests:** Blood Sugar- [GOD – POD Method] Blood urea [DAM-TSC Method, Enzymatic Method] Glucose tolerance Test [GTT] - Serum Creatinine [Jaffe's method /Alkaline picrate method]	**19**	**8**	**1**	**1**
16.		**Vitamins :**	**04**	**3**	**1**	
		Vitamins classification Fat soluble vitamins, Water Soluble Vitamins, Sources, Daily requirements, Deficiency diseases.				
17		-	**04**			
			135			

MEDICAL LAB TECHNOLOGY
FIRST YEAR
PART B – VOCATIONAL SUBJECTS
PAPER – II : MICROBIOLOGY & PATHOLOGY [THEORY]

S.No.	Name of the unit	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
	MICROBIOLOGY				
I	Historical introduction to Microbiology contribution of famous Scientists in the field of Microbiology in brief.	4	2	1	
	a) Anton Von Leeuwenhoek. b) Robert Koch c) Edward Jenner d) Louis Pasteur e) -				
II	**Microscopy** a) Principle, working and maintenance of Compound Microscope. b) Principle of Fluorescent Microscope & -	05	6		1
III.	Sterilization and disinfection – classification and methods of sterilization	06	8	1	1
1)	Principle and Methods of sterilization by heat.				
	a) By Dry Heat - Flaming, Red Heat, Hot air oven, incineration.				
	b) By Moist heat-Pasteurization, Inspissation, Tyndallisation&autoclave.				
2)	-				
3.	-				
4.	Disinfection – Mode of action and uses of important chemical disinfectants – phenol and phenolic compounds, alcohols, aldehydes halogens, dyes, acids and alkalies.				
5.	-				
IV.	Cleaning, drying & - of Glassware	5	4	2	
V.	a) Morphology and classification of Bacteria.- Structure of Bacterial Cell, Capsule, Flagella, Spore etc. ~~b) Anaerobic methods of cultivation of Bacteria.~~	10	8	1	1
VI.	**Isolation and identification of Bacteria.**	**10**	**8**	**1**	**1**
	a) Preparation of direct smear and staining				
	b) Different Techniques of inoculation for isolation of bacteria.				
	c) Hanging drop preparation and its use.				
	d) Preparation and Inoculation of various media for Bio-Chemical reactions.				
VII.	**Composition and preparation of staining reagents and different methods of staining.**	**10**	**8**	**1**	**1**
	a) Simple staining b) Gram's staining ~~c) Giemsa's Staining~~ d) ZeihlNeelson Staining. ~~e) Albert Staining~~				

MEDICAL LAB TECHNOLOGY

S.No.	Name of the unit	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
	f) Negative Staining. g) Fluorescent staining.				
VIII	**Culture Media – Classification of Media, Composition, preparation and uses.**	**10**	**8**	**1**	**1**
	a) Basal Media- Peptone Water, Nutrient, Agar, glucose broth. b) Enriched Media-Blood agar, Loeffler's serum slope, chocolate agar. c) Enrichment Media – Selenite Fbroth, Tetrathionate broth, Alkaline peptone water. d) ~~Differential Media~~ Mac Conkey's Agar. e) ~~Indicator & selective media~~ – Lowenstein' Jenson Media, Potassium tellurite Media, ~~TCBS~~, Wilson and Blair Media. Deoxycholate citrate agar media. f) ~~Media for Blood culture~~ – Brain heart infusion broth, Typticase soya broth g) Anaerobic media – Robertson's Cooked Meat Media, Thioglycolate media h) ~~Sugar Media for Bio-Chemical Reaction~~ – Glucose broth, Hartley's broth, bile broth. i) Media for Biochemical reactions – Indole, MR,VP, Citrate,Urease, Oxidase, Catalase test, Nitrate reduction test, Phenyl Alkaline Deaminase test, gelatin liquefaction test j) ~~Fungal media~~ – Sabouraud'sdextose Agar.				
IX	~~Bio Medical Waste Management~~ ~~a) Definition~~ ~~b) Segregation at Source~~ c) ~~Color Coding~~	5	4	2	
	PATHOLOGY				
I	**Introduction to Pathology and It's Scope**	1			
II	**Basics of Microscope and its Care**	1			
III	**Urine Analysis:**	8	8	1	1
a)	Collection – Collection of samples, Type of Samples, labeling& preservatives.				
b)	**Physical Examination.**				
	Color Appearance Quantity Odour Specific gravity Albumin P.H.				
c)	**Chemical Examinations**: Sugar ~~Ketone bodies.~~ Albumin Bile salts. Bile pigments ~~Blood~~ ~~Strip method.~~				
d)	**Microscopic Examination – Centrifuging**				

MEDICAL LAB TECHNOLOGY

S.No.	Name of the unit	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
	Crystals. RBC & Casts WBC& Casts Epithelial cells & Casts. Hyaline casts, Granular casts. Parasites, Atypical cells and Others.				
II	Preparation of reagents, procedures, principles and Interpretation *	5	6	-	1
III	Sputum Analysis: Physical Examination Preparation Making a smear Staining Mounting. Microscopic Examination.	10	6		1
IV	Semen Analysis -Collection – after counseling -Physical Examination – color, quantity, nature etc. - Microscopic Examination – count, motility, morphology [normal & abnormal] - staining. Introduction to Automated Semen Analyzers	5			
V.	Body fluids – Collection, labeling. - Peritoneal fluid ~~pericardial fluid~~ - pleural fluid - Cerebrospinal Fluid [C.S.F] - Diluting fluids. - Charging the improved Neubauer chamber. - Identifying & counting the cells.	10	2	1	
VI.	**Hematology:** a) Collection of blood. - Universal precautions - Methods of collection, venous puncture, finger puncture and vacutainer methods, materials required, procedures, precautions, uses of the sample and advantages of each method. POCT [Sample collection at bed side] also for children. b) Preparation of anti coagulants- Double oxalate, sodium citrate, EDTA, Heparin, action of each preparation, uses, disadvantages, quantity required. c) RBC,WBC count: Methods [Micro dilution and bulk dilution], materials required, diluting fluids, preparation, procedures, advantages of each method, precautions, formula for calculation and clinical significance. ~~d) Platelet count:~~ Morphology and functions of platelet, diluting fluids, procedure, formula for calculation and clinical significance. ~~e) Reticulocyte Count:~~	20	10	2	1

MEDICAL LAB TECHNOLOGY

S.No.	Name of the unit	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
	Methods [dry & wet] staining, diluting fluids, normal Morphology and values, clinical significance. f) Hemoglobin Estimation: Materials, procedure of Tallquist, Sahli's, Alkali, Haldane, Cyan meth hemoglobin and Specific Gravity [S.G] method, advantages and disadvantages and clinical significance. g) Estimation of PCV- Macro & Micro methods, procedure of filling the tube, centrifuging and reading, values advantages of each method – normal values and clinical significance. -Estimation of Erythrocyte indices-calculation and importance MCV, MCH, MCHC, RDW, color index. h) ESR- methods used, procedure, stages, factors affecting and clinical significance.				
VII.	Disposal of hospital waste- Cotton, swabs, needles, syringes, blood, urine and other material.	5	6		1
VIII.	~~Glass slides, cover slips – Cleaning & maintenance.~~	5	4	2	

MEDICAL LAB TECHNOLOGY
I YEAR
PART B – VOCATIONAL SUBJECTS
PAPER – III : ANATOMY & PHYSIOLOGY [THEORY]

S.No.	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
I	**Basics in Human Anatomy**				
1.	Introduction to Human Anatomy.	6	8	1	1
2.	Cell – Definition, Structure and properties.	6	4	2	-
	Tissue – Classification in brief [epithelial, ~~connective~~, muscular, nervous]	6	4	2	-
3.	Respiratory system	6	4	2	-
4.	Digestive system &Hepato Biliary system	6	6	-	1
5.	Cardio-vascular system.	5	4	2	
6.	Lymphatic system.	5	4	2	
7.	Bones & Joints.	5	6	-	1
8.	Nervous system – CNS	5	4	2	-
9.	Excretory system – Urinary system	5	6	-	1
10.	Endocrine system	5	2	1	
11.	Reproductive system- male & Female	5	2	1	
12	Sense organs- Eye, ear, Skin, nose, tongue.	5	2	1	
II.	**Basics in Human physiology**				
1.	Introduction to Human Physiology.	6	4	2	
2.	Muscle physiology & Nerve physiology.	6	2	1	
3.	Blood & Lymph	5	8	1	1
4.	Respiratory system.	5	4	2	-
5.	Digestive system.	6	6	-	1
6.	Cardio – Vascular system.	5	8	1	1
7.	Excretory system – Urinary system.	08	2	1	
8.	Endocrine system	09	8	1	1
9.	Reproductive system – Male & Female.	5	6	-	1
10.	Nervous system [CNS] & Sense organs [Eye, ear, skin, nose, tongue]	10	8	1	1
	Total	135			

MEDICAL LAB TECHNOLOGY
SECOND YEAR
PART B – VOCATIONAL SUBJECTS
PAPER – I : BIO- CHEMISTRY [THEORY]

S.No		NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
I		**Instrumental methods of Bio-Chemical Analysis**	**10**	**8**	**1**	**1**
	1.	Flame photometry: Principle, Theory, Construction of Flame Photometer, General and Clinical applications, study of electrolytes using flame photometer, clinical importance of determination of electrolytes. New Instrument Automated Electrolyte Analyzer				
	2.	Fluorometry: Definition Principle, Theory and Construction of Fluorometer and its clinical Applications, general and Clinical applications.				
II		**Separation Techniques.**	**10**	**8**	**1**	**1**
	1.	Electrophoresis: Definition and basic principle, Procedure, Different types, and Clinical Applications, Example:- Electrophoretic fractionation of serum protein and ~~Serum lipo proteins.~~				
	2	Chromatography: Definition, Basic Principles, Different types, Procedure and Clinical applications.				
III.		**Immuno Assays – Definition, Basic Principles of Immuno chemical reactions and immune assays.**	**10**	**8**	**1**	**1**
	1.	Radio immune assays. Introduction to radioactivity, Radioactive substances and its applications Ex:- Thyroid Hormone Assays [T3,T4,TSH]				
	2.	Enzyme linked immune sorbent assays (ELISA). Description, Instruments used in these assays, Applications				
IV.		**Metabolism:**	**10**	**6**		**1**
	1.	Carbohydrate metabolism – Glycolysis, TCA Cycle and Gluconeogenesis.				
	2.	Lipid metabolism- β-Oxidation of Fatty Acids.				
	3.	~~Protein metabolism – Urea cycle.~~				
V.		**Titrimetric methods of quantitative determination, preparation of various solutions used in Titrimetric analysis.**	**5**			
		Organ Function Tests				
VI		Liver Function Tests[LFT]: Functions of Liver Metabolism of Hb.	**10**	**8**	**1**	**1**

S.No		NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
		Bilirubin Explanation Jaundice and its types Determination of Serum Bilirubin(Vandenberg's Tests)				
	4.	Determination of total Serum proteins (Albumin and Globulin) & A/G Ratio.				
	5.	Estimation of Enzymes – SGOT, SGPT, ~~Alkaline Phosphatase (ALP)~~ & Acid phosphatase				
VII.		Kidney function tests [KFT/RFT]: Functions of Kidney Synthesis of Urea Basic Concepts ~~Estimation of Blood Urea~~ DAM-TSC Method ~~Estimation of Serum Creatinine~~ [Jaffe's Method / Alkaline Picrate] Clearance Test - Definition Creatinine Clearance, Urea Clearance Urine Examination in accessing KFT Abnormal Constituents of Urine (Sugar Ketone bodies, Protein Blood bile salts and bile pigments)	**10**	**8**	**1**	**1**
VIII.		**Gastric Function Tests [GFT]**	**5**	**2**	**1**	
	1.	Introduction & Basic concepts.				
	2.	~~Estimation of Free HCL combined Acids~~ – Clinical significance.				
IX.		**Thyroid Function Tests [TFT]**	**5**	**2**	**1**	
	1.	Introduction - Thyroid Gland and its Functions				
	2.	Estimation of Thyroid Hormones [T3,T4,TSH] - Methods – RIA &Chemiluminiscence and its Clinical significance.				
X.		**Pancreatic Function Test [PFT]**	**5**	**2**	**1**	
	1.	Introduction of Basic concepts.				
	2.	Determination of Serum amylase.				
XI.		**Clinical Enzymology :**	**5**	**6**	**1**	
	1.	Introduction & Basic concepts of Enzymes, Co-Enzymes, Iso Enzymes.				
	2.	Importance of Enzymes.				
	3	Liver Enzymes - SGPT, ALP and GGT				
	4	Cardiac Enzymes – CPK, LDH, SGOT.				
	5.	Acid Phosphatase.				
XII.		**Body Fluids:**	**5**	**2**	**1**	
	1.	Outlines of formations of different body fluids				
	2.	Composition & Analysis of CSF including.				
		a) CSF Sugar estimation b) CSF Proteins estimation ~~c) CSF Chlorides estimation.~~ Including interpretation of results.				

MEDICAL LAB TECHNOLOGY

S.No	NAME OF THE UNIT		No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
XIII.		**Automation of Biochemistry Labs and usage of Computers.**	**5**	**6**	**1**	
XIV		**Quality Control**	**5**			
		a) Introduction and importance of quality assurance, General principle. b) Internal and external quality control.				
XV		**Diagnostic Tests :**	**10**	**8**	**1**	
		• Blood Glucose • Blood Urea • Serum Creatinine • Plasma Proteins • Lipid Profile - Serum Total cholesterol, Tri Glycerides HDL Cholesterol, LDL cholesterol and VLDL Cholestrol. • GlycoselatedHaemoglobin • Serum Calcium and Inorgonic Phosphate • Arterial Blood Gas Analysis [PH, PO2 AND PCO2]				
			110			**1**

MEDICAL LAB TECHNOLOGY
SECONDYEAR
PART B – VOCATIONAL SUBJECTS
PAPER – II: MICROBIOLOGY [THEORY]

S.No	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
I	**Normal Flora of Micro-organisms in the Human Body**	**5**	**2**	**1**	
II	**Introduction to Immunology:**	**10**	**8**	**1**	**1**
a)	Brief outline of Immunity				
b)	What are antigens?				
c)	What are antibodies?				
d)	Different types of antigen and antibody reactions, their applications in the diagnostics - agglutination, precipitation, complement fixation, Neutralisation, RIA.				
e)	~~Principle and method of ELISA Test.~~				
III	**Collection and processing of faecal samples, concentration techniques of stool for Microscopic Examination**	**10**	**8**	**1**	**1**
	Parasitology : - E - histolytica - Plasmodium spp. - ~~Taenia solium~~				
IV.	**Antibiotic sensitivity Test – ~~preparation of Antibiotic discs.~~**	**5**	**6**		**1**
V.	**Preservation methods of stock cultures and their ~~importance and principle procedure.~~**	**5**	**4**	**2**	
VI.	**Brief outline of Morphology cultural characteristics and Lab diagnosis of imp. Pathogens.**	**25**	**16**	**2**	**2**
a)	Gram Positive – Staphylococcus, Streptococcus, Pneumococcus				
b)	Gram Negative cocci– Gonococci, Meningococci.				
c)	Gram Positive Bacilli- Corynebacterium – diphtheriae, Mycobacterium tuberculosis, Mycobacterium leprae				
d)	Gram Negative Bacilli – Enterobacteriaceae – E.coli, Klebsiella, Salmonella, Shigella.				
e)	Anaerobic Bacteria- Bacteriodes,				

S.No	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
	Clostridium spp.				
f)	Vibriocholera,.				
g)	H.influenza, B.pertusis.				
h)	Spirochetes- Treponema.				
i)	~~Actinomyces & Nocardia.~~				
VII.	**Bacteriological Examination of Water, Milk & ~~Food~~.**	**10**	**10**	**2**	**1**
VIII.	**Mycology.**	**15**	**12**	**3**	**1**
	Morphology, cultural characteristics and lab diagnosis of : Candida, Cryptococcus, Dermatophytes, ~~Aspergillus, Penicillum.~~				
IX	**Virology**	**10**	**8**	**1**	**1**
	Classification, General properties and cultivation of imp.pathogenic viruses such as ~~Polio~~, Hepatitis, ~~Rabies~~, HIV and Dengue.				
X.	**Quality Control in Laboratory.**	**10**	**8**	**1**	**1**
XI	**Automation in Clinical Laboratories - in brief.**	**5**	**6**		**1**
	Total	**110**			

MEDICAL LAB TECHNOLOGY
SECOND YEAR
PART B – VOCATIONAL SUBJECTS
PAPER – III: PATHOLOGY [THEORY]

S.No	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
I	Preparation of blood smears and examination: - Thin & thick blood films. - Making an ideal blood film. - Methods – slide method, Cover slip method - Staining – composition, preparation & procedure of leishman stain. - ~~Knowledge about Romanowsky stains.~~ - Examination – Morphology & Identification of RBC, WBC & Platelets - Counting – DLC – Counting methods, Normal values, clinical significance and limitations. - Oils used for immersion- types	08	8	1	1
II	Special stains for Bone marrow smears : - ~~Giemsa~~, Wrights, Myeloperoxidase stain, ~~Periodic Acid Schiff [PAS]~~ - Composition, Preparation, procedure and interpretation.	5	2	1	
III	Bone Marrow Aspiration / trephine biopsy : - ~~Setting up of tray for bone marrow aspiration~~ - Preparing smears – methods- Imprints, crush. - Staining, clinical significance.	5	2	1	
IV	Identification of hemoparasites : - Morphology of ~~malaria parasite, microfilaria,~~ leishmania, trypanosomiasis. - Importance of sample collection time. - ~~Making thick and thin smears.~~ - Procedure of making & staining the smears. - Identification of the parasite.	5	6		1
V	Absolute Eosinophil count : - Materials required, diluting fluids, procedure, and identification and counting of cells.	5	2	1	
VI	Sickle cell preparation: - Principle, procedure, methods, Materials required, clinical significance.	5	6		1
VII	Osmotic fragility test : - Methods used, materials required, procedure, observation, reporting, Normal values, factors affecting and interpretation.	5	2	1	
VIII	Coagulation Tests: a) ~~Bleeding time~~ - methods- Dukes method, ~~Ivy's method~~ – procedure, normal values and clinical significance. b) ~~Clotting time~~ – methods- ~~Lee & White~~, capillary tube method- procedure,	08	6		1

MEDICAL LAB TECHNOLOGY

S.No	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
	materials, normal values, factors affecting coagulation and clinical significance. c) Prothrombin time [PT] ~~d) APTT~~ e) Introduction to Coagulometers				
IX	Buffy coat preparation : ~~L.E. cells, microfilaria~~ and abnormal cells.	5	2	1	
X. *	L.E cell Test : - Principle, procedure, material required, reporting, clinical significance.	5	2	1	
XI.	Basics of cell counter : ~~Diluting fluids~~ - Maintenance of counter. - Quality Control and is significance	5	2	1	
XII.	Histopathology : - Maintenance of Registers – receiving register, gross register, Slide register and report issue register. - Biopsy & tissue specimens – Example: Thyroid, GIT, breast, soft tissue, bone etc. - Fixatives - processing - Dehydration - clearing - Impregnation - paraffin embedding and block making - Trimming of blocks. - Tissue cutting [Microtomes] - Staining of the sections. - Mounting & Mounting Media, cover slips, labeling. - Decalcification of bone & calcified tissue. - Routine Hematoxylin & Eosin staining. ~~- Immuno histochemistry.~~ - Special stains- PAS, Reticulin, Perls, Masson's Trichrome etc. - Filing of slides, storing of blocks etc.	13	16	2	2
XIII.	Microtomes & Knives: - Types of Microtomes – Maintenance. - Sharpening of Knives – Honing & Stropping ~~Advantages and dis-advantages of frozen section cutting.~~	08	2	1	
XIV	Cytology : - FNAC - Pap smear - ~~Cytospin~~ – equipment – machine, Procedure, material, laying a tray for the procedure. - Making smears, staining & mounting cover slip, labeling. - Identification & Interpretation – basics.	08	6		1
XV	Museum techniques: - Labeling & storage of specimens -	5	6		1

MEDICAL LAB TECHNOLOGY

S.No	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
	- Mounting, Labeling and cataloging the specimen ~~- Maintenance and cleanliness of the Museum.~~ ~~- Safety in the lab.~~				
XVI	Autopsy : -Aims & methods of performing Autopsy, cleaning, suturing and restoring the body. ~~Cleaning the autopsy instruments, tables and rooms, preservation of organs.~~	5	2	1	
XVII.	Immuno Hematology and Blood Banking: - Introduction - Human blood group antigens, their ~~inheritance~~ and antibodies. - ABO Blood group systems. - RH Blood group system. - Techniques of grouping and cross matching. - Blood collection, screening of donor, preservation and maintenance of records. ~~- Coombs Test – a) Direct – b) indirect.~~	10	6		1
	Total	**110**			

VIII

MODEL QUESTION PAPER
MEDICAL LAB TECHNICIAN
FIRST YEAR
Paper – I: BIO-CHEMISTRY (THEORY)

Time: 3 Hours **Max. Marks : 50**

SECTION-A **10 x 2 =20**

Note: (i) Answer all the questions.
(ii) Each question carries 2 Marks

1. Define Bio-chemistry.
2. What is Lab order form?
3. What is hygroscopic substance?
4. What is glycosuria?
5. Define Solute, Solvent.
6. Write the uses of beaker.
7. Give clinical significance of blood urea determination.
8. Write the deficiency diseases of Vitamin A.
9. Define anticoagulant.
10. Define simple lipids.

SECTION-B **5 x 6 =30**

Note: (i) Answer any five questions.
(ii) Each question carries 6 Marks

11. What are the types of laboratory glassware? Write about pipettes.
12. Give the principle, construction, operation, care and maintenance and applications of photo electric colorimeters.
13. Write about Electronic balance.
14. What are different accidents possible in a laboratory? Write about preventive and first aid measures for corrosives.
15. What are different routes of blood collection? Write about collection of venous blood in detail.
16. Write the biological importance of carbohydrates.
17. What are different methods of blood glucose determination? Write about God-Pod method.
18. Discuss various water soluble Vitamins.
19. Define and classify proteins.
20. Prepare 60 ml of 0.2 M HCl.

MEDICAL LAB TECHNICIAN
FIRST YEAR
Paper – II: MICRO-BIOLOGY & PATHOLOGY (THEORY)

Time: 3 Hours **Max. Marks : 50**

SECTION-A

Note: (i) Answer all the Questions
(ii) Each Question carries 2 marks **10X2=20**

1. Mention any two contributions of Louise Pasteur.
2. Define Bactericidal agent and Disinfectant.
3. Mention the lab glassware.
4. Define Culture.
5. What is an enrichment medium?
6. Expand IMViC test.
7. Define Polyuria and Aneuria
8. Give two examples of AFB?
9. Write the composition of Semen.
10. What is an Anticoagulant?

SECTION-B

Note: (i) Answer any five Questions
(ii) Each Question carries 6 marks **5X6=30**

11. Write the construction, care and maintenance of compound Microscope.
12. Write the classification of sterilisation and briefly describe the Moist heat sterilisation.
13. Describe the morphological classification of Bacteria.
14. Write about the Hanging drop preparation and its use.
15. Explain about Ziehl-Neelson Hot staining method.
16. Write about Benedicts qualitative and Fehling's test.
17. Write notes on chemical examination of CSF.
18. How do you estimate Haemoglobin by Sahil's acid haematin method?
19. How do you determine ESR by Westergren's method?
20. Write the classification of hospital waste and explain about it in detail.

MEDICAL LAB TECHNICIAN
FIRST YEAR
Paper – III: ANATOMY & PHYSIOLOGY (THEORY)

Time: 3 Hours **Max. Marks : 50**

Section – A

Note: (i) Answer all the Question
(ii) Each Question carries 2 marks
10 X 2 = 20 M

1. Define Anatomy and mention various subjects which enrich Anatomy.
2. List out cytoplasmic organelles.
3. Name the parts of Respiratory system which lie within lungs.
4. List the main parts of Digestive system.
5. Name the chambers of Heart.
6. Define Lymphatic system.
7. Give the composition of bone.
8. Define Neuron and mention its types.
9. Mention the parts of urinary system.
10. Write any four Endocrine glands of body.

Section - B

Note: (i) Answer any Five Question
(ii) Each Question carries 6 marks
5 X 6 = 30 M

11. Write the structure of Cell.
12. Write the anatomy of Respiratory system.
13. What are the functions of Stomach? Explain the process of digestion and absorption taking place in stomach.
14. Explain the anatomy of Heart with figure.
15. Classify joints. What are different Synovial joints?
16. Write the anatomy of Brain.
17. Write the structure of Kidney.
18. What are different Endocrine glands of body? Write the anatomy of Pituitary.
19. Mention female reproductive organs and female external genitalia write about their anatomy briefly. Draw the figure?
20. Write the structure of Eye, draw the diagram and label?

MEDICAL LAB TECHNOLOGY
MODEL QUESTION PAPER
SECOND YEAR
Paper – I: BIO-CHEMISTRY-II (THEORY)

Time: 3 Hours **Max. Marks: 50**

Section – A

Note: (i) Answer all the Question
(ii) Each Question carries 2 marks
10 X 2 = 20 M

1. What is Hypokalemia.
2. What are the phases in any chromatographic procedure?
3. Define electrophoresis.
4. Write the principle of RIA.
5. Define Metabolism.
6. Define the terms (a) Titrant (b) Titrand.
7. Name the LFT enzymes.
8. Name the hormones produced by Thyroid.
9. Mention some uses of computers in biochemical analysis.
10. What is a Co-enzyme?

Section - B

Note: (i) Answer any Five Question
(ii) Each Question carries 6 marks **5 X 6 = 30 M**

11. Write the principle, construction and operation of F.P.M.
12. Explain Paper chromatography.
13. Write about ELISA technique.
14. Explain the significance of Glycolysis and write the steps
15. Mention different methods of serum Bilirubin determination and describe Malloy and Evelyn method.
16. Mention different clearance tests and write about Creatinine Clearance test.
17. Write about determination of serum Amylase.
18. Write about advantages of Automation in Biochemistry lab.
19. Write about Quality control in a clinical laboratory.
20. Write about determination of HDL cholesterol.

MEDICAL LAB TECHNOLOGY
MODEL QUESTION PAPER
SECOND YEAR
Paper – II: MICRO-BIOLOGY (THEORY)

Time: 3 Hours **Max. Marks: 50**

SECTION-A

Note: (i) Answer all the Questions
(ii) Each Question carries 2 marks **10X2=20**

1. Write the microorganisms present in the nose and nasopharynx.
2. Define Immunity.
3. Write the names of plasmodium species.
4. Define Antibiotics.
5. What is Lyophilization?
6. Write down the classification of Streptococci.
7. Define Phosphatase test.
8. Define Mycology.
9. Expand the terms RNA and DNA.
10. Define Quality control.

SECTION-B

Note: (i) Answer any five Questions
(ii) Each Question carries 6 marks **5X6=30**

11. Define the Antigen – Antibody reactions and explain briefly about the different Antigen – Antibody reaction.

12. What is Amoebiasis and explain about E- Histolytica?

13. Explain the procedure of Antibiotic Sensitivity testing by Kirby – Bauer method.

14. Write the morphology and lab diagnosis of Corynebacterium Diphtheria.

15. Write about the Bacteriological Examination of Milk.

16. Write about the various forms of Dermatophytes and writes its lab diagnosis.

17. Write about the structure and lab diagnosis of HIV.

18. Explain briefly about Quality control of culture media in Microbiology lab.

19. Write the morphology and cultural characteristics of Salmonella typhi.

20. Define Automation and mention the various modules.

MEDICAL LAB TECHNOLOGY
MODEL QUESTION PAPER
SECOND YEAR
Paper – III: PATHOLOGY (THEORY)

Time : 3 Hours **Max. Marks: 50**

SECTION-A **10 x 2 =20**

Note: (i) Answer all the questions.
(ii) Each question carries 2 Marks

1. Write the morphology of RBC.
2. What is the use of bone marrow aspiration.
3. Write the principle of osmatic fragility test.
4. Define BT and mention the methods of doing it.
5. What is histopathology?
6. What is cytology?
7. Define mounting.
8. What is the principal aim of autopsy?
9. Define donor and recipient.
10. What is haemoparasite?. Give examples.

SECTION-B **5 x 6 =30**

Note: (i) Answer any five questions.
(ii) Each question carries 6 Marks

11. Write about DLC leukocytes.
12. Write a short note on thick and thin smears and methods of making smears.
13. Give the procedure of absolute eosinophil count.
14. Write the clinical significance of sickle cell test.
15. Discuss the method of CT and write its clinical significance.
16. Write about maintenance of a caulter counter.
17. Write about tissue processing.
18. Describe the sharpening of a microtome knife.
19. Describe presentation, mounting, labeling and catalogueing of museum specimens.
20. Discuss ABO blood group system & Rh blood group system.

IX LIST OF EQUIPMENTS

BIOCHEMISTRY

1.	Hot Plate	1
2.	Gas Cylinder with Burner	2
3.	Spirit Lamps	15
4.	Electrical Centrifuges	2
5.	Refrigerator 165 lit.	1
6	Colorimeter	1
7.	Hot Air oven	1
8.	Water bath	1
9.	Simple balance	1
10.	Electronic balance	1
11.	Flame photometer	1
12.	Spectrophotometer	1
13.	Flourimeter	1
14.	Incubator	1
15.	Electrophoresis apparatus	1
16.	Computer with Printer	1
17.	Semi Auto Analyzer.	1
18.	Automated Electrolyte Analyzer	1

GLASSWARE

1.	**Test Tubes**	
	18X150mm	100
	15X150mm	100
	15X125mm	100
2.	Centrifuge Tubes	20
3.	Beakers- 250 ml	5
4.	**Pipettes**	
	a)Volumetric Pipettes.	
	2ml	5 No's
	5ml	5 No's
	10ml	5 No's
	20ml	5 No's
	25ml	5 No's
	b)Serological Pipettes.	
	1ml 1/100	5 No's
	2ml/1/100	5 No's
	5ml1/100	5 No's
	1.10 ml1/10	5 No's
	2ml 1/10 ml	5 No's
	0.1ml 1/100ml	5 No's
	02 ml 1/100	5 No's
	C)Ostwald pipettes	
	0.1ml	2
	0.2ml	2
	0.5 ml.	2
5	**Burettes**	
	25 ml	5
	50 ml	5
6	**Reagent Bottles**	
	60 ml	10
	120 ml	10
	250 ml	10
	500 ml	10
	1000 ml	10
7.	**Dropper Bottles 30 ml**	5

8.	**Watch glass**	6
9.	**Volumetric Flasks**	
	25ml	5
	50ml	5
	100ml	5
	250ml	5
	500ml	5
	1000ml	3
10.	**Stoppaerd graduated Test Tubes**	
	15ml	5
	40ml	5
	50ml	5
11.	Distillation assembly [complete set]	1
12.	Round Bottom flask 500 ml & 1000 ml	1+1
13.	Filter paper	1 Ream
14.	What man filter paper	No.1 – 20 sheets
	What man filter paper	No.2- 10 sheets.
15.	Cotton (absorbent)	1 kg.
16.	Glass slides	100
17.	Plastic wash bottles 500 ml	10
18.	Mortar and Pestle	2 no's
19	Measuring Jar	
20	Test tube racks, Test tube holders and Funnels	

MICROBIOLOGY

1.	Compound Microscope	
2.	Variable Volume Micro Pipettes Full Set	1
3.	Centrifuge	
4.	Refrigerator	
5.	Autoclave	
6.	Hot air oven	
7.	Incubator Bacteriological	
	BOD Incubator	
	Micro Plate Washer and Reader	
8.	Distil water plant	
9.	Pipette washer	
10.	Anaerobic Jar	
11.	Vacuum Pump	
12.	Analytical Balance	
13.	Water Bath	
14	VDRL Rotator	
15	Bunsen Burner with Gas Connection	
16	Inoculating loop	
17	Straight wire	
18	Petri dishes 100X17	100 no's
19	Filter paper	1 Ream
20	What man filter paper	No.1 – 20 sheets
21	Dropper Bottles 30 ml	5
22	Cotton (absorbent)	1 kg.
23.	Glass slides	100
24	Depression Slides	
25	Cover Slips	
26	Serum Storage Vials and Boxes	
27	Test Tubes 150X19	100

28	100X12	100
29	Pipettes	
30	10ml	10 Nos.
31	5ml	10 Nos.
32.	1ml	10 Nos.
33.	Wash bottles	5
34.	Spatulas	12
35	Reagent bottles	10
36	Measuring Cylinders 50 ml	5
37	Compound Microscope	5

PATHOLOGY

1.	Binocular Microscope	1
2.	Hot air oven	1
3.	Incubator	1
4.	Centrifuge	1
5.	Haematology analyser (Blood cell counter) 3/5 Part	1
6.	Water Bath	1
7.	Chemical balance	1
8.	Hot plate	1
9.	Stopwatch	1
10.	Haemometer	5
11.	Haemocytometer	5
12.	Lab Counter for DC	4
13.	ESR Stand	5
14.	ESR Tubes	5
15.	Motor and pestle	5
16	Urino meter	2
17	Microhaematocrit centrifuge	1
18	Automated pippets	5
19.	WBC pippets RBC pippetsHbpippets	20 each
20.	Spirit lamp	2
21	Syringes	
	20ml	10
	10ml	10
	5ml	10
	2ml	10
22	Beaker	
	100ml	5
	250ml	5
23	Test Tubes	
	10 ml	50
	15 ml	50
24	Watch glasses.	5
25	Trays	5
26.	Syringe dispenser to crush needles.	1
27.	Refrigerator	1
28.	Glass slides and cover slips.	50
29.	Tissue processor	1
30.	Microtome	1
31.	Microtome knives	3
32	Coupling jars	20
33.	Slide holder baskets	4
34	Water bath	1

MODEL LOG BOOK FOR MLT STUDENTS

Date	Description of the work performed	Signature of the OJT Master /Lecturer	Classroom Lectures
6.5.17	Went to Hospital Biochemistry lab; Number of patients interacted ;		
8.5.17	Blood drawn from Number of patients		
9.5.17	Assisted in labelling the samples.		
10.5.17	Assisted in entering of samples in the register.		

Date	Description of the work performed	Signature of the OJT Master /Lecturer	Classroom Lectures
6.5.17	Went to Hospital microbiologylab Number of patients interacted ;		
8.5.17	Number of samples accepted,rejected entered ….		
9.5.17	Assisted in labelling the samples.		

A. Collaborating Institutions for Curriculum transaction

1. All Hospitals.
2. All Medical Colleges.
3. All the National Laboratories
4. Regional Research Laboratories.
5. University Departments.
6. Pharmaceutical Companies and Educational Institutes.

B. On the Job Training Centers.

1. Government Hospitals
2. PHCs Primary Health Centers.
3. Dispensaries.
4. Medical Colleges.
5. Private Hospitals
6. Private Labs.

X Qualification of Lecturers

1.MD Pathology /Microbiology/Biochemistry/DCP.

2.M.Sc Microbiology / Biochemistry / MLT.

3.B.Pharmacy/ MSc Genetics.

4. MBBS/MBBS(Hom)/BHMS

5. PGD.Clinical Bio chemistry.

XI. Vertical Mobility

A) With Bridge Course

1. B.Sc (BZC)
2. Courses through EAMCET

B) Without Bridge Course.

1. B.ScMLT,B.A&B.Com,D.MLT
2. B.Sc Microbiology
3. B.Sc Biochemistry
4. B.Sc Biotechnology
5. M.Sc. MLT/Biochemistry /Microbiology/ Biotechnology [at P.G. level]

XII REFERENCE BOOKS

Biochemistry

1. Harold Varley

Anatomy & Physiology

1. C.C. Chatterjee
2. Chowrasia

Microbiology

1. A manual on Medical laboratory Technicians.. A.v. Naigonkar
2. RamnikSood

Pathology

1. RamnikSood
2. Mukerjee 3 volumes
3. Talib
4. PrafulGodkar
5. WHO Lab Manual
6. Harsh Mohan – Practical book.
7. Tejinder Singh – Practical book.
8. Praful – Godkar
9. K.M. Samuel.

XIII. LIST OF SUBJECT COMMITTEE MEMBERS:

1.	Dr.Ather Fatima, M.D., Associate Professor, Department of Pathology, Govt Medial College, Nizamabad.
2.	Dr.M. Rama Devi, M.D. Professor and HOD, Department of Biochemistry Osmania Medical College, Hyderabad.
3.	Dr.PoojaPalla, Assistant Professor Department of Microbiology. Govt Medial College, Nizamabad
4.	Sri.S.Srinivasa Rao Principal GJC, Pidiprolu Khammam
Verified & Corrected By	
1.	Dr. Shravan Kumar Prof &Hod of Pathology Gandhi Medical College, Hyderabad
2.	Dr. Nagamani Prof &Hod of Microbiology Gandhi Medical College, Hyderabad
3.	Dr. Suleman Prof of Bio Chemistry Gandhi Medical College, Hyderabad
Co- ordinator:-Sri K.Vishweshwar, O/o the Commissioner of Intermediate Education, Andhra Pradesh, Hyderabad	

Sd/- Dr A. Ashok
COMMISSIONER OF INTERMEDIATE EDUCATION

30% DELETED CONTENT IN VIEW OF COVID-19 PANDEMIC

FIRST YEAR

PAPER-I - BIO-CHEMISTRY – I

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted	Two Marks Questions deleted	Six Marks Questions deleted
1	Unit-1 – Introduction and scope of Biochemistry	Medical Lab Organization	5. What is histo-technician. 6. What is the role of Pathologist? 7. Who will supervise blood bank work?	3. Write about medical lab Organisation.
2	Unit-2 Reception, Identification, Registration and Biochemical parameters for Investigation	Parameters	4. Give the range of Icterus Index. 10. What is the normal range of specific gravity of urine?	NILL
3	Unit-3 Glass Ware and Plastic Ware used in Biochemical Laboratory	Condenser, Dessicators, Weighing bottles	11. What is pour point? 16. What is a condenser? 17. Mention the types of desiccators. 18. Exemplify desiccants. 20. What is a weighing bottle?	5. Write about plastic ware.
4	Unit-4 Instruments used in- Biochemistry Lab	Visual colorimetric methods	7. What is a modified test tube crack? 8. Mention the instruments used in standard series method. 9. What is Hehner cylinder?	3. Classify visual colorimetric procedures. Mention different visual colorimeters. Write about Dubosq colorimeter in detail.
5	Unit-5 Basic Lab Operations	Evaporation, Distillation, Refluxing, Drying different salts	6. Define a) Evaporation b) Distillation. 7. What is refluxing?	4. Explain a) Filtration using funnel b) Evaporation 5. Write about a) Distillation b) Refluxing
6	Unit-6 Water, Different types of Chemicals and Related Substances	Water, Purity of chemicals.	1. What is water for laboratory use? 2. How is purified water prepared? 3. What is ion exchange? 4. Define reverse osmosis. 5. What are the limits prescribed for purified water?	1. Write about water for laboratory use 2. What are the sources of impurities? discuss

7	Unit-7 Hazards Safety	Chemical Hazards	1. Mention different corrosive substances used in laboratory. 2. What are different possible bodily damages by acids and alkalies? 3. What are the precautions for preventing spilling of acids splashes on the skin? 4. Write about first aid in case of spilling of acid splashes on the skin. 5. How do you dilute a concentrated acid safely? 6. Give example of toxic, harmful and irritating chemicals? 7. How do you prevent accidental swallowing of acids and alkalies?	2. Write about the storage aspects of different chemicals capable of causing accidents. Write about toxic, harmful and irritating chemicals.
8	Unit-8 Collection of Specimens	Urine	32. How do you prevent loss of CO2 from blood specimen? 33. What is glycolysis? 34. How do you prevent glycolysis? 35. What is single specimen of urine? 36. What is 24 hrs. Urine specimen?	7. Discuss different aspects of collection of 24 hours urine specimens.
9	Unit-9 Urine Biochemical parameters	Urine Amylase, Urine inorganic phophorous.	5. What is principle of urine amylase determination? 6. Name the reagents of urine amylase determination. 7. Write the storage and stability aspects of urine amylase determination. 8. Give the concentration of chloride standard and urine chloride standard determination. 10. Write the principle of determination of urine chlorides. 11. Write the composition of chloride standard (100 meq./lit.) 15. What is the principle of determination of urine chlorides	7. Write about flame photometric method of determination of urine sodium and potassium. 8. Explain determination of urine inorganic phosphorous. 10. Write about quantitative determination of urine chlorides.
10	Unit-10 Units of Measurements	Definitions of fundamental, supplimentary and some derived units SI	9. Mention the fundamental quantities in international system. 10. What are the units of fundamental quantities in SI? 11. What are the supplementary quantities and their units in SI?	NILL

			12. Mention any two derived quantities and their units in International system (SI).	
11	Unit-11 Solutions	Normal solutions	10. Give the normalities of commercially available a) Concentrated HCl. b) concentrated H2SO4 11. Mention the relation between molarity and normality. 12. What is molality? 13. What is molal solution? 14. Define formality. 15. What is mole fraction?	6. Write about normal solutions and their preparation. <u>Problems:</u> 9. Prepare 250ml of 0.1N HCl. 10. Prepare 300ml of 0.5N NaOH.
12	Unit-12 Carbohydrateds & lipids	Saturated fatty acids	25. What are saturated fatty acids? 26. Define un-saturated fatty acids. 27. What is an essential fatty acid? 28. Name the lipids present in brain and nervous tissue. 29. Which lipids give blood group specificity? 31. Mention steroids which are synthesized from cholesterol. 32. What are prostaglandins? 33. What is the function of plasma lipoproteins?	4. What are saturated and unsaturated fatty acids? Write with examples. 5. Define sterols and classify them.
13	Unit-13 Proteins and Amino Acids	Qualitative tests	8. Name the proteins of muscle fibres. 9. Write Biuret's test. 10. Explain Ninhydrin test.	4. Write qualitative tests for amino acids and proteins.
14	Unit-14 Diagnostic Tests	Serum Uric acid	16. What is uric acid? 17. Give the normal values of serum uric acid. 18. Write the clinical signification of determination of serum uric acid. 19. Give the principle of determination of serum uric acid by Henry-Caraway method. 20. Write the composition of stock uric acid reagent (100 mg%).	5. How do you determine serum uric acid by Henry-Caraway method?
15	Unit-15 Vitamins and Minerals	Minerals	5. What are the principal minerals? 6. Write the functions of Sodium. 7. What is hyper Kalaemia? 8. Name the conditions of hyponatraemia.	1. Classify Vitamins & minerals. 4. Write a note on principal mineral elements

MEDICAL LAB TECHNICIAN - FIRST YEAR
PAPER-II: MICRO-BIOLOGY AND PATHOLOGY

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	Unit-1 –Historical introduction to microbiology & contribution	Joseph Lister	4. Write the contribution of Joseph Lister in the Microbiology. 7. Mention the achievements of Joseph Lister and Louis Pasteur in microbiology.	1. Write the contributions 0f following scientists in Microbiology. a) Antony Van Leeuwen Hock (b) Louis Pasteur (c) Joseph Lister
2	Unit-2 Microscopy	Dark Field Microscopy	3. Write the parts of dark field microscope. 9. Write the principle of dark field microscope. 10. Write the uses of dark field microscope.	2. Write down about the dark field microscope.
3	Unit-3 Sterilisation and disinfection-Classification and methods of sterilisation	Filtration, Radiation, Gaseous Agents	11. Mention the two agents of gaseous sterilisation.	5. Explain the methods of sterilisation of radiation. 6. Explain briefly about the methods of sterilisation by filtration
4	Unit-4 Cleaning, drying and sterilization of Glassware	Sterilization of Glassware		3. How do you sterilise the glassware?
5	Unit-5 Bacteria	Anaerobic methods of cultivation of bacteria	7. What are anaerobes? 8. Give two examples for anaerobic media. 9. Mention the names of anaerobic culture methods.	6. Explain about anaerobic culture methods. 7. Write about physical, chemical anaerobic culture methods of cultivation
6	Unit-6 Isolation and identification of Bacteria	Citrate Utilization test, coagulase test, Indole test, Nitrate Reduction test, Oxidase test, urease test, Voges-Proskaur test, Gelatine Liquefaction test, Methyl red test,	7. Write the uses of Indole test and Nitrate reduction test. 8. Write the uses of oxidase test and urease test. 9. Write the uses of Voges -proskaur test	4. Write about the various biochemical tests used in identifying various bacteria.

		Biochemical Reaction on the Triple Sugar Iron Agar, Phenylalanine deamination test	and Methyl red test. 10. Write the uses of phenylalanine deamine test and about TSI slants.	
7	Unit-7 Composition and preparation of staining reagents and different methods of staining	Geimsa 's Staining, Albert's staining	3. Write the use of Alberts staining.	2. Write the procedure of Giemsa staining. 4. Write about the Albert staining.
8	Unit-8 Culture media-Classification of Media, composition, preparation and uses	Differential Media, Indicator and selective Media, TCBS Media, Media for Blood Culture, Fungal Media, Sugar Media	8. Define differential media. 10. Define selective media. 13. Write the sugar media for biochemical reactions. 14. Give the example for fungal media. 16. What is the use of selective media? 17. Define indicator media.	3. Write the composition, preparation and uses of Maconkey's agar medium. 4. Define indicator and selective media and mention the composition, preparation and uses of DCA medium,
9	Unit-9 Biomedical Waste Management	Total Chapter	1. Define Bio-medical waste. 2. Write two lines about the handling of bio-medical waste. 3. Write two lines about the disposal of bio-medical waste.	1. Define bio-medical waste and write about the handling of bio-medical waste? 2. How do you dispose the contaminated material like clinical infective material and inoculated culture media? 3. Write about the disposal of bio-medical waste.
	Unit-10 Urine Analysis	Ketone Bodies, Blood in urine, Strip Method	20. What is the significance of Benzidine test? 22. 23. 24. 26. Define Haematuria	7. Write about the following tests (a) Rothera's test (b) Hay's test (c) Fouchet's test 8. Define Hematuria and write about benzidine test. 9. Write briefly about the chemical examination of urine by strip method

	Unit-11 Preparation of reagents, Procedures, principles and interpretation.	Plate diluting fluid, Brilliant crystal blue solution, various diagnostic kits for coagulation studies, Rothera's mixture, Fouchet, s reagent, Sulkowitch reagent.	31. Write the preparation of reticulocyte diluting fluid. 32. Write the principle of reticulocyte diluting fluid. 33. Write the interpretation of reticulocyte diluting fluid. 34. Write the preparation of Rothera's mixture. 35. Write the principle of Rothera's mixture. 36.write the interpretation of Rothera's mixture 37. Write the preparation of Fouchet's reagent. 38. Write the principle of Fouchet's reagent. 39. Write the interpretation of Fouchet's reagent. 40. Write the preparation of Sulkowitch Reagent. 41. Write the principle of Sulkowitch reagent. 42. Write the interpretation of Sulkowitch reagent.	2. Write the preparation principle and interpretation of the following reagents (a) wright's stain (b) Leishman's stain (c) Field's stain A and B (d) Platelet diluting fluid. 3. Write the preparation, principle and interpretation of following reagents. (a) 3.8 g/dl Trisodium citrate (b) 4.0 g/dl EDTA Solution (c) Absolute eosinophil diluting fluid (d) Reticulocyte diluting fluid. 4. Write the preparation, principle and interpretation of the following reagents. (a) Diagnostic kits (b) Rothera's mixture (c) Fouchet's reagent (d) Sulkowitch reagent.
	Unit-12 Sputum Analysis	NILL	NILL	NILL
	Unit-13 Semen Analysis	NILL	NILL	NILL
	Unit-14 Body fluids	Pericardial Fluid	6. Define pericardial fluid. 8. How do you collect pericardial fluid?	5. Explain about pericardial fluid.
	Unit-15 Haematology	Platelet count, Reticulocytes Count, Alkali Hematin Method	17. What is normal value of platelet count? 19. Write the composition of platelet diluting fluid. 20. What is the importance of platelet count? 21. Define Reticulocytosis. 22. What is reticulocyte counting?	4. Write about the morphology and functions of platelets. 5. Write down the procedure of platelet counting. 6. Write notes on reticulocyte counting.

			26. Write the morphology of reticulocytes. 32. What are advantages of alkaline haematin method? 33. What are the disadvantages of alkaline haematin method 34. What are the advantages of Talquist method? 35. Write the disadvantages and clinical significance of Talquist method.	7. Write notes on advantages of reticulocyte count and morphology of reticulocytes. 9. Write down the haemoglobin estimation of cyanmethaemoglobin method. 10.Explain about the Hb estimation by alkaline haematine method 11. How do you estimate Hb by specific gravity method? 12. Write notes on Hb estimation by Haldanes method. 13. Write the advantages and disadvantages of Hb estimation by specific gravity method.
	Unit-16 Disposal of Hospital Waste	NILL	NILL	NILL
	Unit 17 Glass Slides, Cover Slips-Cleaning and Maintenance	Total Chapter	1. Define glass slides and cover slips. 2. Define wet mount. 3. Define dry mount. 4. What is cleaning of glass slides? 5. Define maintenance of glass slides and coverslips. 6. What are the uses of glass slides and cover slips? 7. What is magnification?	1. Write notes on cleaning of glass slides and coverslips in detail. 2. Explain about the maintenance of glass slides and coverslips.

MEDICAL LAB TECHNICIAN - FIRST YEAR
PAPER – III: ANATOMY & PHYSIOLOGY

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail	Two Marks Questions deleted	Six Marks Questions deleted
1	Basics of Human Anatomy Unit -1 Introduction to Human anatomy	Definitions & terminology	6. Write the definition of a). anterior b). Posterior 7. Give the definitions of a). Proximal. b). Distal. 11. Explain the terms a). Rotation. b). Circumduction. 12. Define the terms a). Medial rotation. b). Lateral rotation.	NILL
2	Unit- 2 Cell & Tissue	Types of connective tissue	24) What are different types of cartilaginous tissue? 25). Write about reticuloendothelial tissue.	NILL
3	Unit-3 Respiratory system	Respiratory muscles.	9. What are respiratory muscles? 11). How many pairs of intercostal muscles are there.	NILL
4	Unit -4 Digestive system& Hepatobiliary system	Peritoneum, Pancreas	29). Mention the locations of parts of pancreas.	7). Explain gallbladder and pancreas.
5	Unit -5 Cardio Vascular System	Types of circulations	30. What is systemic circulation? 31). Write about pulmonary circulation. 33). Describe coronary circulation	4). Discuss the types of circulations in body.
6	Unit – 6 Lymphatic system	Spleen & tonsils	7). Write the histology of spleen. 8). What is splenic pulp. 9). Define splenic sinuses. 10). Write the definition of tonsils	NILL
7	Unit – 7 Bones & Joints	Sutures of cranium, description of skull bones, .joints of human body	7. Mention the bones of cranium. 8. Write the sutures of cranium. 9. Mention the features of frontal bones. 10. Write the features of parietal bones. 11. Name the bones of joint with parietal bone. 12. Mention the bones of joint with temporal bone. 13. What are the parts of a temporal bone? 14. Write the features of an occipital bone. 15. Name the parts of ethmoid bone. 23. Write the features of frontal bone. 24. What are different parts of temporal bones? 47. Write the movements of a) Wrist joint b) Humeroulnar joint 48. Mention joints of lower limb.	2. Write about bones of face, 7). Write the joints of body.

			49. Write the joints of foot.	
8	Unit -8 Nervous system	Synapse, types of neurons	3). What is Synapse. 2). Mention the types of neurons	NILL
9	Unit – 9 Excretory system –Urinary System	Other channels of excretion,	NILL	NILL
10	Unit-10 Endocrine system	Pineal body, Parathyroid Gland.	11). Name the types of cells in parathyroid. 15) What are the types of cells in pineal body.	NILL
11	Unit -11 Reproductive system male & Female	External female Genitalia	NILL	NILL
12	Unit -12 Sense organs	Ear & tongue	10. Mention the three main parts of ear. 11. What are the parts of external ear ? 12. Mention parts of middle ear. 13. Name the main parts of internal ear. 14. What are the flaids of internal ear ? 15. Write the auditory ossieles (bones of middle ear). 16. Mention types of taste buds. 17. Define (a) Taste buds (b) Olfactory receptors	2. Discuss the anatomy of ear with diagram. 3). Write the anatomy of tongue as sense organ
1	UNIT – 1 Introduction to human physiology	Different systems of body	NILL	NILL
2	Unit -2 Muscle physiology & nerve physiology	Nerve physiology, synapse	6). Mention the physiological characters of nerve fibers. 7). What is ganglion. 8). Define a) Polarization. B). Depolarization. 10). Write the definition of synapse	2). Write about nerve physiology
3	Unit -3 Blood & Lymph	Plasma proteins & their functions properties of hemoglobin, blood clotting& factors, blood grouping	6. Mention the plasma proteins. 7. Write different globlulin fractions. 8. What is the mechanism of blood clotting? 9. What are the sysnonyms of factor - IV, Factor-VIII, Factor-I and Factor XIII. 12. What are the factors inhibiting blood coagulation? 13. Mention the factors acclerating coagulation of blood? 38. Mention different blood groups according to ABO and Rh systems. 39. How do you determine blood group by ABO system? 40. What are the antigens of Rh grouping?	2). Discuss plasma proteins and their functions. 3). Write about coagulation, its mechanism & clotting factors. 9) Explain blood grouping.

			41. Write the clinical significance of Rh grouping in blood transfusion. 42. What is the significance of 'Rh' factor in pregnancy?	
4	Unit -4 Respiratory system	Reflexes of respiratory tract, stages of respiration	2). What are the respiratory reflexs. 3). Name the stages of respiration	NILL
5	Unit-5 Digestive system	Disorders of digestive system, movements, of gastro intestinal tract.	17). Define a). gastritis b). Anorexia 18). Name the types of movements of GIT.	NILL
6	Unit – 6 Cardiovascular system	Cardiac cycle heart sounds, ECG, cardiac disaorders.	5). Define cardiac cycle and mention the events, 6). Define ECG & mention, limb leads.	2). Explain cardiac cycle. 4). Write about ECG, 6). List out various cardiac disorders.
7	Unit –7 Excretory system-urinary system	Micturition & dialysis	9). Define micturition, 10). Name the centers controlling micturition. 11). What is dialysis	NILL
8	Unit-8 Endocryne system	Parathyroid	17). Write about parathormone 18) What is hyper parathyroidism	NILL
9	Unit -9 Reproductive system- Male& Female	Puberty, menstruation, coitus. Method s of controlled	1 What is puberty 2. Define a). menarchi b). Menopause	4). Discuss the methods of controlled reproduction.
10	Unit- 10 Nervous system (CNS) & sense organs.	EEG, CSF, Disorders of nervous system, ear & tongue.	14. Define EEG and mention types of waves. 15. Mention the factors influencing EEG pattern. 16. What is CSF? 23. What are functions of ear? 24. Mention disorders of ear. 25. Name the primary taste sensations.	2) Write about EEG, Explain Specialised function of brain 6) Explain physiology of hearing & auditory disorders.

MEDICAL LAB TECHNICIAN SECON YEAR

PAPER-I: BIO-CHEMISTRY II

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail	Two Marks Questions deleted	Six Marks Questions deleted
1	Unit-1 – Instrumental method of Bio-chemical Analysis	Determination of urinary sodium & potassium	3. Give the principle of flame emission photometry 6. Exemplify some fuel gases	4. How do determine urinary sodium by Flame Photometry? 5.Give the principle & procedure of determination of uninary potassium by flame photometry.
2	Unit-2 Separation Techniques	Paper electro-phorosis of serum proteins Fractionation of serum lipoproteins by agarose gel electrophoresis	7. Mention any four supporting media 11. Mention the classes of lipoproteins. 12. what are the supporting media used in (a)paper electrophoresis (b) agarose gel electrophoresis 13.write the composition of fixative solution used in electrophoresis of serum lipoproteins by agarose gel electrophoresis	4. write the clinical significance, principle, requirements and procedure of fractionation of serum proteins by paper electrophoresis 5. write about fractionation of serum lipoprotein by agarose gel electrophoresis including clinical significance
3	Unit-3 Immuno Assays	--Nil---	---Nil---	---Nil---
4	Unit-4 Metabolism	Protein metabolism - urea cycle	8. Define a) Ureotelic organisms b) Aminotelic organisms	4. Write the significance and steps of urea cycle
5	Unit-5 Titrimetric methods	Stock standard solution Working standard solution	5. What is working standard solution. 6. What is stock standard solution	---Nil----
6	Unit-6 Liver function Tests	Determination of SGPT Determination of	----Nil------	10.Explain about determination of SGPT and its significance in LFT. 11. Describe the determination of serum alkaline phosphatase and its significance

		serum alkaline phosphatase		in LFT
7	Unit-7 Kidney function tests	Estimation of blood urea Estimation of serum creatinine	-----Nil-----	4. Write about blood urea determination. 5. Explain serum creatinine determination.
8	Unit-8 Gastric Function tests	Estimation of free HCl, combined acids-clinical significance	6. Define hyperchlorohydria and mention diseases in which hyperchlorohydria occurs. 7. What is achlorohydria? 8. Mention the conditions in which achlorohydria occurs. 9. Name the methods of estimation of free HCl and combined acids	3. Explain the procedure of estimation of free HCl.
9	Unit-9 Thyroid function tests	Thyroid stimulating hormone	8. Name the parts of Chemiscope. 9. What is the relation between concentration and intensity of light emitted in chemiluminescence.	5. Write about RIA and TSH. 6. Describe the chemiluminescence method.
10	Unit-10 Pancreatic tests	Enzymes in pancreatic juice	1. Mention proteolytic enzymes in pancreatic juice.	2. Write the composition and mention the enzymes of pancreatic juice.
11	Unit-11 Clinical Enzymology	Factors influencing enzyme action Classification of enzymes Gamma glutamate transaminase	3. Mention the factors influencing enzyme action. 4. What is meant by enzyme inhibition? Name the types of enzyme inhibition. 5. Name the classes of enzymes.	2. Discuss the factors influencing enzyme action. 3. What is enzyme inhibition? Write about the types of enzyme inhibition. 4. Classify enzymes and write about their nomenclature of enzymes.
12	Unit-12 Body Fluids	Quantitative determination of CSF proteins by turbidimetric method. CSF chloride determination	6. What is the principle of determining CSF proteins by turbidimetric procedure? 7. Give the composition of 6% stock protein standard. 8. Write the principle of CSF chlorides determination by silver nitrate method. 9. What is the principle of Schales and Schales method of determination of CSF chlorides?	10. Describe the method of determination of CSF chloride by titration method. 11.Explain the process of determining CSF chlorides by Schales and Schales titration method.

13	Unit-13 Automation of Bio-chemistry labs & usage of computers	.Automation of flame photometry. Automation of blood gas analysis. Automation of blood cell counting	---Nil---	---Nil--
14	Unit-14 Quality Control	Evaluation of some of the analytical methods. Automated systems of analysis.	3. Mention some analytical methods. 4. What are major classes of errors.	2. Write about evaluation of some of the analytical methods. 3. What are different errors? Explain.
15	Unit-15 Diagnostic tests	Emzymatic method of determination of serum total cholesterol. Determination of Glycosylated haemoglobin by Ion exchange – colorimetry method. Colorimetric method of determination of serum calcium.	12. Give the principle of enzymatic method of determination of serum total cholesterol. 20. Write down the principle for determining glycosylated haemoglobin by colorimetry-ion exchange method. 21. List out the different methods of serum calcium determination. 22. How do you prepare 100 ml of 2N NaOH solution. 24. Write the formula to determine serum calcium by titrimetric method. 25. Name the reagents used in serum calcium determination by colorometric method.	5. Discuss the method of determination of glycosylated haemoglobin by ion-exchange colorometry method. 6. How do you determine serum calcium by titrimetric method? 8. Write cresolphthalcin complexone method of serum calcium determination.

MEDICAL LAB TECHNICIAN - SECOND YEAR
PAPER – II MICROBIOLOGY

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	**Unit -1** Normal flora of human body	Normal flora of genito – urinary tract. Bacteria in blood and tissues	6. Write the bacteria present in the genito – urinary tract. 7. Mention the bacteria present in the blood and tissues	Nil
2	**Unit -2** Introduction to immunology	ELISA –test	8. Expand RIA and ELISA	4. Explain about the direct ELISA test. 5. Write notes on indirect ELISA test.
3	**Unit -3** Parasitology	Taenia solium	Nil	5. What is taeniasis & write the morphology & life cycle of T.solium
4	**Unit- 4** Antibiotic Sensitivity Test - preparation of Antibiotic discs and resistant method.	Preparation of antibiotic discs.	6. Define antibiotic discs	2. How do you prepare antibiotic discs & write about antibiotic sensitivity testing by stokes method
5	**Unit-5** Preservation methods of stock culture and their Importance, Principle and procedure.	Principle & importance of stock culture	3. What is the principle of stock culture. 4. Mention the importance of stock culture	Nil
6	**Unit -6** Brief outline of Morphology, cultural characteristics and lab diagnosis of important pathogens**.**	Mycobacterium leprae Actinomycetes & Nocardia	6. Write the causative organism of leprosy.	12. Write about the actinomyces.
7	**Unit -7** Bacteriological examination of Water, Milk and Food.	Bacteriological of Food	6. What is meant by food poisoining. 10. Define bacteriological examination of food.	3. Explain briefly about the bacteriological examination of food
8	**Unit -8** Mycology	-Aspergillus -Penicillium	6. Define aspergillosus	4. What is aspergillus & Write the morphology, culture characters & lab diagnosis of asper gillus. 5. Write briefly about the Penicillium.

9	**Unit- 9** Virology	-Polio virus -Rabies virus.	9. Write the example of Rabdo virus.	2. Explain about the polio virus. 4. Write about the morphology, cultivation & Lab diagnosis of Rabies virus.
10	**Unit -10** Quality Control in Laboratory	Quality assurance	8. Define quality assurance	Nil
11	**Unit -11** Automation in clinical laboratories.	Working of analysers	Nil	2. Write notes on working on analysers.

MEDICAL LAB TECHNICIAN - SECOND YEAR
PAPER – III PATHOLOGY

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	Unit -1 preparation of blood smears and examination	Knowledge about Romanowsky stains	7. Mention the adventages of Romanowsky stains. 8. What are the disadvantages of Romanowsky stains? 9. Name different Romanowskys stains.	Nil
2	Unit- 2 Special stains for bone marrow smears.	Giema stain & PAS	3. Write the composition of Griemsa stain.	Nil
3	Unit-3 Bone marrow aspiration	Setting up of tray for bone marrow aspiration	4. What is meant by tray for bone marrow aspiration?	2. Discuss setting up of tray for bone marrow aspiration.
4	Unit -4 identification on of haemoparas ites	Malarial parasite Microfilaria, Making thick & Thin smears	3. Mention the morphological forms of plasmodium. 6. Name the morphological forms of microfilariae. 7. Write the morphology of adult worm of microfilariae.	1. Explain the morphology of malarial parasites. 2. Discuss the morphology of microfilaeria. 7. Write about identification tests of plasmodium. 8. Explain identification tests of microfilariae.
5	Unit -5 absolute eosinophil count	Nil	Nil	Nil
6	Unit – 6 Sickle cell preparation	Nil	Nil	Nil
7	Unit – 7 OSMOTIC FRAGILITY	Factors affecting Osmotic Fragility	8. Mention the factors affecting Osmotic Fragility	Nil

8	Unit -8 COAGULATIO N TESTS	Bleeding time – Ivy's method, clotting time – lee & white method, APTT.	11. Expand PT and APTT. 12. Write the normal range & clinical significance of APTT.	5. Write about performing APTT.
9	Unit – 9 Buffy coat preparation	LE CELL & microfilaria	3. Describe LE cell	1. Write about LE cell, microfilariae and abnormal cells examination in buffy coat
10	Unit – 10 LE CELL TEST	Nil	Nil	Nil
11	Unit-11 BASICS OF COULTER COUNTER	Diluting fluids	Nil	1. Explain the diluting fluids used in automated haemotology.
12	Unit -12 HISTOPATHOL OGY	Immuno histo chemistry	20. Define immuno histo chemistry 21. What does immuno histo chemical staining consists of?	10. Write a note on immuno histo chemistry & immuno hosto chemical staining.
13	Unit- 13 MICROTOMES AND KNIVES	Advantages & disadvantages frozen section	11. What is frozen section cutting?	3. Discuss the Advantages & disadvantages of frozen section cutting
14	Unit -14 CYTOLOGY	Cytospin	Nil	Nil
15	Unit -15 MUSEUM TECHNIQUES	Maintenance & Cleanliness of the museum, disposal of waste & safety in the lab	Nil	Nil
16	Unit -16 AUTOPSY	Cleaning of Autopsy instruments, tables & rooms , preservation of organs.	10. Describe the cleaning of autopsy instruments.	3. Describe the cleaning of autopsy instruments, tables & rooms , preservation of organs
17	Unit -17 IMMUNOHEM ATOLOGY	Inheritance of blood groups & Coombs test.	7. How are blood groups inherited? 12. Who described coombs test. 13. What are the uses of direct coombs test . 14. What are the uses of indirect coombs test	4. Describe different coombs tests.

VOCATIONAL CURRICULUM-2020

(For the Academic year 2020-21)

[70% CONTENT IN VIEW OF COVID-19 PANDEMIC]

PHYSIOTHERAPY

(COURSE CODE: 618)

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

Dr. A. Ashok I.A.S-
COMMISSIONER

INTERMEDIATE EDCATION
Government of Telangana
Nampally, Hyderabad- 500001
Phone: 040-24655915

Fore word

In any developing society with a booming population, Vocational Education occupies an important position for generating large scale employment opportunities. Viewed in this context the importance of Vocational Education for our country cannot be over emphasized. Vocationalization of Secondary Education was introduced in 1988 at the Intermediate level. Recently, the Government of India has developed a National Skills Qualification Framework for establishing a clear path for vocational education from the school level to the highest level. The Department of Intermediate Education has recently framed a new curriculum to bring greater value to the system of vocational education. The primary aim of this reform is to prepare the students with employable skills for absorption in organized sectors and in few cases, even for self-employment.

State Institute of vocational education and Board of Intermediate Education, Telangana have reviewed the curriculum of vocational courses of second year from the academic year 2019-20 in order to reorient them for their practical approach. Greater emphasis is now being placed on Laboratory work and on the job training.

Simultaneously, The State Institute of Vocational Education and the department of Intermediate Education are presently making efforts to upgrade the quality of infrastructure in the colleges to meet the challenges of the changed curriculum. I am confident that the revised curriculum of second year for Vocational Courses would prove to be beneficial to the students in the vocational stream and help them train in need based productive courses leading to gainful employment.

Sd/- Dr. A.Ashok
COMMISSIONER OF INTERMEDIATE EDUCATION

SCHEME OF INSTRUCTION AND EXAMINATION

ANNUAL SCHEME OF INSTRUCTION AND EXAMINATION FOR

1ST YEAR PHYSIOTHERAPY COURSE

Part-A		**Theory**		**Practicals**		**Total**	
		Periods	**Marks**	**Periods**	**Marks**	**Periods**	**Marks**
1.	English	150	50	-	-	150	50
2.	General Foundation course	150	50	-	-	150	50
Part-B							
3.	**Paper-1** Anatomy and Physiology	135	50	135	50	270	100
4.	**Paper-II** Psychology and Abnormal Psychology.	135	50	135	50	270	100
5.	**Paper-III** Biomechanics and Exercise Therapy.	135	50	135	50	270	100
6.	**OJT**	-	-	365	100	365	100
	Total	**705**	**250**	**770**	**250**	**1475**	**500**

II. on the Job Training**[From 1st november to 31st December]**

II YEAR PHYSIOTHERAPY COURSE

Part-A		Theory		Practicals		Total	
		Periods	Marks	Periods	Marks	Periods	Marks
1.	English	150	50	-	-	150	50
2.	General Foundation course	150	50	-	-	150	50
Part-B							
3.	**Paper-1** Medical and Surgical Condition	110	50	115	50	225	100
4.	**Paper-II** Orthopedics and Neurology	110	50	115	50	225	100
5.	**Paper-III** Electrotherapy.	110	50	115	50	225	100
6.	**OJT**	-	-	450	100	450	100
	Total	**630**	**250**	**795**	**250**	**1425**	**500**
						I+II+III	**1000**

on the Job Training**[From 1st August to 31st October]**

EVALUATION OF ON THE JOB TRAINING:

The "On the Job Training" shall carry 100 marks for each year and pass marks is 50. During on the job training the candidate shall put in a minimum of 90 % of attendance.
The evaluation shall be done in the last week of January.

Marks allotted for evaluation:

S.No	Name of the activity	Max. Marks allotted for each activity
1	Attendance and punctuality	30
2	Familiarity with technical terms	05
3	Familiarity with tools and material	05
4	Manual skills	05
5	Application of knowledge	10
6	Problem solving skills	10
7	Comprehension and observation	10
8	Human relations	05
9	Ability to communicate	10
10	Maintenance of dairy	10
	Total	100

NOTE: The On the Job Training mentioned is tentative. The spirit of On the Job training is to be maintained. The colleges are at liberty to conduct on the job training according to their local feasibility of institutions & industries. They may conduct the entire on the job training periods of (363) I year and (450) II year **either by conducting classes in morning session and send the students for OJT in afternoon session or two days in week or weekly or monthly or by any mode which is feasible for both the college and the institution**. However, the total assigned periods for on the job training should be completed. The institutions are at liberty to conduct On the Job training during summer also, however there will not be any financial commitment to the department.

PHYSIOTHERAPY

FIRST YEAR

PART B – VOCATIONAL SUBJECTS

PAPER – I: ANATOMY & PHYSIOLOGY (THEORY)

S.No	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
1	**Emphasis to be placed on Topographical skeletal, Neuro Muscular and functional aspects of Anatomy** ~~a) Planes of the Human body~~ b) Systems of the body **c)** The Units of structure and Functions of Cell	**5**	**4**	**2**	**-**
2.	**Osteology** a) Anatomical Position , planes, surfaces, relationship of parts of the body – proximal and distal b) Bones- Types of bones, Function, repair, structure of long bone, vertebral column, types of vertebral bones and surface land marks.	**8**	**6**	**-**	**1**
3.	**Arthology** a) Classification of Joints b) Construction of Joints c) Motions of Joints d) Articulations – articular surfaces and types of joints	**8**	**6**	**-**	**1**
4.	**Myology** a) Types of Muscle tissue and Fascia b) Muscles of upper extremity, lower extremity~~, trunk~~, eye and ~~face~~ etc. c) Origin, function, nerve supply and action-mainly of deltoid, triceps, biceps, glutius maximus, quarterceps, hamstrings and calf. d) Muscle spindle in detail	**9**	**6**	**-**	**1**
5.	**Cardio-vascular system** a) The heart main arteries, veins and capillaries b) Lymphatic circulation	**5**	**8**	**1**	**1**
6.	**Nervous System**	**10**	**8**	**1**	**1**

S.No	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
	a) Division and function of Nervous System b) Nerve tissue- neuron , nerve fiber c) Spinal cord, brain, and their structure d) Name the peripheral and cranial nerves, supplying the major functional group e) Cerebra Spinal Fluid				
7.	**Respiratory System** a) Anatomy of respiratory organs, Air passages, lungs, bronchial tree and segments	**5**	**2**	**1**	
8.	**Digestive System** a. Anatomy of Digestive organs, Oesophagus stomach, intestines b. The digestive glands	**5**	**2**	**1**	
9.	**Urinary System:** a) Anatomy of urinary organs, kidney, urinary bladder.	**3**	**2**	**1**	**-**
10	**Reproductive System** a) Male and female reproductive organs physiology.	**5**	**2**	**1**	**-**
	Physiology				
11.	**Animal Cell**	**1**			
12.	**Blood** a) Composition of blood – plasma, coagulation phenomenon, blood groups	**3**	**2**	**1**	**-**
13.	**Heart and circulation** a) Properties of heart muscles b) cardiac cycle c) Heart sounds d) B.P.	**6**	**8**	**1**	**1**
14.	**Respiration** a) Mechanism of breath b) Dyspnoea	**5**	**8**	**1**	**1**
15.	**Neuromuscular system** a) Phenomenon of Muscle contraction b) Change in body during exercise. c) synapse	**5**	**15**	**2**	**1**

S.No	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
	d) Neuro muscular junction e) C.N.S 5 hrs. a. Functions of Hypothalamus b. Cerebellum c. Thalamus d. Basal ganglia.				
16.	**Metabolism of fat, carbohydrates proteins**	**3**			
17.	**Excretory System** a) Functions of kidney b) Micturation phenomenon c) Skin functions and temperature regulation	**6**	**2**	**1**	
18.	**Endocrine system** a) Function of pancreas, pituitary and Thyroid.	**5**	**2**	**1**	
19.	**Reproductive system** a) Menstruation b) Physiological Changes during pregnancy ~~c) Contraceptive method.~~	**5**	**2**	**1**	

PHYSIOTHERAPY
FIRST YEAR
PART B – VOCATIONAL SUBJECTS
PAPER – II: PSYCHOLOGY & ABNORMAL PSYCHOLOGY (THEORY)

S.No	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
1	What is psychology	5	8	1	1
2.	Behavior a) Types of abnormal behaviors	10	8	1	1
3.	Intelligence a) Evaluation, Mental Retardation, I.Q.	8	8	1	1
4.	~~Aptitudes~~	8	8	1	1
5.	Motivation a) Types and methods	8	8	1	1
6.	Personality development, assessment and ~~disorder~~	8	8	1	1
7.	Learning	8	2	1	-
8.	Remembering and forgetting.	8	2	1	-
9.	Thinking perception and attending.	8	6	-	-1
10.	~~Individual differences~~	8	2	1	-
11.	Frustrations and conflicts	8	2	1	-
12.	~~Psyco neurotic and psychosomatic disorder~~	8	2	1	-
13.	Child adolescent and geriatric psychology	10	6	-	1
14.	Alcoholism and drug addiction	10	2	1	-
15.	~~Menopausal syndrome.~~	5	2	1	-
16.	Functional psychosis.	10	6	-	1

135

PHYSIOTHERAPY

FIRST YEAR

PART B – VOCATIONAL SUBJECTS

PAPER – III: BIOMECHANICS & EXERCISE THERAPY (THEORY)

S. No	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
I	**Biomechanics:**				
1.	Mechanical Principles Definition of Biomechanics, Axis and planes, kinematics, kinetics, gravity, center of gravity, line of gravity, base of support, equilibrium, fixation and stabilization, force, type of forces, levers of the body and their mechanical advantage, pulleys, springs, elasticity, types of muscle contraction, range of muscle work the group action of muscles, limb length measurement.	10	4	2	-
2.	Gait Analysis Definition, stages of gait, pathological gaits	10	8	1	1
II	**Exercise Therapy:** Introduction to Physiotherapy – role of physiotherapy General considerations, principles of treatment- Methods and effects.	**1**	**-**	**-**	**-**
1.	Starting positions	2	2	1	-
2.	An introduction to exercise therapy: Aims of exercise therapy, techniques of exercise therapy Goniometry in detail.	10	6	-	1
3.	Passive Movements Definition, classification, principles effects and uses of passive movements.	5	6	-	1
4.	Active Movements Definition, classification, techniques, effects and uses of active movements.	10	6	-	1
5.	Relaxation Definition, techniques of general and local relaxation	20	6	-	1
6.	~~Joint Mobility~~ Introduction, classification of Joints, limitation of joint range of	10	6	-	1

	motion, mobilizing methods, Hip, Knee and Ankle.				
7.	Muscle strength Introduction ~~type of muscle work, range of muscle work~~, muscular weakness and paralysis, prevention of muscle wasting.	10	6	-	1
8.	Stretching. Definition, classification, effects and uses.	5	2	1	-
9.	Neuromuscular coordination Frankel's Exercises.	2	2	1	-
10.	~~Proprioceptive Neuromuscular facilitation~~ ~~Definition, classification, effects and uses~~	5	2	1	-
11.	Hydro Therapy Definition, indications, contraindications, dangers and precautions.	3	2	1	-
12.	Breathing exercises, ~~postural drainage.~~	7	2	1	-
13.	~~Posture~~ ~~Definition, classification, postural training.~~	4	2	1	-
14.	Suspension therapy [types] Mat exercises, Re-education board, Swiss ball, shoulder wheel, CMP, finger ladder, parallel bars, medicine balls, equilibrium board [definition, uses of all the above equipments]	10	2	1	-
15.	Walking aids and gait training	3	2	1	-
16.	Massage in detail.	8	6	-	1

PHYSIOTHERAPY

II YEAR

PART B – VOCATIONAL SUBJECTS

PAPER – I: MEDICAL & SURGICAL CONDITIONS (THEORY)

S.No	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
	General Medicine with Physiotherapy Management				
1.	Basics of Infection inflammation Oedema, deformity and contractures	3	2	1	
2.	Infectious Diseases – Bones and Joints	12	6		1
3.	Nutritional Disorders Rickets, scurvy, Osteomalacia and osteoporosis	6	4	2	
4.	Respiratory disorders Asthma, Bronchitis, Emphysema, Bronchiectasis	7	6		1
5.	Cardio Vascular disorders Myocardial infraction, Angina, Congenital heart diseases , Ischaemic heart diseases	15	10	2	1
6.	Endocrinal disorders Dwarfism Gigantism	3	2	1	
7.	Tetanus	3	2	1	
8.	Gas Gangrene	3	2	1	
9.	S.T.D AIDS, Syphilis, Gonorrhoea	3	2	1	
10.	Leprosy (Clinical features related to PT) and tuberculosis	5	6		1
	Surgery with Management 1. Types of incisions 2. Anesthesia Types **3.** Burns-Classification, degree of burns Contractures, skin graft and flaps.	15	14	1	2
	Pre and post-operative physiotherapy Management for following surgeries 1. Cardiac surgery 2. Respiratory Surgery	5 5	2 6	1	1
	~~**Gynaecology**~~				
	~~1. Various stages of Labour and clinical Management~~ ~~2. Physiological changes during pregnancy and physiotherapy Management~~	8	6		1
	~~**Paediatrics**~~				
	~~1. cerebral palsy and Pt Management~~ ~~2. Developmental milestones~~ ~~3. Hydro Cephalous and meningiocele.~~ ~~4. Polio-Causes, Stages, prevention medical and P.T. Management~~	~~15~~	~~8~~	~~1~~	~~1~~
	~~**Dermatology**~~				
	~~Dermatitis, Eczema, acne vulgaris,~~ ~~Psoriasis, Leukoderma, Alopecia. Specify on Physiotherapy Treatment~~	5	4	2	

PHYSIOTHERAPY

II YEAR

PART B – VOCATIONAL SUBJECTS

PAPER – II: ORTHOPAEDICS AND NEUROLOGY (THEORY)

Theory: 110 hours Marks: 50

S. No	NAME OF THE UNIT	No. Of Periods	Weightage in marks
	ORTHOPAEDICS & PHYSIOTHERAPY		**40**
1.	Introduction to Orthopaedics & Surgeries, Arthroscopy and Arthroplasty	4	2
2.	Sprains and strains, dislocation – its types – causes and principle of treatment.	6	8
3.	Fractures – types, Causes, healing and complications of fractures	8	6
4.	~~Fractures of upper limb~~ and lower limb, pelvis and vertebra Colle's Fracture, montegial Fracture and Galezzi Fractures	8	2
5.	Fingers condition - Bennets fracture, mallet finger, tenosynovitis trigger finger.	4	2
6.	Elbow Conditions-Myositis Ossificans, tennis elbow, ~~supracondylar fracture of humerus~~	4	6
7.	Volkman's contracture, recurrent dislocation of shoulder	4	6
8.	Brachial Plexus, carpel tunnel syndrome.	6	
9.	Joint inflammatory conditions, osteo arthritis, Rheumatoid arthritis, Periarthritis, Ankylosis spondylisis. Total Knee Replacement	4	6
10.	Spinal deformities - Scoliosis, Kyphosis, lordosis, Spinal conditions – cervical spondylosis, lumbar spondylitis.	6	2
11.	Congenital conditions - C.T.E.V. ~~C.D.H~~, Torticolis	3	6
12.	I.V.D.P.	3	
13.	knee deformities -Genuvalgum, Genuvarum Genu recurvatum	3	2
14.	Amputations and types role of Physiotherapy counseling	3	2
15.	Orthopedic appliances – splints prosthesis and orthotics.	3	2
16.	Foot deformities – flat foot calcaneal spur. Plantar falsities.	3	2
	NEUROLOGY & PHYSIOTHERAPY		28
17.	Introduction – approach to Neurological Cases 1. Cerebral Cortex 2. Pyramidal tract 3. Extra pyramidal tract 4. Cerebellum 5. Spinal Cord 6. Peripheral Nerve Brief outline of their structure and functions. Difference between UMN and LMN lesions	3	
18.	**Cerebral circulation and its disorders/ Head Injury** Hemiplegia, Paraplegia, Quadriplegia Coma , Epilepsy	3	8
19.	Infections and inflammation Meningitis, encephalitis, encephalomyelitis, ~~poliomyelitis, intracranial tumours [gliomas, meningiomas~~]	3	2
20.	Extrapyramidal syndromes Chorea, Athetosis, Hemiballisums, tremors, rigidity, parkinsonism.	3	4
21.	~~Syphilis~~ and its neurological complications	3	2

22.	Demyelinating and degenerative disorders, Multiple sclerosis, Motor neurone disorder.	3	6
23.	Disorders of peripheral nerves	3	2
24.	Polyneuropathy GBS, Diabetic neuropathy.	3	6
25.	Disorders of spinal cord- ~~spin bifida, syringomyelia, transverse myelitis, and spinal tumours.~~	3	2
26.	Ataxia-Types of ataxia, clinical features pathology, medical and physiotherapy treatment.	3	6

PHYSIOTHERAPY
II YEAR
PART B – VOCATIONAL SUBJECTS
PAPER – III: ELECTROTHERAPY [THEORY]

Theory: 110 hours Marks: 50

S. No	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
1.	Physics and Basic Electrical Components Electromagnetic radiation, Conductors & Non-conductors of electricity, Transmission of heat, physical effects of heat, static electricity, electric shock, earth shock	20	16	2	2
2.	Methods of heating the tissue: Physiological effects of heat, paraffin Wax bath, Hot packs, Moist packs, infra-red rays, ~~U.V.rays.~~	20	10	2	1
3.	Low frequency currents: Faradic & Galvanic currents, SD curve, ~~Iontophoresis,~~ TENS	20	10	2	1
4.	Cryotherapy	10	8	1	1
5.	Medium Frequency Current Interferential Therapy	15	8	1	1
6.	High Frequency currents: SWD,MMD,US [Basics of Lazer] Difference between low frequency & high frequency currents.	25	16	2	2
In all the above units definition, production, preparation of apparatus & Patient, physiological effects, techniques, dosage indication, contraindication, dangers and precautions are to be covered.					

MODEL PAPER
FIRST YEAR
PAPER-I: ANATOMY & PHYSIOLOGY

Marks: 50

Section –A

Note: [i] Answer all the questions

[ii] Each question carries 2 marks. 2X10=20

1) Write any six movements occurring at joints?
2) Define osteology?
3) Write the functions of blood?
4) What is Blood pressure and mention the factors effecting BP?
5) Write about meninges?
6) What is Neuro Muscular Junction?
7) Write about the lobes of the lungs?
8) What are the secretions of stomach?
9) Draw the Urinary system diagram?
10) What is menopause?

Section –B

Note: [i] Answer five questions

[ii] Each question carries 6 marks. 5X6=30

11) Explain the structure of bone and write the functions of skeletal system?
12) Classify joints and explain the structure of the synovial joints?
13) Write the origin, insertion, nerve supply and actions of Quadriceps and Hamstrings muscle?
14) Explain in detail about cardiac cycle?
15) Explain in detail about the structure and functions of brain?
16) Mention the names of cranial nerves?
17) Explain in detail about brachial plexus?
18) Write about the mechanism of the Respiration?
19) Write the structure and function of liver?
20) Explain the structure of skin with a neat labeled diagram?

MODEL PAPER
FIRST YEAR
PAPER-II: PSYCHOLOGY & ABNORMAL PSYCHOLOGY

Marks: 50

Section –A

Note: [i] Answer all the questions

[ii] Each question carries 2 marks. 2X10=20

1) Define Psychology?
2) Define mental retardation?
3) Mention any two ways to improve motivation?
4) What is meant by personality disorder?
5) Name the theories of learning?
6) Define memory?
7) Name various types of thinking?
8) Name different types of conflicts?
9) What is meant by Juvenile delinquency?
10) Define Alcoholism?

Section –B

Note: [i] Answer five questions

[ii] Each question carries 6 marks. 5X6=30

11) Describe various branches of psychology?
12) Write about behaviour in detail?
13) Write about Intelligence tests in detail?
14) Discuss briefly about motivation?
15) Write briefly about personality assessment?
16) Briefly explain various types of Learning?
17) Explain various factors affecting attention?
18) Explain various causes of frustration briefly?
19) What are the causes of depression in older adults?
20) Explain various types of Psychosis?

MODEL PAPER
FIRST YEAR
PAPER – III: BIOMECHANICS AND EXERCISE THERAPY

Marks: 50

Section –A

Note: [i] Answer all the questions

[ii] Each question carries 2 marks. 2X10=20

1. Define Bio mechanics.
2. What is LOG?
3. What are the different fundamental starting positions?
4. What is contracture?
5. What is reeducation?
6. Write about indications for hydrotherapy.
7. List any two breathing exercises.
8. What are axillary crutches?
9. Name the different types of suspension.
10. What is CPM.

Section –B

Note: [i] Answer five questions

[ii] Each question carries 6 marks. 5X6=30

11. Explain the Physiological effects of Massage.
12. Explain in detail about diaphragmatic breathing.
13. Write in detail about the Frenkel's Exercise.
14. What are the types of exercises used to strengthen muscles?
15. What are the methods of Local Relaxation?
16. What are the techniques, principles of assisted exercise?
17. What are the principles of giving relaxed passive movements? Explain.
18. What are the different aims of exercise therapy?
19. Explain the stages of GAIT cycle.
20. Explain about the types of muscle contractions.

MODEL PAPER
SECOND YEAR
PAPER-I: MEDICAL SURGICAL CONDITIONS

Marks: 50

Section –A

Note: [i] Answer all the questions

[ii] Each question carries 2 marks. 2X10=20

1. Define Oedema.
2. What are the complications of valve replacement?
3. What is Scurvy and what are the causes?
4. What is Gigantism?
5. Define Tetanus.
6. What are types of gangrene?
7. Write the causes of AIDS.
8. What are the incisions used in surgical procedures?
9. What is pneumonectomy?
10. Write about ventricular septal defect?

Section –B

Note: [i] Answer five questions

[ii] Each question carries 6 marks. 5X6=30

11. Define Angina Pectoris. Write about treatment in detail.
12. What is blue disease? Describe the clinical features and medical management as well as its management?
13. What is Septic Arthritis and write the treatment in detail?
14. What is TB? Causes, clinical features, medical management and PT management?
15. Write about the types of Anesthesia.
16. Classify burns.
17. Write about Cerebral Palsy and PT management.
18. Write about Physiotherapy management for thoracotomy.
19. Write about tetralogy of fallot?
20. Classify COPD and explain its complications in detail.

MODEL PAPER
SECOND YEAR
PAPER-II - ORTHOPAEDICS AND NEUROLOGY

Marks: 50

Section –A

Note: [i] Answer all the questions

[ii] Each question carries 2 marks. 2X10=20

1) What is orthoscopy?
2) Name any three features of Fracture?
3) What is meant by tenosynovitis?
4) Name any two spinal deformities?
5) Define Genu recurvatum?
6) Name the types of Orthosis?
7) What is meant by flat foot?
8) Write the clinical features of parkinsonism?
9) What is multiple sclerosis?
10) Write any four peripheral nerve disorders?

Section –B

Note: [i] Answer five questions

[ii] Each question carries 6 marks. 5X6=30

11) Discuss in detail about fractures?
12) Write in detail about recurrent dislocation of shoulder?
13) Write about periarthritis of shoulder with PT management?
14) Write in detail about Cervical spondylosis with PT management?
15) Write in detail about CDH?
16) Write about plantar fasciitis in detail?
17) Explain Briefly about stroke and its management?
18) Explain in detail about motor neuron disease and its management?
19) Explain in detail about Gullian barre syndrome?
20) Explain in detail about Ataxia?

MODEL PAPER
SECOND YEAR
PAPER-III - ELECTROTHERAPY

Marks: 50

Section –A

Note: [i] Answer all the questions

[ii] Each question carries 2 marks. 2X10=20

1. What is meant by phonophoresis?
2. What is coupling media?
3. What is beat frequency?
4. Indications of Cryotherapy
5. Define faradic current
6. What is motor point?
7. Write about indications of hot packs?
8. Write about effects and uses of moist packs?
9. What is meant by electromagnetic radiation?
10. Write the modes of transmission of heat.

Section –B

Note: [i] Answer five questions

[ii] Each question carries 6 marks. 5X6=30

11. Explain about electric Shock in detail.
12. Explain briefly about Wax bath with its applications, indications, contraindications and uses in detail?
13. Explain in detail about SD curve.
14. Write about physical effects of heat in detail
15. Write in detail about the production of infrared Rays?
16. Explain in detail about the applications, Physiological effects, indications and contraindications of IFT.
17. Write about methods of application of Cryotherapy in detail.
18. What are the indications, contraindications, physiological and therapeutic effects of ultrasound?
19. Explain in detail about Deltoid Inhibition with PT management?
20. Write about techniques of application of SWD.

Reference Books.

1. **Biomechanics**
    1. Cynthia & Norkins : Joint Structure and function
    2. Gardiner M.D: The Principles of Exercise Therapy
2. **Exercise Therapy**
    1. Kendall: Manual Muscle testing
    2. Gardiner M.D. The Principles of Exercise Therapy
    3. Margaret Hollis : Exercise Therapy
    4. Kisner : Therapeutic Exercise.
    5. Cyriax J: massage, Manipulation & local Anesthesia.
    6. Cynthia's: Goniometry.
    7. Margaret Hollis : Massage Therapy
    8. Resistance Exercise Sports Training, Body Shaping, Obesity, Joint Paints by Prashant Shah – 9391017833.
    9. Exercise Therapy by prashant shab : 9391017833
    10. Swiss Ball, Medicine Ball, Tubes Exercises by Prashant shah – 9391017833.
3. **Electrotherapy**
    1. Calayton's : Electrotherapy
    2. Low & Reed: Electrotherapy Explained.
    3. Joseph Khan : Electrotherapy
    4. Sayeed Ahmeed : electrotherapy
4. **Psychology**
    1. S.K.Mangal: Textbook of Psychology & abnormal psychology
    2. Murgesh: psychology.
5. **Anatomy & Physiology**
    1. B.D.Chaurasia: 3 Volumes, Text book of Anatomy
    2. Toratora : Anatomy & Physiology
    3. Guyton : Text book of Physiology
    4. Chaudari : Text book of Physiology
    5. Gray : Gray's Anatomy
    6. B.D.Chaurasis: Handbook of Anatomy
    7. Evelyn pearce: Anatomy & Physiology for Nurses.
    8. Murgesh: anatomy & physiology.
6. **Medical & Surgical Condition.**
    1. Tidy's Physiotherapy
    2. Cash Medicine
    3. Cash Surgery
    4. Polden: PT in obstetrics & Gynecology
    5. Bailey & Love: Text Book of Surgery
    6. Davidson: Textbook of Medicine.
    7. Golwalla: Text book of Medicine.
    8. Das: Clinical
    9. P.J.Mehta: Clinical Examination
    10. Das: Textbook of Surgery
    11. Phyotherapy Dictionary
    12. Hutchison's [hand book]: Clinical Examination.
7. **Orthopaedics & Neurology**
    1. Cash Orthopaedics
    2. Cash Neurology
    3. O.Sullivan: Physical Rehabilitation
    4. lan Bramely : Paraplegia & tetraplegia
    5. Jon Ebunzer : Orthopaedics in Physiotherapy

30% DELETED CONTENT IN VIEW OF COVID-19 PANDEMIC

FIRST YEAR

PAPER: 1: ANATOMY & PHYSIOLOGY

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT -1 Anatomy Introduction	Planes and axis of Human body	1.Write the different planes & axis of Human body	Nil
2	UNIT-4 Myology	Muscles of face & trunk	1. Write the names of the muscles of facial Expression.	Nil
3	UNIT-6 Lymphatic system	Functions of lymphatic system lymphoid organs	1. Write the functions of lymphatic system. 2. Write the composition of lymph. 3. Write the names of the lymphoid organs. 4. Write the functions of spleen. 5. Write the functions of thymus.	Nil
4	UNIT-13 Metabolism of fat, carbohydrates & proteins	Metabolism	1. What is metabolism? 2. What is basal metabolism? 3. What are the sources of energy present in food?	1. Explain in detail about carbo hydrate metabolism. 2. Explain in detail protein metabolism. 3. Explain in detail fat metabolism.
5	UNIT-15 The endocrine system	Endocrine glands	1.What is hormone 2.Write the names of endocrine glands 3.Write the hormones of anterior pituitary gland 4.What are the functions of thyroid hormones 5.What are the functions of para thyroid hormones 6.Write about insulin 7.What ae the sex glands 8.Write about estrogene 9.What are the functions of progesterone 10.Write about thymus 11.What are exocrine glands	1.Explain the structure & functions of pituitary glands 2. Explain the structure & functions of thyroid glands 3. Explain the structure & functions of para thyroid glands
6	UNIT-16 Reproductive system	Contraceptive methods	Write the Different types of contraceptive methods.	Nil

PHYSIOTHERAPY - FIRST YEAR
PAPER: II: PSYCHOLOGY & ABNORMAL PSYCHOLOGY

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-4 Aptitudes	Aptitudes	1.Define Aptitudes 2.What is purpose of aptitude test 3.Name the types of aptitudes tests	1. Briefly explain various types of aptitudes tests.
2	UNIT-6 Personality development	Personality disorders	1.What is meant by personality disorders 2. Name the types of personality disorders	1. Describe various types' personality disorders with its management.
3	UNIT-10 Individual differences	Individual differences	1.Difine individual differences 2.What is the importance of knowing individual differences 3.Name the areas of study for individual differences 4.name the types of individual differences 5.List out various personality traits	1.Explaiin trait theory in detail 2.Explain various types of individual differences
4	UNIT-12 Psychosomatic & Neurotic disorder	Psychosomatic & Neurotic disorder	1.What is meant by psychoneurosis 2.Write the symptoms of psychoneurosis 3.What are the causes psychoneurosis 4.name the types of psychoneurosis 5.Define psychosomatic disorders 6.List the clinical manifestations of Psychosomatic disorders.	1.Explain various types of psychoneurosis with management 2.Breifly explain the symptoms of psychoneurosis and its treatment 3.Descibe the classification of psychosomatic disorders with management
5	UNIT-15 Menopausal syndrome	Menopausal syndrome	1.What is menopausal syndrome 2.List out any four symptoms of menopausal syndrome	1.Explain the causes of menopausal syndrome With treatment

PHYSIOTHERAPY - FIRST YEAR
PAPER – III: BIO-MECHANICS & EXERCISE THERAPY

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	Unit-1 Starting positions	Pelvic tilt		2..write short notes on pelvic tilt &lateral tilting of pelvis
2	Unit-2 Exercise therapy-Goniometry	Goniometry	3..Define goniometry	2..Explain in detail the process of testing joint ROM.
3	Unit-6 Joint mobility	Joint mobility	1. What are different mobilizing methods? Name them. 2. List out various measures to prever joint stiffness. 3. What are the activities to increase mobility of joints of foot?	1. Classify joints and explain each of them in detail. 2. What are the different relaxed passive movements of knee joint? 3. What are the free ,assisted &resisted exercises for the knee joint.
4	Unit VII Muscle strength	Types of muscle work. Range of muscle work. Group action of muscles.		
5	Unit X Proprioceptive Neuro-muscular fascilitation	Full chapter	1.what are the techniques of proprio ceptive neuromuscular fascilitation. 2. define manual contact and its application. 3.What is PNF	1. Write in detail about the stretch stimulus and the stretch reflex therapy. Mention its applications. 2. What is repeated contraction. Explain the application of it.
6	Unit 12 Breathing exercises, postural drainage.	Postural drainage	2. Define postural drainage.	
7	Unit 13 Posture	Full chapter	1. What are inactive postures? 2. What are active postures? 3. What are the features of good posture?	1. What are the different postural mechanism? Explain in detail. 2. What are the characteristic features of good posture? 3. What are the techniques of re-education?

PHYSIOTHERAPY - SECOND YEAR
PAPER: I: MEDICAL AND SURGICAL CONDITIONS

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	Unit - 3 Respiratory disorders	Emphysema and bronchiectasis	Nil	4. What is bronchiectasis and describe the clinical features and medical management as well as its management.
2	Unit-4 Cardio vascular disorders	Ischemic Heart disease	1. What is Ischemic Heart disease?	Nil
3	Unit-8 STD	Gonorrhea	3.Gonorrhoea clinical features and management	Nil
4	Unit-9 Leprosy and tuberculosis	Gynecology	2. What are the exercises for the abdominal muscles? 3.Write about DVT (Deep Vein Thrombosis	1. What are the exercises that can be advised post-delivery? 4. Write about Physiotherapy for Gynecology out puts.
5		Pediatrics (Developmental milestones)		2.Write about Developmental milestones
6		Dermatology	1. Write about Dermatitis and its PT management. 3. Explain about acute Vulgaris and PT management. 5. Define Leukoderma & write its causes, clinical features, treatment and PT management. 6. Write about Alopecia and PT management.	2. Explain about Eczema and its causes, clinical features, medical management and PT management. 4. Write about Psoriasis and its clinical features, treatment and Physiotherapy management.

PHYSIOTHERAPY - SECOND YEAR
PAPER: II: ORTHOPAEDICS & NEUROLOGY

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-4 Fractures in detail	Upper limb fractures	1.Name any two upper limb fractures 2.what is the common cause of upper limb fractures 3.What is mean by colles fracture 4. What is monteggial fracture? 5.what is galezzi fracture 6. Name any two three complications of fractures.	1.Write any two upper limb fractures with physiotherapy management 2.Write about fracture femur with management 3.write about fracture pelvis with management 4.Write about spinal injuries with management
2	UNIT-6 Elbow conditions	Supracondylur fractures	1. What is meant by supracondylar fracture? 2.Name the complications of supracondylar fracture	1.Write about supracondylar fractures in detail
3	UNIT-7 Recurrent dislocation of shoulder and VIC	VIC	1.Define volkmanns ischemic contractures 2.List the types of Define volkmanns ischemic contractures 3.Features of Define volkmanns ischemic contractures	1.Write in detail about volkmanns ischemic contractures
4	UNIT-11 Congenital deformities	CDH	1. What is meant by CDH? 2.Name the features of CDH	1.Write in detail about CDH
5	UNIT-19 Infections & inflammation of nervous system	Poliomyelitis Physiotherapy management Infections of nervous system Intra cranial tumors	1.What is Encephalitis and write the causes 2.Write the clinical features of Encephalomyelitis 3.What is meningitis and write the cause	1.Explain in detail about polio with management

			4.Mention the clinical features of meningitis 5.Write the symptoms of intra cranial tumors 6.Mention the types of polio viruses 7.Write the symptoms of polio 8. What is an intra cranial tumor? Write its types 9. What are the causes of brain tumors?	
6	UNIT-21 Syphilis	Syphilis	1.What is neuro syphilis 2.Write the types of neuro syphilis 3. Mention the clinical features of neuro syphilis	1.Explain in detail about neuro syphilis with management
7	UNIT-25 Disorders of spinal cord.	Spine bifida Syringomyelia Transverse myelitis Spinal tumors	1. Mention the names of spinal disorders. 2.Define spine bifida 3.Write the types of spine bifida 4. What is syringomyelia? Write its causes 5. What are the symptoms of syringomyelia? 6.What is Transverse myelitis And write the causes 7.Write the symptoms of transverse myelitis 8.What is a spinal tumor and write the causes 9.mention the common areas affected by spinal tumors 10. Write the symptoms of spinal tumors	1.Explain about spine bifida and its management 2.Explain about Syringomyelia And its management 3.Explain about transverse myelitis and its management 4.Explaib about spinal tumors and its management

PHYSIOTHERAPY - SECOND YEAR
PAPER: III - ELECTROTHERAPY

S. No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	Unit - 2 Methods of Heating Tissues	The Ultraviolet radiations	14. Define Ultraviolet Radiation. 15..Write the names of UV Generators 16. What is test dose? 17. Write the indications and Contraindications of UV Rays.	7.Explain in details about the production of ultraviolet rays 8. Mention the Physiological effects ,indications, contraindications and dangers of UVR
2	Unit-3 Low frequency currents	Iontophoresis-	5. Define Iontophoresis	7.Describe Briefly about Iontophoresis
3	Unit-6 High frequency currents	Micro wave Diathermy	7.What is meant by Magnetron 8. What are the Indications of MWD? 9. What are the Contra Indications of MWD?	4. Write above Production of Microwave Diathermy in detail 5. Write about Principles of Application of MWD.
4		Laser Therapy	17.Abbreviate Laser 18Write the Properties of Laser 19.Write the Types of Laser 20.Write the Indications and Contra Indications of Laser 21. what are the Physiological effects of Laser	9. What are the Properties and Components and Physiological effects of Laser. 10.explain the types of laser, and its techniques of application

VOCATIONAL CURRICULUM-2020

(For the Academic year 2020-21)

[70% CONTENT IN VIEW OF COVID-19 PANDEMIC]

MULTIPURPOSE HEALTH WORKER [FEMALE]

[COURSE CODE:619]

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

Dr. A.Ashok I.A.S
COMMISSIONER

INTERMEDIATE EDCATION
Government of Telangana
Nampally, Hyderabad- 500001
Phone: 040-24655915

Fore word

In any developing society with a booming population, Vocational Education occupies an important position for generating large scale employment opportunities. Viewed in this context the importance of Vocational Education for our country cannot be over emphasized. Vocationalization of Secondary Education was introduced in 1988 at the Intermediate level. Recently, the Government of India has developed a National Skills Qualification Framework for establishing a clear path for vocational education from the school level to the highest level. The Department of Intermediate Education has recently framed a new curriculum to bring greater value to the system of vocational education. The primary aim of this reform is to prepare the students with employable skills for absorption in organized sectors and in few cases, even for self-employment.

State Institute of vocational education and Board of Intermediate Education, Telangana have reviewed the curriculum of vocational courses in order to reorient them for their practical approach. Greater emphasis is now being placed on Laboratory work and on the job training.

Simultaneously, The State Institute of Vocational Education and the department of Intermediate Education are presently making efforts to upgrade the quality of infrastructure in the colleges to meet the challenges of the changed curriculum. I am confident that the revised curriculum and the new text books would prove to be beneficial to the students in the vocational stream and help them train in need based productive courses leading to gainful employment.

Commissioner of Intermediate Education
Government of Telangana

MULTIPURPOSE HEALTH WORKER [FEMALE]

S No.	Contents	Page No.
I	**Introduction**	5
II	**Objectives of the Course**	6
III	**Skills to be provided**	6
IV	**Job Opportunities** a) Wage Employment b) Self-Employment	6
V	**Scheme of Instruction and Examination**	7
SYLLABUS		
VI	**First year** **Theory** Paper I : Community Health Nursing Paper II : Health Promotion Paper III: Primary Health Nursing **Practicals** Paper I : Community Health Nursing Paper II : Health Promotion Paper III: Primary Health Nursing	10
VII	**Second Year** **Theory** Paper I : Midwifery Paper II : Child Health Nursing Paper III: Health Centre Management **Practicals** Paper I : Midwifery Paper II : Child Health Nursing Paper III: Health Centre Management	23
VIII	**Model Question Papers**	35
IX	**List of Equipment** a) Collaborating Institutions for curriculum transaction b) On – the – Job Training Sites	45
X	**Teaching staff and their Qualification**	51
XI	**Reference Books**	51
XII	**List of Participants**	53

MULTIPURPOSE HEALTH WORKER [FEMALE]

INTRODUCTION

Since Independence in 1947, the Government of India has assumed wide economic and social responsibilities in attempting to provide the security of an adequate standard of living for its people by investing in education in necessarily a long term which began to yield results after a generation and in some cases even after a long period. In developing country like ours, due to financial constraints and low Gross National Productivity, it is difficult for our people to pursue University Education.

Mahatma Gandhi had rightly visualized the magnitude of the problem and recommended village upliftment through basic education and development of basic craft in consonance with National growth. Most of the youth out of school are workers. Which is the basis through which they can earn their livelihood and extend support to their families at gross root level? J.P.Naik in his paper on new policies, priorities and programmes stated that in addition to the existing full time courses of vocational education, it should be made possible for a person to transfer himself from general to vocational courses and vice versa and carry on credits with him. To meet the health needs of the population specially at gross root level, Multipurpose health workers programme was introduced in 1978, to various tasks relevant to promotion of health and prevention of disorders with special emphasis on Maternal and Child Health Services. This course of 2 years duration is designed for the candidate with 10th class certificate (SSC)

Philosophy:

Health is a fundamental human right. Maintenance of optimum level of Health entails individual as well as social responsibility. However, Health can never be adequately protected by health services without active involvement of the community. MPHW (F) plays a vital role in the rural health care delivery system. The candidate should be sensitive and accountable to meet the health needs of the community. She should be able to provide accessible, acceptable equitable, affordable, and quality health care. MPHW (F) can act as a catalyst for promoting inter-sectoral convergence in promotive and preventive health care.

MPHW(F) Curriculum intends to prepare skilled and effective female Health workers to achieve the goals of National Rural Health Mission, which aims at bringing about dramatic improvement in the health system and health status of the country. MPHW(F) in community health skills to practice basic health care at a defined level of proficiency in accordance with local conditions and to meet local needs. Further, the programme fits into the general educational pattern as well as nursing education system.

MULTIPURPOSE HEALTH WORKER [FEMALE]

II. OBJECTIVES OF THE COURSE

General objectives

1. By the end of the course the student is able to perform Holistic care of the individuals, families and community in both institutional settings and also community health organizations independently.
2. Participate in local, state and National Health programmes and campaigns.

Specific objectives:

1. The student will able to participate as members of Health team in preventive &promotive Health services.
2. Render First Aid & Referral services
3. Identifies common Ailments and provide treatment.
4. Provide maternal and child health care in institutions and in rural set up.
5. Provide referral services for diagnosis treatment and rehabilitation.
6. Participate in the prevention and control measures of Nutritional and communicable problems.
7. Participate in Family Welfare Programme.

III. SKILLS:

1. Brings Health awareness among individuals, families and community.
2. Develop skills in providing holistic care to the sick peoples.
3. Develop basic skills in immunization
4. Develop skills in communication to provide health education services
5. Participate in prevention & control of communicable discares.
6. Provide first and emergency and disaster care
7. Develop skills organize and conduct various clinics at different health centres.
8. Able to motivate eligible couples to adopt family planning methods.

Duration of the Course:

The duration of the course shall be two years.

IV. JOB OPPORTUNITIES:

1. Multipurpose Health Worker female.
2. Hospitals/Nursing Homes/Clinics/Govt./Voluntary Health Organizations-Rural & Urban.
3. Lab Attendant posts in Govt. & Private Vocational Junior Colleges

Medium of Instruction and Examination :

The Medium of Instruction of the course English/Telugu.

V. SCHEME OF INSTRUCTION AND EXAMINATION

ANNUAL SCHEME OF INSTRUCTION AND EXAMINATION FOR FIRST YEAR

Part-A		Theory		Practicals		Total	
		Periods	Marks	Periods	Marks	Periods	Marks
1.	English	150	50	0	0	150	50
2.	General Foundation course	150	50	0	0	150	50
	Part-B						
3.	**Paper-I** Community Health Nursing	135	50	135	50	270	100
4.	**Paper-II** Health Promotion	135	50	135	50	270	100
5.	**Paper-III** Primary Health Nursing	135	50	135	50	270	100
Part-C							
6.	**OJT**	0	0	365	100	365	100
	Total	**705**	**250**	**770**	**250**	**1475**	**500**

*on the Job Training for 1st year from 1st November to 31st December

SECOND YEAR

Part-A		Theory		Practicals		Total	
		Periods	Marks	Periods	Marks	Periods	Marks
1.	English	150	50	0	0	150	50
2.	General Foundation course	150	50	0	0	150	50
	Part-B						
3.	**Paper-I** Midwifery	110	50	115	50	225	100
4.	**Paper-II** Child Health Nursing	110	50	115	50	225	100
5.	**Paper-III** Health Centre Management	110	50	115	50	225	100
Part-C							
6.	**OJT**	-	-	450	100	450	100
	Total	**630**	**250**	**795**	**250**	**1425**	**500**
TOTAL FIRST YEAR AND SECOND YEAR MARKS 1000							

*OJT Programme for 2nd year students from 1st August to 31st October.

EVALUATION OF ON THE JOB TRAINING:

The "On the Job Training" shall carry 100 marks for each year and pass marks is 50. During on the job training the candidate shall put in a minimum of 90 % of attendance.
The evaluation shall be done in the last week of January.

Marks allotted for evaluation:

S.No	Name of the activity	Max. Marks allotted for each activity
1	Attendance and punctuality	30
2	Familiarity with technical terms	05
3	Familiarity with tools and material	05
4	Manual skills	05
5	Application of knowledge	10
6	Problem solving skills	10
7	Comprehension and observation	10
8	Human relations	05
9	Ability to communicate	10
10	Maintenance of dairy	10
	Total	100

NOTE: The On the Job Training mentioned is tentative. The spirit of On the Job training is to be maintained. The colleges are at liberty to conduct on the job training according to their local feasibility of institutions & industries. They may conduct the entire on the job training periods of (365) First year and (450) Second year **either by conducting classes in morning session and send the students for OJT in afternoon session or two days in week or weekly or monthly or by any mode which is feasible for both the college and the institution**. However, the total assigned periods for on the job training should be completed. The institutions are at liberty to conduct On the Job training during summer also, however there will not be any financial commitment to the department.

SCHEME OF INSTRUCTION PER WEEK

	Part-A	**Theory**	**Practicals**	**Total**
1.	English	4	-	4
2.	General Foundation Course	4	-	4
	Part-B			
3.	Paper –I	4	4	8
4.	Paper-II	4	4	8
5.	Paper-III	4	4	8
6.	**Total**	**20**	**12**	**32**

SYLLABUS
MULTIPURPOSE HEALTH WORKER (F)
FIRST YEAR
PAPER-I: COMMUNITY HEALTH NURSING (THEORY)
TIME SCHEDULE, WEIGHTAGE & BLUE PRINT

S, No.	Name of the Unit	No. of allotted hours	Weightage in marks	Short answer questions	Problem questions
1	Introduction to Community Health	20	10	1	1
2	Identification and Management of Health problems	15	15	1	1
3	Communication and Health Education	15	8	1	1
4	Immunity, Immunization and Infection	15	10	1	1
5.	Environmental sanitation	25	10	1	1
6.	Communicable diseases, Care of communicable diseases	20	8	1	1
7.	Community Health Problems	15	6	1	1
8.	Epidemic Management	5	2	1	
9.	Disaster Management	5	6	1	1
135					

Note : The question paper contains two sections i.e. A&B

Section – A contains ten (10) questions carries 2 marks each. The student has to answer all questions.

Section – B contains eight (8) questions carries six (6) marks each. The student has to answer five (5)questions

Learning objectives

On completion of the course, the student will be able to

1. Describe the concept of Health community & structure of community.
2. Understand health policies, plans and programmes of the country.
3. Appreciate the role of health team
4. Demonstrate home visit techniques & practices in the community
5. Describe structure, function, characteristics and administrative set up of a community
6. Identify community health needs and problems.
7. Describe the concept & methods of communication for health information &Counseling
8. Explain concept of disease and infection
9. Perform immunization effectively
10. Describe importance of environmental sanitation and waste management
11. Describe common communicable diseases and management.

MULTIPURPOSE HEALTH WORKER [FEMALE]

	UNIT - I
1.	**Concept of Health** : ~~Health~~ and changing concepts – Dimensions of health – Determinate of health – Concept of Health for all – Primary health care, principles, elements.
2.	**Concepts and structure :** – Definition of community, meaning of rural and urban community & slums – Characteristics, changes in village community development, major rural problems. Urban community characteristics, changes and adjustments to Urban environment, major Urban problems. Structure and functions of panchayat Raj – 73rd& 74th amendments to constitution, role of panchayat Raj in health. Social groups – Organisations – structure of an urban community slum, social groups organizations, leaders and community resources.
3.	**Community Need assessment :** – Scope and methods of community assessment. ~~Community survey~~ – Principles, methods of data collection – conducting interviews, focus group discussions and case studies – analysis of data, preparation of reports.
	UNIT - II
4.	**Home visit :** – Importance – Principles – Planning – Bag technique – Equipment usage of bag at home - Disinfection of equipment, sputum, Vomiting, urine, stool.
5.	**Health problems and policies :** – Overview of health problem of India – Trends & development in National Health policies – ~~National Health Programmes.~~
	UNIT -III
6.	**Communication and Health Education :** – Principles, methods, and process of communication – Inter personal relationship (IPR). Communication with different groups and health team members. ~~Health Education~~ – Definition uses Principles, scope, approaches – Use of A,V, aids, role of man media – BCC (Behavioral change communication), IEC (Information Education and Communication). Role and responsibilities of MPHW(F) in IEC.
7.	**Community based Rehabilitation :** Definition, Rehabilitation methods – Institution based and community based rehabilitation, Health condition require community based Rehabilitation community resources required – Education of individuals, family and community.
	UNIT-IV
8.	**Infection :** Meaning and types of infection – causes of infection – classification and characteristics of Microorganisms: pathogenic and Non-pathogenic – Incubation period and spread of infection – transmission – factors affecting growth and destruction of Microbes.Teaching learning activities: - Lecture discussion – Demonstration – Explain is using Microscope.
9.	**Immunity and body defence mechanisms** Body's defence mechanism – Immunity – Concept~~– Hypersensitivity~~ : Antigen and Antibody reaction – Types of immunity – Types of vaccines – storage and cold chain maintenance;Teaching – Learning activities : Lecture discussion – Demonstration – Field visits for cold chain

10.	**Immunization** : Immunization against different infections – Immunization schedule – injection safety – Methods of administering vaccine – sterilization of syringes and needles – Immunization in the community – Immunization Hazards – Precautions while giving vaccines – Special Immunization drives and programmes – ~~Records and reports~~. Teaching Learning activities : Lecture discussion Demonstration – Posters on immunization schedule visit immunization camp/outreach.
	UNIT-V
11.	**Environment sanitation :** Environment and ecology for healthy living – Basic sanitary needs – Air, Sunlight, and ventilation, Home environment – ~~Smoke~~ animals, drains, and toilets Teaching Learning activities :- Lecture discussion, case study
12.	**Safe water :** Sources of ~~water~~ and characteristics of safe water – Sources of contamination and prevention – purification of water for drinking – Methods – Small and large scale – disinfection of well – tube well tank and pond in a village – water borne diseases. Teaching Learning activities : Lecturer discussion Village Mapping, water sources, drains, ponds, and contamination areas – visit to a water purification plant.
13.	**Disposal of excreta and waste :** Methods of ~~excreta disposal~~ – types of latrine. Handing animal excreta- Methods of waste disposal – Hazards due to waste – Maintenance of village drains, ponds and wells Teaching Learning activities : Lecture discussion – Demonstration – visit to sewage disposal unit and sanitary latrine
	UNIT-VI
14.	**Introduction to communicable diseases** : Common communicable diseases : Epidemiological concepts – incidence and prevalence – Mortality and Morbidity – levels of prevention – Signs and symptoms, care, control and prevention of communicable diseases, General measures – Surveillance – Isolation notification reporting. Signs, symtoms, care and prevention of the following: ➢ ~~Diphtheria~~, pestusis, tetanus, Poliomyelitis, measles and tuberculosis ➢ Chickenpox, Mums, rubella, enteric fever, hepatitis, rabies, malaria, dengue, filarial, kala-azar, trachoma conjunctivitis, scabies, stds and Hiv/Aids ➢ Encephalitis ➢ Leptospirosis ➢ Acute respiratory infections ➢ Diarrhoeal diseases ➢ Worm infestations ➢ Leprosy ➢ Role & responsibilities of MPHW(F) Teaching Learning activities : Lecture discussion – Calculation of and Mortality and Morbidity for different diseases – Visit isolation unit Surveillance – Visit infectious disease hospital/centre – Demonstration – Supervised clinical practice.

15.	**Care of communicable diseases :** Care of patients with communicable diseases – Isolation methods – Standards safety measures (universal precaution) – Health education and messages for different communicable diseases – Role and responsibilities of MPHW(F) Leaning activities : Lecture discussion – Demonstration – Prepare health education messages – Prepare chart to standard safety measures.
	UNIT -VII
16.	**Community Health Problem :** Care of the sick in the community common health conditions in the community – danger signs of illness – Health assessment Taking history – physical examination – Vital signs, weight, height – Recognition of abnormalities identification of ~~health problems~~ – management of the sick. Home and community nursing procedures, care of the sick – referral – health education, individual and family
	UNIT -VIII
17.	**Epidemic Management :** Definitions and causes of epidemics – epidemic emery in a community and ~~epidemic mapping~~ – Relief well and role of MPHW(F) Teaching learning activities : Lecture discussion community mapping – Health education
	UNIT -IX
18.	**Disaster Management :** Definition of Disaster, Types, Disaster team, Functions and its management

MULTIPURPOSE HEALTH WORKER (F)
FIRST YEAR
PAPER-II:HEALTH PROMOTION (THEORY)
TIME SCHEDULE, WEIGHTAGE & BLUE PRINT

S. No.	Name of the Unit	No. of allotted hours	Weightage in marks	Short answer questions	Problem questions
1.	Nutrition	15	8	1	1
2.	Nutritional assessments and Problems	10	10	1	1
3	Health Practices	10	2	1	
4.	Promotion of Nutrition	15	8	1	1
5.	Anatomy &Phsiology	25	8	1	1
6.	Mental Health	15	6	1	1
7.	Mental Illness	25	10	1	1
8.	Geriatric Care	10	8	1	1
9.	Guidance &Councelling	10	6		1
		135			

Note : The question paper contains two sections i.e. A&B

Section – A contains ten (10) questions carries 2 marks each. The student has to answer all questions.

Section – B contains eight (8) questions carries six (6) marks each. The student has to answer five (5) questions

Learning Objectives

1. Explain importance of nutrition in health and sickness
2. Promote nutrition of a individual, family and community.
3. Describe the structure and function of the body.
4. Promote Mental health of individual, family and community.

A. NUTRITION
1) **Essential nutrients** :
Importance of nutrition in health and sickness – Essential nutrients, functions, sources and requirements classification of foods and their nutritive value – Normal requirements at different ages – Balanced diet different age groups.
Teaching Learning activities: Lecture discussion – Explain using models and charts – Exhibit raw food item showing balanced diet
2) **Nutritional assessments and Nutritional problems** : Methods of nutritional assessment of individual and family, mother and child – Identification of local food sources and their value in enriching diet – food fats, taboos customs and their influences on health. Nutritional deficiencies, correction, treatment and referral, anemia in women – under five nutrition – the role of MPHW (F) in supplementary food – Special diets of individuals for different age group. Teaching Learning activities: Lecture discussion – Demonstration – field visits. visit IOCDS project and discuss the programme Explain using models and charts – Planning diets for anemia (women and other deficiency conditios)

3) Health Practices : Healthy Life styles and Dietary and sleeping habits, customs and traditions, taboos, Yoga, Meditation etc.,
4) Promotion of nutrition : Planning diets and special diets for a family – Methods of using locally available foods for special diets – principles and methods of cooking – Promotion of kitchen garden – Food hygiene and safe preparation – Storage and preservation – Food adulteration – Precautions during festivals and Melas Teaching Learning activities : Lecture discussion – Plan diet for the family assigned – Health education – visit a milk pasteurization plants, Demonstration of various methods of cooking – using of diet detailed chart.
5) **Anatomy and Physiology** : Structure and function of the human body – Body systems and their functions – digestive system, respiratory system, genitor urinary system, Cardiovascular system, nervous system, muscular system, endocrine system, special sensory organs.
B. MENTAL HEALTH
6. Mental Health Concept of mental health – Body mind relationship – Factors influencing Mental health – characteristics of a mentally healthy person, Developmental tasks of different age groups – Different defence mechanisms Teaching Learning activities: Lecture discussion – Observation of questionnaire to do assessment for Mental health status.
7. Mental illness : abnormal behaviors – Types of Mental illness and treatments – Early detection and referral of mentally ill – Prevention of Mental illness – Home care and counseling – Refer psychiatric emergencies. Teaching Learning Activities: Lecture discussion – Visit to a mental hospital/clinic. Features of a Mal adjusted individual – common causes of Mal adjustment. Counseling an individual, family and community. Teaching Learning activities: Lecture discussion – Demonstration of counseling for mal adjusted individual in the community.
8. Geriatric Care: Process of aging – physical, psychological changes – needs and problems – care of elderly at home – Rehabilitation and agencies of caring elderly.Teaching Learning Activities : Lecture discussion – If available, visit an old age home.
Guidance &Counseling : Concept, Principles and techniques of counseling, areas of counseling in the community individualized, family, and group counseling, guidance – meaning, methods, importance-Role of counselor in counseling and guidance, Role of MPHW(F) in counseling and guidance.

SYLLABUS
MULTIPURPOSE HEALTH WORKER (F)
FIRST YEAR
PAPER-III: PRIMARY HEALTH NURSING (THEORY)
TIME SCHEDULE, WEIGHTAGE & BLUE PRINT

S. No.	Name of the Unit	No. of allotted hours	Weightage in marks	Short answer questions	Problem questions
1.	The Concept of Hospital	10	4	2	
2.	Hygiene of the body	20	10	1	1
3.	Specimen Collection	5	2	1	1
4.	Infection Control Measures	10	10	1	1
5.	Common Health Problems	40	25	2	2
6.	Care of Physical and Mentally Challenged People	5	12	2	
7.	Drug Administration and Management	20	12	1	2
8.	First Aid and Referral	15	10	1	1
9.	Emergency Care	5	4	2	
		135			

Note : The question paper contains two sections i.e. A&B

Section – A contains ten (10) questions carries 2 marks each. The student has to answer all questions.

Section – B contains eight (8) questions carries six (6) marks each. The student has to answer five (5) questions

Learning objectives

On completion of the course, the student will be able to

1) Understand to provide comfort care to patients
2) Describe hygiene for self and individual
3) Understand optimal functioning of the body
4) Explain recognition of conditions related to different Body Systems
5) Describe and demonstrate routes of administration of drugs
6) List common drugs used for emergencies and minor ailments their indications, dosage and actions
7) Understand the concept of first and referral

UNIT – I The Concept of Hospital	
1.	**The Hospital** Functions – Classification – Admission and discharge procedure of a patient – Nursing as profession
2.	**Preparation of patient unit** Optimum environment for patient; Factors of safety – Furnishing for the patient unit – Bedmaking – different types of bed – closed – opened – occupied – operation – Cardiac – Fracture – amputation; Teaching Learning activities : Lecture discussion – Demonstration and supervise the clinical practice.

UNIT – II Body Hygeine	
3.	**Personal Hygiene** : Care of mouth, Skin, hair and nails – Sexual hygiene – Hygiene and comfort needs of the sick, - Care of pressure points, positioning and changing – ~~Care of hair~~ wash – Care of hand and nails, Hand washing – Care of eye wash – Mouth care, Elimination- care of bowels and bladder; Teaching Learning activities : Lecture discussion – Demonstration.
4.	**Needs for Optimal functioning of the body** : Basic human needs – Rest, Sleep, activity exercise, posture etc, food, eating and drinking habits – Participation in Social activities – ~~Self-actualization~~ and spiritual need – interpersonal and human relations – life cycle and healthy habits Teaching and Learning activities: Lecture discussion, Health education regarding healthy life style.
UNIT – III Specimen Collection	
5.	**Collection of specimen** :- Principles and ~~methods of collection~~ of specimen and handling body discharges – Collection of specimen of blood, spectrum, urine, stool – Safe disposal of body discharges. Teaching Learning activities : Lecture discussion – Preparation of malaria slide, collection of spectrum – Collection of urine and stool – labeling of the specimens – Visit to the laboratory.
UNIT – IV Infection control Measures	
6.	**Disinfection and sterilization :** Principles and methods of antisepsis, disinfection and sterilization – Methods of disinfecting different equipment ~~– Methods of sterilizing different equipments~~. Teaching Learning activities: Lecture discussion – Demonstration – Visit sterilization department of a hospital.
7.	**Bio-Medical Waste Management** Waste disposals – infections and non-infections concepts, principles and methods at different levels. Teaching Learning activities : Lecture discussion – Demonstration
UNIT – V Common Health problems – Diseases :	
8.	**Fever** : Vital signs : Temperature, pulse, respiration Blood pressure – Temperature maintenance and the physiology of fever – Fever types, and stages – causes of fever – Common conditions causing fever, malaria, typhoid, Acute respiratory infection (ARI) etc. – Nursing Management of patient with fever – Alternate system of medicine Teaching Learning activities : Lecture discussion, Demonstration, Supervised clinical practice
9.	**Respiratory Problems** : Common respiratory problems types, classification – cold and cough, ARI tonsillitis, bronchitis, Pneumonia and tuberculosis – causes signs and symptoms treatment of respiratory problems – Management, Role and responsibilities of MPHW(F) in case of patients with respiratory problems including home care remedies – integrate accepted practices of AYUSH Teaching Learning activities: Lecture discussion – Demonstration – Demonstration of steam inhalation, nasal drops, oxygen inhalation health education – Supervised clinical practice.

10.	**Gastro Intestinal problems** : Indigestion – anorexia – Vomiting, Diarrhea and constipation – Hemorrhoids, hernia – ulcers, and intestinal obstruction – Role of MPHW(F) in the community including Home care remedies – ORS preparation and its Importance - integrate accepted practices of AYUSH. Teaching Learning activities : Lecture discussion – Demonstration – Health education
11.	**Urinary Problems** : Signs and symptoms of renal conditions – Retention of urine, renal colic, ~~edema~~ – Role of MPHW(F) in the community including Home care remedies – integrated accepted practices of AYUSH. Teaching Learning activities : Lecture discussion – Demonstration – Health Education.
12.	**Cardio Vascular problems :** Signs and symptoms of cardiac conditions and blood related problems, Heart attack, Chest pain, Anemia – ~~hypertension and leukemia~~ – care of a cardiac patient at home – Role of MPHW(F) in the community including Home care remedies – Integrated accepted practices of AYUSH. Teaching Learning activities : Lecture discussion – Demonstration – Health Education.
13.	**Diseases of the Nervous system** : Signs and symptoms of neurological problems – head ache, back ache, and paralysis, care of a patient with stroke at home – care of pressure points, back care, changing of positions, active and passive exercise, body support to prevent contractures – Role of MPHW(F) in the community including home care remedies – integrated accepted practices of AYUSH.
14.	**Metabolic diseases** : **Diabetes** signs and symptoms – complications ,diet and medications – Skin care – foot care – urine testing and administration of insulin injections – **Thyroid Problems** – Importance of Iodine in Diet – Integrated accepted practices of AYUSH. Teaching Learning activities: Lecture discussion – Demonstration – Care study – Health Education.
UNIT – VI Care of Physically and Mentally Challenged	
15.	Handicap – different types – counselling for prevention of certain handicaps – understanding the handicapped person. Helping family to ensure need based care. Teaching Learning activities: Lecture discussion – Demonstration and case study.
UNIT – VII Drug Administration and Management	
16.	**Types of drugs** Different systems of medicine: Allopathy and AYUSH – Classification of drugs – Forms and characteristics of drugs – Abbreviations used in medication – Administration of drugs – policies and regulations, as per protocols and standing orders- classification of drugs.; Teaching Learning activities: Lecture discussion, calculation of dosage and conversion – Drug study.
17.	**Administration of drugs**. Routes of administration – Oral, parental (intramuscular, intradermal, subcutaneous, intravenous) rectal, local and others Administration of drugs precautions, principles safety measures observation and recording – Role of MPHW(F) in the administration of drugs; Teaching Learning activities : Lecture discussion – Demonstration, Practice session – Assisting of I.V fluids as per protocol – preparation for blood transfusion as per protocol.

18.	**Drugs used in Minor Ailments**. Common drugs for fever, cold and cough, aches and pains, loose motions – ~~Drug kit~~ in the sub centre, content and its use – Storage and care of drugs. Teaching Learning activities : Lecture discussion – Visit sub centre, Demonstration
19.	**Common Emergency Drugs** I.V fluids, antibiotics, injections and magnesium Sulphate, Deriphylline, avil and other anti-histamine, vitamin K, anti-rabies vaccine, ante snake venoms as per the protocol, precautions for administration Teaching and Learning activities: Lecture Discussion – Demonstration – Drug study.
	UNIT – VIII FIRST AID AND REFERRAL
20.	**First aid** Principles of first aid – mobilization of resources – first aid kit and supplies Bandages, types, uses – Principles and methods of bandaging. Teaching Learning activities: Lecture discussion – Demonstration – Practice session.
21.	**Minor injuries and ailments** Cuts and wounds, types, principles and first aid care – Foreign bodies – Burns and scalds types, Health Education – referral, Role of MPHW(F) Teaching Learning activities: Lecture discussion – Demonstration – Practice session – Supervised clinical practices – Health education.
22.	**Fractures** : Skeletal system and different bones fracture – types, causes, signs and symptoms, first aid care Methods of immobilization and transportation. /Teaching and Learning activities: Lecture discussion, Demonstration – Practice session.
	UNIT – XI EMERGENCY CARE
23.	**Life threatening conditions** Bleeding – drowning strangulations – ~~suffocation~~, and asphyxia – loss of consciousness – cardio respiratory arrest, convulsions – Foreign bodies – Chest injuries – Shock and allergic conditions – poisoning – bites and stings – stroke, heat stroke, severe burns Teaching Learning activities: Lecture discussion – Demonstration – Nasal pack – Apply tourniquet – insertion of nasogastric tube practice session

MULTIPURPOSE HEALTH WORKER (F)
SECOND YEAR
PAPER-I: MIDWIFERY(THEORY)
TIME SCHEDULE, WEIGHTAGE & BLUE PRINT

S. No.	Name of the Unit	No. of allotted hours	Weightage in marks	Short answer questions	Problem questions
1.	Anatomy and Physiology of reproductive system	14	10	1	1
2.	Antenatal Care	13	8	1	1
3.	Normal Labour	10	10	1	1
4.	Postnatal Care	9	8	2	
5	Abnormalities of Pregnancy	10	6	1	1
6.	High risk Labour and Management	14	10	1	1
7.	Medical Intervention in Mid Wifery	10	8	1	1
8	Common Health Problems	20	10	1	1
9	Trends and issues in Midwifery	5	2	2	

Note: The question paper contains two sections i.e. A&B

Section – A contains ten (10) questions carries 2 marks each. The student has to answer all questions.

Section – B contains eight (8) questions carries six (6) marks each. The student has to answer five (5) questions

Learning objectives:

On completion of the course, the student able to

1. Describe Male & female reproductive organs
2. Explain process of fertilization and fetal development
3. Describe female pelvis and the muscles involved in delivery of fetus
4. Provide care to pregnant mother during ante, intra and postnatal period at home and hospital
5. Conduct normal delivery and provide care to the Newborn.
6. Provide need based counseling to the mother and to her family during antenatal, intranatal and postnatal
7. Resuscitate the New born baby
8. Identify deviation from normal labour in time and take necessary action
9. Provide adequate care identifying abnormal puerperium
10. Administer the drugs as per the protocols
11. Identify women's reproductive health problem and provide guidance and support
12. Participate in reproductive health and family welfare programmes

	UNIT –I Anatomy and Physiology of reproductive system:
1.	**Human Reproductive system** Female reproductive organs – structure and function – Menstrual cycle – ~~Male reproductive organs, structure and functions process of fertilization~~. Teaching Learning activities: Lecture discussion Explain using birth atlas, posters, models, charts, and slides
2.	**Female pelvis and foetal skull** Structure of the pelvic bones – types of pelvis –pelvic diameters – Muscles and Ligaments of pelvic floor – Foetal skull: Bones diameters, sutures, size, shape, moulding skull area, fontanel's; Teaching Learning activities: Lecture, discussion – Demonstration – Explain using models, charts slides and films.
3.	**Foetus and placenta** Growth and development of foetus, foetal sac and amniotic fluid and foetal circulation and changes after birth – structure and functions of placenta, membranes and umbilical cord and abnormalities, (Refer SBA module of Ministry of Health and family welfare. Teaching Learning activities: Lecture, discussion – Demonstration – Explain using placenta, membrane, specimens – practice session.
	UNIT – II Antenatal Care
4.	**Normal pregnancy** Signs and symptoms of pregnancy – Various diagnostic tests for confirmation of pregnancy – physiological changes during pregnancy – Minor ailments during pregnancy & their management.Teaching Learning activities: Lecture discussion – Demonstration – Explain using models and charts
5.	**Antenatal care** Registration – taking history of pregnant women – physical examination, investigation – routine and specific prophylactic medications – Need based health information and guidance – Nutrition in pregnancy – special needs a pregnant women – involvement of husband and family – identification of high risks cases and referral preparation of mother for delivery. Teaching Learning activities: Lecture discussion – Demonstration – Practice session – Supervised clinical practice.
	UNIT –III Normal Labour
6.	**Normal labour** Onset and stages of labour, physiological changes, changes in uterine muscles and cervix – lie, attitude, position, denominator and presentation of foetus – Foetal skull, mechanism of labour- Identification of high risk cases Foetal distress and maternal distress during labour – partograph in the management of Normal Labour – Role of MPHW(F) and referral Teaching Learning activities : Lecture discussion – Demonstration – Witness normal delivery – Explain using partograph

7.	**Care during normal labour** History of labour – Importance of 6 'c' – Monitoring progress of labour with partograph, preparation for delivery – Care of mother in first and second stage of labour preparation for delivery – care of mother in first and second stage of labour – assist and conduct child birth – Pain management during labour- immediate care of new born resuscitation, apgar score, cord care – Delivery of placenta and examination of placenta – care of m other in third and fourth stage - Recognize degree of tear and appropriate care and referral – Establishment of breast feeding, exclusive breast feeding – Kangaroo mother care – Baby friendly hospital initiative – Record child birth and ensure birth registration. Teaching Learning activities : Lecture discussion – Demonstration – Explain using models, charts, films, and slides – partograph – supervised – clinical practice session – care study.
	UNIT - IV Postnatal Care
8.	**Normal puerperium** Physiological changes during postnatal period – postnatal assessment – ~~Minor ailments during puerperium~~ and their management – care of mother DIET, REST, EXERCISE, HYGUENE – Management of breast feeding – prophylactic medicines – Special needs of postnatal women – Need based health education Teaching Learning activities: Lecture discussion – Demonstration – Supervised clinical practice.
	UNIT –V Abnormality of Pregnancy
9.	**Common Abnormalities** Common abnormalities of pregnancy hyperemesis gravidaram, leaking and bleeding per vagina – Anemia of pregnant women – preeclampsia and ~~eclampsia~~ and toxaemia of pregnancy – Indication of premature rupture of membranes, prolonged labour, anything requiring manual practices, UTI, obstetrical shocks, uterine abnormalities, ecUnit pregnancy – Disease complicating pregnancy – T.B, diabetes, ~~Hypertension.~~ Teaching Learning activities : Lecture discussion – Demonstration
10.	**Abortion :** Types of abortion, causes of abortion – Need for safe abortion – referral – complications of abortions – medical termination of pregnancy – care of women who had abortion – Role of MPHW(F); Teaching Learning : Lecture discussion – Supervised clinical practice – observation Demonstration
	UNIT – VI High Risk Labour and Management
11.	**High risk labour :** Common high risks of labour – Abnormal presentations – Abnormal uterine action – ~~cephalopelvic disproportion (CPD~~) – Prolonged labour identification immediate management and referral – Emergency care of mother during transfer to hospital – Role of MPHW (F); Teaching Learning activities : Lecture discussion – Demonstration – Explain through birth atlas and charts – Explain using partograph.
	UNIT - VII Medical Interventions in Mid wifery
15.	**Medications used in Midwifery** Pain relieving drugs – Anaesthetic drugs – For uterine contractions – for controlling bleeding – for preventing postnatal infection – for preventing eclampsia – Antibiotics – IV fluids – Role of MPHW(F) Teaching Learning activities: Lecture discussion – Visit labour room – Demonstration – explaining by using books.

	UNIT - VIIICommon Health Problems
16.	**Common Health Problems** Complications related to child birth – VVF, ~~RVF,~~ prolapsed and incontinence – cervical erosion and leucorrhoea – purities Cancers, cervical , breast importance of HPV vaccination – papsmear for detection of cancer cervix – Tumors – Fibroids – Menstrual disorders, Menopause and its complications – classification and causes of infertility in male and female investigations and treatment – Identification of couples, counselling, referral and follow up. Teaching Learning activities: Lecture discussion Demonstration – case study.
UNIT - IXTrends and Issues in Midwifery	
17.	**Trends and Issues** : Family welfare programme, ~~C.S.S.M~~. – M.C.H. – RCH I & II and NRHM-SBA, JSY 104, 108 programme components, aims and objectives.

MULTIPURPOSE HEALTH WORKER (F)
SECOND YEAR
PAPER-II: CHILD HEALTH NURSING (THEORY)
TIME SCHEDULE, WEIGHTAGE & BLUE PRINT

S. No.	Name of the Unit	No. of allotted hours	Weightage in marks	Short answer questions	Problem questions
1.	Growth and development	15	14	1	2
2.	New born care	15	8	1	1
3.	Nutrition of infants and children	10	6		1
4.	Children's rights	05	4	2	
5.	Care of the sick child	30	14	2	2
6.	Care of School children	10	8	1	1
7.	Care of physically and mentally challenged	10	8	1	1
8.	Care of adolescents	10	4	1	1
9.	Recent trends in child health nursing	05	2	1	

Note : The question paper contains two sections i.e. A&B

Section – A contains ten (10) questions carries 2 marks each. The student has to answer all questions.

Section – B contains eight (8) questions carries six (6) marks each. The student has to answer five (5) questions.

Learning objectives:

By the completion of the course the student will be able to

1. Assess growth and development of a child at different ages
2. Take care of new born baby
3. Describe nutritional needs of different age groups of children
4. Appreciate and protect the rights of children
5. Take care of sick children during illness
6. Provide school health services
7. Assess and meet the needs of adolescent especially adolescent girls
8. Educate the family members in dealing with physically and mentally challenged groups.

1.	**Growth and Development** Introduction to growth and development – factors affecting growth and development – Growth and development of infants and children – assessment of physical, psychological and social growth Monitoring and recording of growth and development of infants and children – play, hygiene, emotional needs, toilet training, accidents : causes precautions and prevention; Teaching Learning activities : Lecture discussion – Demonstration – Practice session – Supervised clinical practice.

2.	**New born care** Assessment of new born, APGAR score- Neonatal resuscitation – Management of new born – Temperature maintenance, prevention of infection, care of the cord, exclusive breast feeding kangaroo mother care – immunization – care of the new born with jaundice, infection and respiratory problems, congenital – ~~care of premature baby~~ – small for age – post maturity. Teaching Learning activities: Lecture discussion – Demonstration – Practice session – Supervised clinical practice.
3.	**Nutrition of infants and children**. Assessment of nutritional status, Nutritional requirements – Exclusive breast feeding – complimentary feeding – weaning, problems of feeding – ~~Infant feeding and HIV~~ Teaching Learning activities: Lecture discussion – Demonstration – Practice session – Supervised clinical practice.
4.	**Children's rights** Rights of the child – Child abuse – child labour ~~– Battered child syndrome – Juvenile delinquency~~ – Protection of child rights – Female infanticide – Special care of the girl child. Teaching Learning activities: Lecture discussion – Demonstration – Practice session – Supervised clinical practice.
5.	**Care of the sick child** Common child hood diseases : Signs and symptoms and management : Acute respiratory treat infections – Diarrheal diseases, vomiting, constipation – Infectious diseases : Chicken pox, Diphtheria, Tetanus, Whooping cough, Measles, Mumps, Tonsillitis, Ear infections, conjunctivitis, Worm infestation – skin infections – Typhoid, Malaria,ChickenGunya, Swine Flu ,Dengue . Teaching Learning activities : Lecture discussion – Demonstration – Practice session – Supervised clinical practice.
6.	**Care of School Children** School structure location – School health – concept, objectives, components – Health assessment, regular checkups – Dental hygiene – Eye health, Nutritional problems and supplementation – Health education, Behavioral health problems treatment of minor ailments referral services Nutritional programmes – for pre schoolers and schoolers – ICDS, mid day meal, applied Nutrition, Special Nutrition programme ~~Balwadi Nutrition programme –~~ ~~School health records & reports~~ – Role of MPHW(F) in School health, co-ordination with teachers and parents. Teaching Learning activities : Lecture discussion – Demonstration – Practice session – Supervised clinical practice.
7.	**Care of physically and mentally challenged** Concept – objectives – physically handicapped : causes, types, Burden as family and community – Management : Role of MPHW(F) Govt. and Private agencies Mentally challenged : Causes, IQ Types, Myths and facts – Burden on family and community – Management of mentally challenged – Role of Government and Private agencies – Role of MPHW(F) Speech defect – Thumb sucking – Tics care – Rehabilitation Teaching Learning activities : Lecture discussion – Demonstration – Practice session – Supervised clinical practice.

8.	**Care of Adolescents** Growth monitoring – physical, emotional and behavioural changes in girls and boys – Special needs of adolescents – ~~Behavioural problems of adolescents~~ – Sex education and guidance and counseling. Teaching Learning activities : Lecture discussion – Demonstration – Practice session – Supervised clinical practice. Secondary sexual characteristics – Menstruation and menstrual hygiene – Special nutritional needs – Ill effects of early marriages – Early pregnancies and abortions – Preparing for safe mother hood – Premarital counseling – MTP Act – Role of MPHW (F) in care of adolescents girls. Teaching Learning activities: Lecture discussion – Demonstration – Practice session – Supervised clinical practice.
9.	**Recent trends in child health care** ICDS – Baby friendly initiative – CSSM – RCH I & II – NRHM, IMNCI. Teaching Learning activities: Lecture discussion – Demonstration – Practice session – Supervised clinical practice.

MULTIPURPOSE HEALTH WORKER (F)
SECOND YEAR
PAPER-III: HEALTH CENTRE MANAGEMENT (THEORY)
TIME SCHEDULE, WEIGHTAGE & BLUE PRINT

S. No.	Name of the Unit	No. of allotted hours	Weightage in marks	Short answer questions	Problem questions
1.	Concept of Management	5	2	1	
2.	Health centre	10	8	1	1
3.	Concept of Health Team	15	10	2	1
4.	Health Administration in India	25	10	2	1
5.	Maintenance of stocks	10	8	1	1
6.	Population Education and Family Welfare	10	8	1	1
7.	Co-ordination	10	8	1	1
8.	Implementation of National Health Programmes in India	15	10	2	1
9.	Staff Development	10	8	1	1
		110			

Note : The question paper contains two sections i.e. A&B

Section – A contains ten (10) questions carries 2 marks each. The student has to answer all questions.

Section – B contains eight (8) questions carries six (6) marks each. The student has to answer five (5)questions

Learning objectives:

By the completion of the course, the student will be able to

1. Appreciate the principles of Management
2. Organize SC/PHC/CHC.
3. Carry out scheduled centre activity plans.
4. Understand roles and responsibilities of Health team members
5. Understand Health care Administration in India.
6. Know the Health care delivery systems in India
7. Indent and Maintain necessary stock.
8. Participate in the implementation of National Health Programmes
9. Participate in staff development programmes
10. Co-ordinates with Health team members, and other agencies
11. Maintains records and reports

1.	**Concept of Management** Definition – Principles – Elements – Line of authority Teaching Learning activities: Lecture discussion – Demonstration – Practice session – Supervised clinical practice.
2.	**Health centre** SC/PHC/CHC – Organization of functions, facilities, records and reports ➢ Centre activity plans – Conduct of clinics and special programmes – Referral systems – conducting meetings – IEC activities ➢ Teaching Learning activities: Lecture discussion – Demonstration – Practice session – Supervised clinical practice.

3.	**Concept of Health Team** Concept of health team – Importance of Team approach – Staffing pattern in SC/PHC/CHC Roles and responsibilities of each member in the team. Teaching Learning activities: Lecture discussion – Demonstration – Practice session – Supervised clinical practice.
4.	**Health Administration in India** – National/State/Local level Health care delivery systems : Public, Private National & International health agencies and NGO organizations, AYUSH, ArogyaSree services Health, planning: Five year Plans: 11th PYP, National 104, 108 Ambulance ArogyaSree services. Teaching Learning activities: Lecture discussion – Demonstration – Practice session – Supervised clinical practice.
5.	**Maintenance of stocks** : Maintenance of supplies, drugs, equipment, stock indenting – calculation of indents as per population requirement – Management Information and Evaluation System (MIES) – Maintenance of stock records and reports. Teaching Learning activities: Lecture discussion – Demonstration – Practice session – Supervised clinical practice.
6.	**Population Education and Family Welfare** : Population trends in India – Vital statistics, birth and death rates, growth rate, NRR, fertility rate, couple protection rate, family size – ~~Role of mass media and IEC~~ – Identification of eligible couples and those need contraceptive methods – information related to contraception and importance of choice – Natural and temporary methods of contraception – Permanent methods – New methods nor plant and injectable – Emergency contraception – follow up of contraceptive users – Role of MPHW(F). Teaching Learning Activities : Lecture discussion – Demonstration – Case study – Health Education
7.	**Co-ordination :** Inter sectoral co-ordination – Co-ordination with village health guides – School teacher, AWWs – ASHA – ~~NGOs~~ – Other Governmental organizations. Teaching Learning activities: Lecture discussion – Demonstration – Practice session – Supervised clinical practice.
8.	**Implementation of National Health Programme** ~~National Health Programmes and role of the MPHW(F) –~~ Teaching Learning activities: Lecture discussion – Demonstration – Practice session – Supervised clinical practice.
9.	**Staff development** – Continuing education for staff development – Methods of staff development – ~~Intervice education programmes,~~ circulars, handouts, journals, meetings. Teaching Learning activities: Lecture discussion – Demonstration – Practice session – Supervised clinical practice.

MODEL QUESTION PAPER
MULTIPURPOSE HEALTH WORKER (FEMALE)
FIRST YEAR
PAPER I: COMMUNITY HEALTH NURSING (THEORY)

Time : 3 Hours. **Max.Marks : 50**

SECTION-A

Note:(i). Answer all questions **10 x 2 = 20**

(ii). Each question carries 2 marks

1. Define "Health".
2. Define "Community Need Assessment".
3. What are the principles of Home Visit?
4. Define "Rehabiliation".
5. State the meaning of "Infection".
6. What is "COLD" chain system?
7. What is meant by Environmental Sanitation?
8. List out the Characteristics of safe water.
9. What is health assessment?
10. List the different epidemics.

SECTION-B

Note (i) Answer five questions **5 x 6 = 30**

(ii) Each question carries six marks

11. Explain in detail about different types of Communities.

12. Write the planning of Home Visit.

13. Write in detail about functions of "ASHA".

14. List out the different types of AV aids. Explain one of it.

15. Describe the transmission of Infection.

16. Explain Immunization schedule.

17. Write in detail about methods of Waste disposal.

18. Write about Preventive and Control measures of HIV/Aids.

19. Explain te Role of MPHW[F] in the case of patient affected with communicable disease.

20. Explain about the Management of disasters

MODEL QUESTION PAPER

MULTIPURPOSE HEALTH WORKER (FEMALE)

FIRST YEAR

PAPER II: HEALTH PROMOTION (THEORY)

Time : 3 Hours. **Max.Marks : 50**

SECTION-A

Note: (i). Answer all questions **10 x 2 = 20**

(ii). Each question carries 2 marks

1. What is balanced diet?
2. Abbreviate "PEM".
3. What are good healthy habits of dietary?
4. Define Food adulteration.
5. Write functions of WBC.
6. What is Mental Health?
7. List the various Mental Illness.
8. What is meant by abnormal behavior?
9. What are the changes will occur at old age?
10. What is counseling?

SECTION-B

Note (i) Answer five questions **5 x 6 = 30**

(ii) Each question carries six marks

11. Write Functions, Source, Daily requirement of Proteins in briefly.
12. Explain in detail Anemia in women.
13. Write about Classification of Cooking.
14. Describe about kitchen garden.
15. Write in detail about heart structure.
16. Draw the structure of Kidney and label it.
17. Write characteristics of a mentally healthy person.
18. Write about Mental retardation.
19. Write in detail about needs and problems of old persons.
20. Explain briefly seven stages of counseling.

MODEL QUESTION PAPER

MULTIPURPOSE HEALTH WORKER (FEMALE)

FIRST YEAR

PAPER III: PRIMARY HEALTHE NURSING (THEORY)

Time: 3 Hours. **Max.Marks : 50**

SECTION-A

Note: (i). Answer all questions **10 x 2 = 20**

(ii). Each question carries 2 marks

1. Define Hospital.
2. What are healthy habits?
3. What is specimen collection?
4. Define sterilization.
5. What are the Vital Signs?
6. List out the symptoms and signs of hypertension.
7. What are the types of Handicapped?
8. Abbreviate AYUSH.
9. What is the General treatment for fever?
10. What is meant by bleeding?

SECTION-B

Note (i) Answer five questions **5 x 6 = 30**

(ii) Each question carries six marks

11. Explain in detail about types of Hospital beds.
12. Write in brief about the Pressure points.
13. Describe about Bio-Medical Wastes.
14. Explain the types of Pneumonia and its Management.
15. Describe the renal Colic's.
16. Write in detail about active and passive Exercises.
17. Explain in detail about diabetes.
18. Write about the Management of Foreign bodies.
19. What is fracture, causes, classification and Management of fracture?
20. Describe in detail about life threatening conditions.

MODEL QUESTION PAPER
MULTIPURPOSE HEALTH WORKER (FEMALE)
SECOND YEAR
PAPER I: MIDWIFERY (THEORY)

Time: 3 Hours. **Max.Marks: 50**

SECTION-A

Note: (i). Answer all questions **10 x 2 = 20**

(ii). Each question carries 2 marks

1. Write the types of pelvis?
2. What is Amenorrhoea ?
3. Define EDD?
4. Define Lie ?
5. List the '6' cleans ?
6. Define Puerperium ?
7. What is APH ?
8. What is obstructed labour ?
9. What is MTP ?
10. What is the action of Oxytocin ?

SECTION-B

Note (i) Answer five questions **5 x 6 = 30**

(ii) Each question carries six marks

11. Explain about female reproductive organs in detail ?
12. Explain about fontanelles ?
13. Describe the functions of placenta ?
14. Write the physiological changes during pregnancy ?
15. Explain diet during pregnancy ?
16. Write the importance and uses of Breast feeding ?
17. Explain about Anemia during pregnancy ?
18. Write about umbilical cord ?
19. What is VVF ? How do you diagnose and manage the case ?\
20. Describe about RCH programme ?

MODEL QUESTION PAPER
MULTIPURPOSE HEALTH WORKER (FEMALE)
SECOND YEAR
PAPER II: CHILD HEALTH NURSING(THEORY)

Time : 3 Hours. **Max.Marks : 50**

SECTION-A

Note: (i). Answer all questions **10 x 2 = 20**

(ii). Each question carries 2 marks

1. Define Growth & Development?
2. 2Q. What is weaning food?
3. 3Q. What is Apgar score?
4. 4Q. Mention children Rights?
5. 5Q. List common childhood diseases?
6. 6Q. Write about Mid-day meal programme?
7. 7Q. Write the causes of physically handicapped?
8. 8Q. what are the special needs of adolescents?
9. 9Q. Write the secondary sexual characteristics of adolescent girls?
10. 10Q. Expand the following?

    a) ICDS b) NRHM

SECTION-B

Note (i) Answer five questions **5 x 6 = 30**

(ii) Each question carries six marks

11. Explain Growth & development of an Infants?
12. Write about prevention & accidents of injuries during infancy?
13. Explain briefly about Newborn Assessment?
14. Write detail about Immunization?
15. Write about exclusive breast feeding ?
16. Write types of child abuse ?
17. Explain about Typhoid ?
18. Write about the role of MPHW (F) during school health services ?
19. Write about classification of handicapped children ?
20. Write about BHFI ?

MODEL QUESTION PAPER
MULTIPURPOSE HEALTH WORKER (FEMALE)
SECOND YEAR
PAPER III: HEALTH CENTRE MANAGEMENT (THEORY)

Time: 3 Hours. **Max.Marks: 50**

SECTION-A

Note: (i). Answer all questions **10 x 2 = 20**

(ii). Each question carries 2 marks

1. Define Management?
2. List the clinics conducted at sub centre ?
3. Define Health Team?
4. Expand ASHA?
5. List the causes of High Birth Rate?
6. Expand UNICEF?
7. What is ORS?
8. Expand TBA?
9. List the purposes of continuing Education?
10. Define Inservice Education programme ?

SECTION-B

Note (i) Answer five questions **5 x 6 = 30**

(ii) Each question carries six marks

11. Explain the principles of Management ?
12. Write the functions of Primary Health Centre ?
13. Write the functions of MPHW (F) at Antenatal clinic ?
14. Write the functions of Who ?
15. Explain about Arogya Sree Scheme ?
16. Describe about storage of Medicines ?
17. Explain about any four temporary family planning methods ?
18. Explain Co-ordination of MPHW (F) with school teachers ?
19. What are the responsibilities of MPHW (F) in National Diarrhoeal control Programme ?
20. Explain about methods of staff development ?

ABBREVIATIONS

AIDS	::	Acquired-Immuno Deficiency Syndrome
ARI	::	Acute Respiratory Infection
ART	::	Anti Retro Viral Treatment
A.V.	::	Audio Visual
APH	::	Ante Partum Hemorrhage
AWW	::	AnganWadi Worker
ASHA	::	Accredeted Social health Activist
AYUSH	::	Ayurveda Yoga Unani Siddha and Homeopathy
BCC	::	Behaviour Change Communication
BFHI	::	Baby Friendly Hospital Initiative
BCG	::	Bacilli Calmette-Guerin
BP	::	Blood Pressure
BR	::	Birth Rate
CMO	::	Chief Medical Officer
CPR	::	Cardio-Pulmonary Resuscitation
DR	::	Death Rate
LSCS	::	Lower Section Caesarean Section
DFWO	::	District Family Welfare Officer
DHO	::	District Health Officer
E.C	::	Eligible Couple
DOTS	::	Directly Observed Therapy Short term
DPHNO	::	District Public Health Nursing Officer
DPT	::	Diphtheria, Pertusis, Tetanus
FHS	::	Foetal Heart Sound
FHW	::	Female Health Worker
FW	::	Family Welfare
HIV	::	Human- Immuno Virus
ICDS	::	Integrated Child Development Scheme
IEC	::	Information, Education, Communication
IUGR	::	Intra Uterine Growth Retardation
ILR	::	Ice Lined Refrigerator
IMNCI	::	Integrated Management of Neonatal and childhood Illnesses
IMR	::	Infant Mortality Rate
IM	::	Intra Muscular
ID	::	Intra Dermal
SC	::	Subcutaneous
IV	::	Intra Venous, IM : Intra Muscular, SC: Sub Cutoneous
JSY	::	Janani Suraksha Yojana
LBW	::	Low Birth Weight
MCH	::	Maternal Child Health
MDT	::	Multi Drug Therapy
MIES	::	Management Information Education System
MMR	::	Maternal Mortality Rate
MMR	::	Measles, Mums, Rubella
MOHFW	::	Ministry of Health and Family Welfare

MTP	::	Medical Termination of Pregnancy
NGO	::	Non Governmental Organization
NRR	::	Net Reproductive Rate
NMCP	::	National Malarial Control Programme
NMEP	::	National Malarial Eradication Programme
NCEP	::	National Leprosy Eradication Programme
NTCP	::	National T.B. Control Programme
NACO	::	National Aids Control Organization
NRHM	::	National Rural Health Mission
NSKK	::	Nava JathaSishu Suraksha Karyakramam
ORS	::	Oral Rehydration Solution
PHC	::	Primary Health Centre
PIH	::	Pregnancy Induced Hypertension
PPH	::	Post PartumHemorrhage
PV	::	Per Vagina
RCH	::	Reproductive Child Health
RH	::	Rhesus (Rh.Factor)
RNTCP	::	Revised National T.B. Control Programme
RTI	::	Reproductive Tract Infection
RVF	::	Recto Vaginal Fistula
SBA	::	Skilled Birth Attendant
SC	::	Sub Centre
STD	::	Sexually Transmitted Disease
TBA	::	Trained Birth Attendant
TB	::	Tuberculosis
TPR	::	Temperature, Pulse, Respiration
UNICEF	::	United Nations International Children Emergency Fund
VVF	::	Vesico Vaginal Fistula
WHO	::	World Health Organization
HPV	::	Human Papilloma Virus

IX. EQUIPMENT REQUIRED FOR MULTIPURPOSE HEALTH WORKER FEMALE/ANM NURSING ARTS LABORATORY DUMMY-1

1. Enamel Articles

Big size enamel trays 40 x 30 cm	4
Medium size trays 30 x 25 cm	4
Small size enamel trays 20 x 15 cm	4
Medium size trays with lid 30 x 25	1
Big size enamel basic 36 cm	2
Medium size enamel basin 32 cm	4
Bowls 20 cm diameter	4
Bowls 10 cm diameter	2
Feeding cups	2
Buckets	2
Jugs (2 litres plain)	2
Bins Mediums size 20 x 20 cm	4
Bins small size 10 x 10 cm	2
Litre measure	2
½ litre measure	1
Sputum cups	1
Funnels	2
Kidney trays big (25 cm)	2
Kidney trays medium (20 cm)	2
Enemal cans 1 litre capacity	2
Urilinals (plastic)	2
Bed pans (enamel)	2
Nelsons inhaler	1
Medicine trolley	1
Cot Metal with Mattress	2

Linen

Draw sheets	10
Pillow covers	10
Bath towels	6
Treatment towels	6
Packing towel (green)	6
Triangular bag covers	4
Air ring covers	4
Marks	4
Ice collar covers	2
Abdominal binders	2
Spong bags	12
Green surgical towels	2
Counter panes	2
Caps	2
Fenestrated towels	2
Pillows	4
Blankets	4

Cold compress	2
Perenial Towels	6
Abdominal Drapers	6
Bandages Cotton Roller	
4”	6
3”	6
2”	6
½”	6
1/4th	6
Capline Bandage 4 mts	1
Triangular Bandages	12
Grape Bandage	1
Rubber Bandage	1

II. Stainless Steel

Bowls medium	4
Kidney basins Medium (20 cm)	4
Kidney basins small (15 cm)	4
Small cups	4
Teaspoon	4
Tray with lid small	4
Spirit lamps	4

III. Aluminium Articles

Mugs	4
Kettle small	4
Dekchi with lid	2

IV. Glass Articles

Oral thermometers	6
Rectal thermometers	2
Syringe 20 cc	2
Syringe 10 cc	2
Syringe 5 cc	2
Syringe 2 cc	2
Insulin Syringes 1 cc	1
B.C.G. Syringes	1
Test tube	4
Urine meters	10
Conical flasks	2
Ounce glasses	2
Minimum glasses	4
Tumblers	1
Bath thermometers	2
Glass connections	2
Droppers	4

V. Wooden Articles

Spatuals	4
Test tube holders	4
Mouth gags	2

Wodden or plastic brushes	6
Test tube stands	2
Metal Back rest	2
Weighing scale box	1
Weight box	1
Splints	6
Wooden blocks	8

VI. Plastic Articles

Soap dishes	4
Nail brushes	4
Combs	4
Aprons	2
Buckets	2
Mackin tosh	4
Plastic tins (Small)	2 dozzens
Ounce glasses	2
Plastic slinger @ AD Slinger	4

VII. Rubber Articles

Mucus sucker	2
Kellys Pad	1
Hot water bags (medium)	2
Ice cap	2
Air Way	1
Ryles tubes	2
Rubber tubes polythene	10
Nasal Catheter	2
Urinary catheters	2
Bedsize mackintosh	2
Mushroom catheters (Self retained)	1
Long mackintosh	2
Breast Pumps	2
Urinal	1

VIII. Instruments

Stethescopes	4
Cushcush speculum	4
Sims speculum	4
Tongue depressor	4
Scissors ‘7’	2
Scissors ‘5’	4
Thumb forceps – toothed	4
Thumb forceps – non toothed	4
Test tube holders	4
Cheatle forceps	4

Paracenthesis sets	4
Towel clips	2
Kneehammer	2
Needle holder	1
Bar speculum	1
Artery forceps	2
Bandage roller (16 cm x 100 cm)	1
Suction tube 10cm	1
Blade with handlen	1
Hypodermic Needles B.P. handle (pkt of 10)	4
Intradermal Needles (pkt. Of 10)	4
L.P. needles	1
C.D. set	1
B.P.Apparatus	4
Round Bodied anaroid	2
Inch tape	2
Torch light (with cells)	1
First aid box (big)	1
Equipment required for Nutrition Lab.	
Gas stoves with cylinders	2
Tables wooden	2
Assorted Dekshi with Lid	
Deepfrying Pan	2
Shallow frying pans	
Serving plates	4
Quarter plates	4
Cup Saucers	4
Tea Spoons	4
Rice Serving spoon	1
Curry Serving Spoon	4
Glass Tumblers	4
Tea Stainers	1
Coffee filter	1
Hot packs medium	2
Flask	1
Chumer	1
Mixer Grinder	1
Dhall Smasher, Egg beater	1
½ Kg containers for ingredients	24
Laders	4
Knife for vegetables cutting	1
Bread knife	1
Sieve	1
Chapathi Roller	4
Poori presser	4
Containers – for oil	2
Containers - for seasoning ingredients	6
Containers for Onion, Garlic, Red Chillies	4

Rice, Dhall, TuvvarDhall, UdathDhall, Sugar, Turmeric, Chilly Powder, Pepper-Salt, Jeera, Mustard Channadhall, Tea, Powder, Coffee, Powder, Wheat, Atta, Ragiatta- Ravva
Bowls, Quarter size 6
Refregirator for preservation of vegetables and to show the different methods of preservation of food

EQUIPMENT FOR COMMUNITY HEALTH NURSING

Community Health bags 20
Midwifery Equipment
Midwifery Kits
Clamps (artery) 2
Rectal catheter 2
Plastic connection 2
Kidney tray 1
Foctus scope 1
Stethoscope 1
Bowls 2
Finger glove (set of 5) 10
Gloves 2
Inch tape 1
Recta; thermometers 2
Oral thermometers 1
Plastic containers 5
Spirit lamp 1
Test tube holder 1
Cheattle forceps 1
Artery forceps 2
Scissors straight 1
Weighing scale 1
Soap dish 1
Hand towels 1
Brush 1
Surgical pads 1
Safety pins 2
Plastic mackintosh 1
Plastic apron 1
Cotton roll 1
Test tube 2
Plastic over for the apron 1
Mucus sucker
Child Health Nursing Lab.
Spring balance 2
Weighing Machines 2
Inch tape 2
Age specific toys 4

Models:
Female reproductive system dummy with fietus and placenta

1. Skull, with Brain 1
2. Eye structure 1
3. Heart 1
4. Lungs 1
5. Kidneys 1
6. Stomach 1
7. Ear 1
8. Reproductive – Male, Female 1

Female pelvis foefal 2
Skull 2

A.V. Aids

Charts for carbohydrates 1
Charts for proteins 1
Charts for fats 1
Charts for Beverages 1
Charts on Balanced Diet 1
For Vitamins 1
Projector with Screen 1
Charts on each system of the body 1
Charts on AIDS 1
Skeletal System 1
Muscular System 1
Nervous System 1
Circulatory System 1
Digestive System 1
Respiratory System 1
Excretory System 1
Charts on First aid – Kidneys, Skin 1
Charts on artificial respiration 1

Optional : Marques [for demonstration of BLS training]
The address for charts and Models

1. GanisSurgicals, Tilak Road, Abids, Hyderabad.
   For equipment of Nursing Arts Lab.
2. Bharat Surgicals, Nampally, Hyderabad
   Address for Books, Paras Book Sellers, On the way, Koti to Majamjahi (Left Side) Road.

X. QUALIFICATION FOR LECTURERS

For the post of Lecturers/Junior Lecturers the eligible candidates are those who are having Post Graduate Degree in Nursing with any specialty. If eligible candidates are not available B.Sc (N) with Ten years clinical/Teaching experience are preferred

- Qualifications for lab attendant

The eligible candidates are those who possess the General Nursing & Midwifery diploma, If eligible candidates are not available MPHW(Female) are preferred with ample experience.

- **SCOPE FOR MPHW(F) VOCATIONAL**

a) With bridge course the MPHW(Female) are eligible for General Bachelor in Science (B.Sc) and EAMCET or other National wide entrance tests into Medicine.

b) Direct entry into GNM and B.Sc (Nursing)

XI. REFERENCE BOOKS

- Fundamentals of Nursing by Sr.NancyVol.I
- T.B. of first aid by Vimalthakkar
- Fundamentals of Nursing MadhuriInamdar, Teluram
- TB of first aid by Shaw
- Ferris, E.B. and Skelley E.C. Body structure and functions
- New York : Delmar Publishers, Albany
- Raper, Nancy, Man's Anatomy, Physiology, Health and Environment Edinburgh,.ChurchilLingstone Taylor, Normand and Moghedran, MorgaretG.Basic Anatomy and Physislogy
- Pearce, Elelyn, Anatomy and Physiology for Nurses Forber Ltd.
- Member, R.Land Rada, R.D. the Human Body and Health and disease.J.B.Lippincett, Philadelphia,
- Maranal, Stanely, Elementary Bacteriology and immunity forNurses : London Lewis publishers.
- Ferris, Elvira B.Microbiology for the NuirseAlbony New York, Delmar publishers.
- Swaminathan M.na Dhagavan R.K. Our food Madras, Ganesh & CO.
- I.C.M.R. The Nuritive Value of India foods and the planning of Satisfactory diets.
- Milliken, Mary Elizabeth understanding Human Behaviour : A guide for health workers, New York Delmar Publishers
- Bhatia, B.D. and GraigM.Elements of psychology and Mental Hygiene Orient Longmans and Co, New Delhi
- Trained Nurses Association of India Public health Mannual. New Delhi.\
- S.B.A. Module prepared by MOH & F.W.
- IMNCI Module prepared by MOH & F.W.

MULTIPURPOSE HEALTH WORKER [FEMALE]

NURSING

- Manual for Health Worker (Female) Ministry of Health by Chakley
- Family Planning – Who Project HMD-006 to be published by Chakley
- Manual for Health worker (Male) Vol.1 and 2 Ministry of Health and Family planning
- Who project HMD-006
- OberalI.S.Liberte, D. and other contributors Child Health care in Rural Areas Manual for Auxilliar Nurse-Midwives. - Bombay Asia Publishing House
- K. Park, Essentials of Community Health Nursing, BanarsidasBhanott Publishers Jabalpur, MP
- Ghosh, Shanti, The Feeding and are of Infants and Young Children
- UNICEF and SCAR, New Delhi Cox. H.Midwifery Manual-A Guide for Auxilliary Midwives, Mc-graw Hill for Eastern Publishers.
- Blieir I.J. Mterrnity Nursing, A. Text book for practical Nurses, Phila
- Dephia, J.B. Saunders. Who Hates for the practising Midwife, New Delhi, SEARO
- Gandhiram Institute of Rural Health and Family Planning, A Guide for
- First Aid Treatment of minister
- Miswives, Madurai, Tamilnadu, (Mimeographed Manual
- Community Nursing Manual. A guide for Auxilliary Public Health Nurse.
- K.Park, Text book of Essentials of community health Nursing
- Mc.Graw. Hill, International Bood Co.
- Hormemann Grace VoBasicNur
- Homeman Grace V.Basic Nursing Procedures, New York.
- Delamar Publishers
- Skelley, Esther g, Medications and Mathematics for the Nurse.
- Albany, New York, Delmar Publishers.

XI. List of Participants

1.	**Dr.K.Gangadhar M.S.** Civil Surgeon Specialist, ESI Hospital, Nacharam, Hyderabad, Telangana State.
2.	**Mrs. V.Indira ,M.sc (N), M.Phil** Assistant Professor, Government College of Nursing, Somajiguda,Hyderabad., Telangana State
3.	**K.Samatha M.sc (N)** CJL in MPHW(F) Govt Junior College. Karimnagar,Telaangana State
4.	**J.SailajaM.Sc(N)** Nursing Sister Central Hospital, LalagudaSecunderabad. Telangana State
5.	**Ch. Gunasri**Bsc Nursing JL in MPHW Mother Theresa Vocational Junior College Hyderabad
Verified & Corrected By	
1.	Dr. Shravan Kumar Prof &Hod of Pathology Gandhi Medical College, Hyderabad
2.	Dr. Nagamani Prof &Hod of Microbiology Gandhi Medical College, Hyderabad
3.	Dr. Suleman Prof of Bio Chemistry Gandhi Medical College, Hyderabad
1.	**Co- ordinator:-** Sri K.Vishweshwar, O/o the Commissioner of Intermediate Education, Telangana, Hyderabad

Sd/- Dr A. Ashok
COMMISSIONER OF INTERMEDIATE EDUCATION

30% DELETED CONTENT IN VIEW OF COVID-19 PANDEMIC

FIRST YEAR

PAPER I : COMMUNITY HEALTH NURSING

S No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 :- CONCEPT OF HEALTH	Health	NILL	Q2: Write about determinates of Health
2	UNIT-2: CONCEPTSAND STRUCTURE	Family	Q5:List out the Community resources available in our country	NILL
3	UNIT-3: COMMUNITY NEED ASSESSMENT	Community Survey	NILL	Q2: Write about the Method of Community need Assessment
4	UNIT-4: HOME VISIT	-	-	-
5	UNIT-5: HEALTH PROBLEMS AND POLICIES	National Health Programs in India	NILL	Q2: Explain in detail about Malarial Control Programe
6	UNIT-:6 COMMUNICATION & HEALTH EDUCATION	Health Education Approaches of Health Education	NILL	Q1: Write principles and approaches of Health Education
7	UNIT-:7 COMMUNITY BASED REHABITATION	Rehabilitation	NILL	Q2: Write about health education of individual family on rehabilitation
8	UNIT-:8 INFECTION	Mode of Transmission, Microbes	4. Define Fomite	Q4: Explain the factors effecting growth and destruction of microbes
9	UNIT-:9 IMMUNITY	HYPERSENSITIVITY	Q3: Define Hyper Sensitivity reaction.	Q1: Explain the process if Antigens and Antibody reaction
10	UNIT-:10 IMMUNIZATION	RECORDS AND REPORTS	Q3: what are the records ad reports maintained in the immunization clinic.	Q3: Describe about Special Immunization drives and Programs
11	UNIT-:11 ENVIRONMENTAL SANITATION	SMOKE	Q3: What do you mean by smoke?	NILL
12	UNIT-:12 SAFE WATER	WATER	Q3: Explain the causes of contamination of water	NILL

13	UNIT-:13 DISPOSAL OF EXCRETA AND WASTE	EXCRETA DISPOSAL (HAZARD)	Q3: What are the Hazards due to waste?	Q2: Describe how the diseases are carried from Excreta
14	UNIT-:14 INTRODUCTION TO COMMUNICABLE DISEASES	DIPTHERIA	Q4: List out the agent host and environmental factors of Diphtheria	Q4: Write in detail about Poliomyelitis
15	UNIT-:15 CARE IN COMMUNICABLE DISEASES	-	-	-
16	UNIT-:16 COMMUNICTY HEALTH PROBLEMS	HEALTH PROBLEMS	Q5: List out the danger signs of Illness	NILL
17	UNIT-:17 EPIDEMIC MANAGEMENT	EPIDEMIC MAPPING	Q3: What is Epidemic Mapping? Q2: Identify the causes of Epidemic	.
18	UNIT-:18 DISASTER MANAGMENT	-	-	-

MULTIPURPOSE HEALTH WORKER (FEMALE) - FIRST YEAR
PAPER II: HEALTH PROMOTION

S No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 :- ESSENTIAL NUTRIENTS	MINERALS	Q4: Write source of calcium	Q1: Write functions, sources daily requirement of fats
2	UNIT-2: NUTRITIONAL ASSESSMENT AND PROBLEMS	DEFIECIENCY DISEASES	Q2: Mention nutritional Deficiency Diseases	Q9: Explain various Nutritional Assessment Methods
3	UNIT-3: HEALT H PRACTISE	-	-	-
4	UNIT-4: PROMOTION OF NUTRITION	FOOD PREPARATION	Q1: Write preliminary treatment of foods	Q7: Explain Methods of Food Preservation
5	UNIT-5: HUMAN BODY	spleen, Saliva, meningitis, cerebrum, tongue	Q16: Write functions of spleen Q21: What Is The Action Of Saliva Q31: What is meningitis Q32: List out the functions of cerebrum Q35: What are the papillae present on the Tongue	Q20: Write differences between inspired air and Expired air 25Q: List cranial nerves in order
6	UNIT-:6 MENTAL HEALTH	DEVELOPMENT STAGES	Q3: Mention personality developmental stages	NILL
7	UNIT-:7 MENTAL ILLNESS	REFERRAL OF MENTAL ILL	Q4: Mentions psychiatric emergencies for refer	Q2: Explain about organic mental disorders
8	UNIT-:8 GERIATRIC CARE	-	-	-
9	UNIT-:9 COUNSELLING & GUIDANCE	-	-	-

MULTIPURPOSE HEALTH WORKER (FEMALE) - FIRST YEAR
PAPER III: PRIMARY HEALTH NURSING

S No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT 1: HOSPITAL	DEPARMTENS	Q3: Mention the departments of a General Hospital.	NILL
2	UNIT 2: PREPARATION OF PATEINT UNIT	RESOURCES	Q3: Describe about the Manchester's five steps of safety	NILL
3	UNIT 3: HYGINE OF THE BODY	PERSONAL CARE AND HYGIENE, CARE OF HAIR, COMFORT NEEDS OF SICK	Q1: what is Jockitch. Q3: write about the care of scalp hair in management of dandruff	Q4: What are the steps you have to take for the sick at your home
4	UNIT 4: OPTIMAL FUNCTIONINIG OF THE BODY	SELF ACTUALIZATION	Q3: Draw the pyramid of self-Actualization	Q2: Write in detail about self-Actualization
5	UNIT 5: COLLECTION OF SPECIMEN	METHOD OF COLLECTION	Q3: What are the general collection errors Q7: What are the common Urine Collection Errors	NILL
6	UNIT 6: DISINFECTION AND STERILIZATOIN	METHOD OF STERILIZATION	Q3: what are The types of filters used in Sterilization	2.What are the radiation methods of sterilization Describe in detail
7	UNIT 7: BIO-MEDICAL WASTE MANGEMNET	CATEGORIES OF BW	Q2: What are the categories of BWS	NILL
8	UNIT 8: FEVER	PULSE TEMPERATURE	Q4: Describe pulse and its patterns	--
9	UNIT 9: COMMON REPIRATORY SYSTEM	--	Q3: Treatment of sinusitis Q4: Write about Montoux test	Q4: Write about physical Examination and test for tonsillitis
10	UNIT 10 : DIGESTIVE PROBLEMS	ANOREXIA	Q2: What is the Medical Treatment of Anorexia Q3: What does the color of Vomits in digestive disorders suggestive	Q2: What are the causes, symptoms and complication of hernia

11	UNIT 11: URINARY PROBLEMS	RENAL CONDITION EDEMA	Q2: What are the types in renal Colic Q4: Mention the household measure of the management of Edema	Q2: Describe the diagnostic procedure done to rule out renal colic and edema in detail
12	UNIT 12: CARDIOVASCULAR PROBLEMS	LEUKEMIA, HYPERTENSION	Q4: Mention the types of Leukemia	Q1: Write in detail about pulmonary hypertension and portal hypertension
13	UNIT 13: DISEASES OF NERVOUS SYSTEM	PRESSURE POINT	NILL	Q2: Write in detail about pressure points
14	UNIT 14: METABOLIC DISORDERS	-	-	-
15	UNIT 15: CARE OF HANDICAP	-	-	-
16	UNIT 16: TYPES OF DRUGS	POLICIES AND REGULATIONS	NILL	Q2: What are the medical regulation discuss in brief?
17	UNIT 17: ADMINISTRATION DRUGS		Q2: What is first pass effect?	NILL
18	UNIT 18: DRUGS USED IN MINOR AILMENTS	DRUG KIT	NILL	Q2: Explain the various types of drug kits in sub center
19	UNIT 19: COMMON EMERGENCY DRUGS	INJECTIONS	Q2: What is depot injections Q5: Classify anti snake Venom	Q1: Explain the importance of magnesium sulphate
20	UNIT 20: FIRST AID	-	-	-
21	UNIT 21: MINOR INJURIES AND AILMENTS		Q4: What are the topics of health education	Q3: Write about the concepts and fundamentals of Health Education
22	UNIT 22: FRACTURES	-	-	-
23	UNIT 23: LIFE THREATNING CONDITIONS	SUFFOCATION	Q2: What is suffocation?	Q3: What is asphyxia? And how you will manage it?

MULTIPURPOSE HEALTH WORKER (FEMALE) - SECOND YEAR
PAPER I: MIDWIFERY

Sl No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 :- HUMAN REPRODUCTIVE SYSTEM	MALE REPRODUCTIVE SYSTEM	--	Q2: Describe about Male reproductive system
2	UNIT-2: FEMALE PELVIS AND FOETAL SKULL	LIGAMENTS OF PELVIS	--	Q1: Write the ligaments of Pelvis
3	UNIT-3: FOETUS AND PLACENTA	--	--	--
4	UNIT-4: NORMAL PREGNANCY	--	--	--
5	UNIT-5: ANTENATAL CARE	DANGER SIGNS DURING PREGNANCY	--	Q3: List the Danger Signs During Pregnancy
6	UNIT-:6 NORMAL LABOUR	PARTOGRAPH, NEWBORN CARE	Q3: What is Partograph Q4: What are the elements of Essential New Born Care	
7	UNIT-:7 CARE DURING NORMAL LABOUR	PLACENTA SEPERATION, NEWBORN RESUSCITATION	Q3: Write the signs of Placenta separation	Q1: Describe Resuscitation of New Born
8	UNIT-:8 NORMAL PUERPERIUM	MINOR DISORDERS IN PUERPERIUM		Q1: Explain the minor Disorders During Puerperium
9	UNIT-:9 ABNORMALITIES OF PREGNANCY	FOETAL DISTRESS, ECLAMPSIA, HYPERTENSION DURING PREGNANCY	Q5: What is Foetal Distress	Q2: Describe about Eclampsia, Q3: Write about the Hypertension During Pregnancy
10	UNIT-:10 ABORTION	MENSTRUAL REGUALTION, THREATNED ABORTION	Q4: What is Menstrual Regulation	Q1: Write about Threatened Abortion
11	UNIT-:11 HIGH RISK LABOR	CPD	Q2: What is CPD	
12	UNIT-:12 MEDICATIONS USED IN MIDWIFERY	--	--	--
13	UNIT-:13 COMMON HEALTH PROBLEMS	CERVICAL CANCER, RVF	Q1. Explain the Cervical Cancer and Management	Q2: What is recto vaginal fistula (RVF) Explain about it
14	UNIT-:14 TRENDS IN MIDWIFERY	CSSM, PROGRAM		Q1. List the objectives of CSSM Program

MULTIPURPOSE HEALTH WORKER (FEMALE) - SECOND YEAR
PAPER II: CHILD HEALTH NURSING

S No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT-1 :- GROWTH AND DEVELOPMENT	PLAY	--	Q3: Describe about Play.
2	UNIT-2: NEWBORN CARE	PREMATURE BABY, LOW - BIRTH WEIGHT BABY	--	Q2: Describe care of premature baby Q4: Write special care of the Low-birth Weight baby
3	UNIT-3: NUTRITION OF INFANTS AND CHILDREN	INFANT FEEDING IN HIV	--	Q2: Explain infant feeding in HIV
4	UNIT-4: CHILDREN'S RIGHTS	JUVENILE DELIQUENCY, BATTERED BABY SYNDROME	Q5: Define Juvenile Deliquency	Q8: What is battered Baby Syndrome? Q10: Write the causes of Juvenile Deliquency.
5	UNIT-5: CARE OF SICK CHILD	--	--	--
6	UNIT-:6 CARE OF SCHOOL CHILDREN	SUPPLEMENTARY NUTRITION PROGRAMS , SCHOOL HEALTH RECORDS AND REPORTS	Q6: List the supplementary nutrition programs Q8: List the School health records and reports	Q3: What are the components of School health Program
7	UNIT-:7 CARE OF PHYSICALLY AND MENTALLY CHALLENGED	MENTAL RETARDATION	--	Q3: Describe about Mental retardation
8	UNIT-:8 CARE OF ADOLESCENTS	BEHAVIOURAL PROBLEMS OF ADOLESCENTS	Q6: Write the behavioral Problems of Adolescents.	--
9	UNIT-:9 RECENT TRENDS IN CHILD HEALTH CARE	BHFI	--	Q1: Write about BHFI.

MULTIPURPOSE HEALTH WORKER (FEMALE) - SECOND YEAR
PAPER III: HEALTH CENTRE MANAGEMENT

Sl No	Unit No. Name of the Unit	Topic/Sub Topic to be deleted in detail heads	Two Marks Questions deleted	Six Marks Questions deleted
1	UNIT 1: CONCEPT OF MANAGEMENT	CHARACTERISTICS OF MANAGEMENT, LINE OF AUTHORITY	Q2: List the characteristics of management	Q3: Describe and draw the line of Authority
2	UNIT 2: HEALTH CENTRE	SUBCENTRE ACTION PLAN	--	Q4: Describe about sub center action plan
3	UNIT 3: CONCEPT OF HEALTH TEAM	FUNCTIONS OF MPHW(F) IN SUBCENTRE	--	Q1: Write the function of MPHW(F) in sub centre
4	UNIT 4: HEALT H ADMINISTRATION IN INDIA	REDCROSS	Q2: List the function of red cross	--
5	UNIT 5: MAINTANANCE OF STOCKS	STORAGE AND CARE OF VACCINES	Q1: Where and how should Vaccines be stored Q2: Write the steps how to care of Vaccines	--
6	UNIT 6: POPULATION EDUCATION & FAMILY WELFARE	MASS MEDIA AND IEC IN FAMILY PLANNING	--	Q2: Describe the role of Mass Media and IEC in Family Planning
7	UNIT 7: CO-ORDINATION	NGO ORGANIZATION	Q3: List the NGO Organizations	--
8	UNIT 8: IMPLEMENTATION OF NATIONAL HEALTH PROGRAMS IN INDIA	ROLE OF MPHW(F) IN NATIONAL HEALTH PROGRAMS	--	Q1: Role of MPHW(F) in National Malarial Control Program
9	Unit-9 STAFF DEVELOPMENT	IN SERVICE EDUCATION PROGRAMS	--	Q2. Describe about in-service education program

70% OF SYLLABUS OLD COURSES

SKELETON MODEL QUESTION PAPER FOR OLD COURSES

Time: 3 Hours **Max.marks:50**

SECTION - A

Note: i) Answer all Questions.
ii) Each question carries 2 marks **10x2=20 Marks**

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

SECTION – B

Note: i) Answer any 5 Questions
ii) Each Question Carries 6 marks **5x6=30 Marks**

11.
12.
13.
14.
15.
16.
17.
18.
19.
20.

DAIRYING

I YEAR

PAPER – III: ANIMAL HEALTH [THEORY]

PERIODS/WEEK: 04 **PERIODS/YEAR:135**

S.No.	NAME OF THE UNIT	No. of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
1	Health	9	8	1	1
2	First Aid	10	8	1	1
3	Bacterial Diseases	20	10	2	1
4	Viral Diseases	15	10	2	1
5	Protozoan Diseases	15	10	2	1
6	Helminthic& external parasitic diseases	10	10	2	1
7	Mycotic diseases	8	4	2	-
8	Metabolic diseases	8	4	2	-
9	Reproductive disorders	20	10	2	1
10	Prevention of animal diseases	20	10	2	1
	Total	135			

1. Health

1.1. Definitions of health and disease
1.2. Signs of health and ill health
~~1.3. Recording body temperature, pulse and respiration rates~~
1.4. Normal values of body temperature, pulse and respiration rates

2. First aid

2.1. Definition of first aid and its principles
2.2. Attending to traumatic condition
2.3. Attending to poisoning cases
~~2.4. Attending to obstetrical difficulties~~
2.5. First aid to burns and scalds
2.6. Attending to fracture
2.7. First aid kit
~~2.8. First aid during natural calamities~~

3. Bacterial diseases

3.1. Classification of dairy animal diseases - Bacterial, viral, protozoal, helmenthic, metabolic etc.
3.2. Anthrax
3.3. Black Quarter
3.4. Brucellosis
~~3.5. Vibriosis~~
3.6. Haemorrhagic septicaemia
3.7. Tuberculosis
3.8. Johnes disease
3.9. Leptospirosis
3.10. Listeriosis
~~3.11. Contagious bovine pleuropneumonia~~
3.12. Tetanus
~~3.13. Calf diseases.~~
~~3.14. Common bacterial diseases of sheep and goat~~
3.15. Mastitis
~~3.16. Pneumonia~~

4. Viral diseases

4.1. Rinderpest
4.2. Foot and mouth disease
4.3. Rabies
~~4.4. Cow pox~~
~~4.5. Common Viral diseases of sheep and goat~~

5. Protozoan diseases

5.1. Anaplasmosis
5.2. Babesiosis
5.3. Theileriasis

5.4. Trypanosomiasis
~~5.5. Leishmaniasis~~
5.6. Coccidiosis
~~5.7. Amaebiasis~~

6. Helminthic and External parasitic diseases

6.1. Round worms
6.2. Tape worms
6.3. Liver flukes
~~6.4. Flies~~
6.5. Ticks and mites
~~6.6. Common helminthic and external parasites of sheep and goat~~

7. Mycotic diseases

7.1. Ring worm
7.2. Actinomycosis
~~7.3. Aspergellosis~~

8. Production & Systemic diseases.

8.1. Bloat
8.2. Ketosis
8.3. Milk fever
~~8.4. Downer Cow syndrome.~~
~~8.5. Enteritis.~~

9. Reproductive disorders

9.1. Anaestrum
9.2. Dystocia
9.3. Retained placenta
9.4. Endometritis
9.5. Pyometra
~~9.6. Infertility - causes and prevention~~
~~9.7. Other diseases associated with reproduction~~

10. Prevention of diseases

10.1. Surveillance of animal diseases
10.2. Outbreak reports
10.3. Action plans for prevention of diseases for different seasons
10.4. Isolation
10.5. Quarantine
10.6. Vaccination for dairy animals, sheep and goat
10.7. Deworming – cattles, sheep and goat
10.8. ~~Disinfection~~
10.9. Disposal of Carcasses
~~10.10Action plan during disease out break~~
~~10.11. Sterilization of equipment- hot/cold/chemical methods~~

DELETED TOPICS

S . NO	Unit No. Name of the Unit	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1 – **Health**	1.3. Recording body temperature, pulse and respiration rates
2	Unit-2 – **First aid**	2.4. Attending to obstetrical difficulties 2.8. First aid during natural calamities
3	Unit-3– **Bacterial diseases**	3.5. Vibriosis 3.11. Contagious bovine pleuropneumonia 3.13. Calf diseases. 3.14. Common bacterial diseases of sheep and goat 3.16. Pneumonia
4	Unit-4– **Viral diseases**	4.4. Cow pox 4.5. Common Viral diseases of sheep and goat
5	Unit-5– **Protozoan diseases**	5.5. Leishmaniasis 5.7. Amaebiasis
6	Unit-6– **Helminthic and External parasitic diseases**	6.4. Flies 6.6. Common helminthic and external parasites of sheep and goat
7	Unit-7– **Mycotic diseases**	7.3. Aspergellosis
8	Unit-8– **Production & Systemic diseases.**	8.4. Downer Cow syndrome. 8.5. Enteritis.
9	Unit-9– **Reproductive disorders**	9.6. Infertility - causes and prevention 9.7. Other diseases associated with reproduction
10	Unit-10– **Prevention of diseases**	10.8. Disinfection 10.10Action plan during disease out break 10.11. Sterilization of equipment- hot/cold/chemical methods

DAIRYING
II YEAR
PART B – VOCATIONAL SUBJECTS
PAPER – I: QUALITY CONTROL OF MILK AND PROCESSING [THEORY]
PERIODS/WEEK:04 **PERIODS/YEAR:110**

S.No.	NAME OF THE UNIT	No. of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
1	Composition of Milk	10	8	1	1
2	Physico Chemical properties of milk	8	6	3	
3	Adultrants and preservatives	7	6	-	1
4	Microbiology of milk	10	8	1	1
5	Estimation of microbes in milk	12	8	1	1
6	Milk Reception	12	8	1	1
7	Filtration and cream separation	13	10	2	1
8	Heat treatment to milk	20	10	2	1
9	Cleaning and Sanitization	18	10	2	1
10	Steam and Refrigeration	20	10	2	1
	Total	130			

Syllabus:

1. **Composition of Milk**
   1.1. Definition of milk , PFA designated milks
   ~~1.2. Composition of milk from different species~~
   1.3. Detailed composition of milk
   1.4. Factors affecting composition of milk
2. **Physico Chemical Properties of milk**
   2.1. Colour and flavor
   2.2. PH and Acidity
   2.3. Specific gravity of milk
   2.4. Freezing and boiling point
   ~~2.5. Viscosity and surface tension~~
   2.6. Off- flavours
3. **Adultrants and Preservatives**
   3.1. Common Adultrants in milk – their detection
   3.2. Common preservatives in milk – their detections
   ~~3.3. Adultration of buffalo milk with cow milk – Hansa test~~
   3.4. Effects of adultrants and preservation on human health
4. **Microbiology of Milk**
   4.1. Types of micro-organisms present in milk
   4.2. Milk borne diseases (pathogens)
   4.3. Microbial standards of raw and pasteurized milk
   ~~4.4. Microbial spoilage of milk~~
5. **Estimation of microbes in milk**
   5.1. MBRT and RRT tests
   5.2. Direct Microscopic count(DMC test)
   5.3. Standard plate count
   ~~5.4. Coliform count~~
   ~~5.5. Yeast and mould count~~
   5.6. Tests for pathogenic bacteria of milk
6. **Milk Reception**
   6.1. Milk collection and transportation
   6.2. Methods of milk preservation
   6.3. Milk reception at dock (unloading , weighing, sampling, grading, dumping)
   ~~6.4. Milk chilling methods and storage~~
7. **Filtration and cream separation**
   7.1. Milk Filtration method
   ~~7.2. Milk clarification~~
   7.3. Cream separation methods
   7.4. Cream separator – parts and arrangements of parts

7.5. Factors affecting efficiency of cream separator
~~7.6. Milk standardization for Fat and SNF procedure~~

8. Heat treatment to milk

8.1. Pasteurization – definition – objectives, advantages and disadvantages
8.2. Types of pasteurization
~~8.3. Batch pasteurization~~
8.4. HTST pasteurization
~~8.5. UHT pasteurization~~
8.6. Sterilization of milk
8.7. Homogenization of milk definition, advantages, disadvantages
~~8.8. Packing of milk (prepack) and storage~~

9. Cleaning and Sanitization

9.1. Detergents and sanitizers- desirable characters
~~9.2. Common detergents and sanitizers used dairy plant~~
9.3. Cleaning and sanitization-methods-hand , machine and CIP systems
9.4. Cleaning and sanitization of cans –types of can washers
9.5. Cleaning and sanitization of HTST pasteurizer and other equipment
~~9.6. Dairy effluents- treatment measures~~

10. Steam and refrigeration

10.1. Properties of steam
10.2. Steam boilers-types-water tube and fire tube
10.3. Steam requirements in dairy
10.4. Direct and indirect refrigeration systems
~~10.5. Vapour compression cycle, compressor types and constructional details~~
10.6. Bulk cooler, plate chillers (shell and tube chillcrs)
~~10.7. Common problems in refrigeration system and remedies~~

DELETED TOPICS

S .NO	Unit No. Name of the Unit	Topic /Sub Topic to be Deleted in detail heads
1	**Composition of Milk**	1.2.Composition of milk from different species
2	**Physico Chemical properties of milk**	2.5 Viscosity and surface tension
3	**Adultrants and preservatives**	3.3 Adultration of buffalo milk with cow milk – Hansa test
4	**Microbiology of milk**	4.4 Microbial spoilage of milk
5	**Estimation of microbes in milk**	5.4 Coliform count 5.5 Yeast and mould count
6	**Milk Reception**	6.4 Milk chilling methods and storage
7	**Filtration and cream separation**	7.2 Milk clarification 7.6 Milk standardization for Fat and SNF procedure
8	**Heat treatment to milk**	8.3 Batch pasteurization 8.5 UHT pasteurization 8.8 Packing of milk (prepack) and storage
9	**Cleaning and Sanitization**	9.2 Common detergents and sanitizers used dairy plant 9.6 Dairy effluents- treatment measures
10	**Steam and Refrigeration**	10.5 Vapour compression cycle, compressor types and constructional details 10.7 Common problems in refrigeration system and remedies

DAIRYING
II YEAR
PART B – VOCATIONAL SUBJECTS
PAPER – II: MILK PRODUCTS [THEORY]

PERIODS/WEEK:04 **PERIODS/YEAR:110**

S.No.	NAME OF THE UNIT	No. of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
1	Liquid milks	16	10	2	1
2	Fat rich milk products	16	10	2	1
3	Ice cream	13	10	2	1
4	Fermented milk products	16	10	2	1
5	Concentrated and deride milks	15	10	2	1
6	Indigenous milk product	14	10	2	1
7	Dairy by products	11	8	1	1
8	Packing and storage of milk products	9	8	1	1
	Total	**110**			

Syllabus:

1. **Liquid milks**
   1.1. Flavored milks
   ~~1.2. Sterilized milk~~
   1.3. Toned milk
   1.4. Double toned milk
   ~~1.5. Recombined milk~~
   1.6. Reconstituted milk
   ~~1.7. Standardized milk~~
   1.8. Irradiated milk
   ~~1.9. Humanization of milk~~
2. **Fat rich products**
   2.1. Cream
      2.1.1. Definition, composition and types of cream
      2.1.2. Methods – gravity and centrifugal
      ~~2.1.3. Factors affecting cream separation~~
   2.2. Butter
      2.2.1. Definition, composition and legal standards
      2.2.2. Methods of manufacture – desi method
      2.2.3. Creamery method of butter preparation
      ~~2.2.4. Types and uses of butter~~
   2.3. Ghee
      2.3.1. Definition – composition and legal standards
      2.3.2. Desi method of ghee preparation
      2.3.3. Preparation of ghee from cream
      ~~2.3.4. Prestratification method~~
      ~~2.3.5. Agmark grading~~
3. **Ice cream**
   3.1. Definition, composition, legal standards
   3.2. Classification of ice creams
   ~~3.3. Figuring of ice cream nut~~
   3.4. Method of manufacture of ice cream
   ~~3.5. Role of ingredients in Ice cream~~
   3.6. Overrun in Ice cream
   3.7. Softy ice cream
4. **Fermented milk products**
   4.1. Starter cultures- importance of types
   4.2. Classification of fermented milks
   4.3. Dahi- srik hand
   4.4. Yoghurt
   4.5. Classification of cheese varieties
   ~~4.6. Cheddar cheese~~

4.7. Cottage cheese
~~4.8. Processed cheese~~

5. **Concentrated and dried milks**
   5.1. Classification of concentrated milks
   5.2. Preparation of condensed milk
   5.3. Preparation of evaporated milks
   5.4. Dried milks – definition – types and standards
   ~~5.5. Drum dried power~~
   ~~5.6. Spray dried milk power~~
6. **Indigenous milk products**
   6.1. Classification of indigenous milk products with examples
   6.2. Khoa
   6.3. Khoa based sweets
   ~~6.4. Channa~~
   6.5. Channa based sweets
   ~~6.6. Paneer~~
   6.7. Kheer
   6.8. Kulfi
7. **Dairy by products**
   7.1. Classification of dairy by products
   7.2. Skim milk – utilization
   7.3. Whey – utilization
   7.4. Butter milk – utilization
   ~~7.5. Ghee residue – utilization~~
8. **Packing and storage of milk products**
   8.1. Definition – objectives of packing
   8.2. Packing materials
   8.3. Packing of milk products
   ~~8.4. Storage of milk products- desirable conditions~~

DELETED TOPICS

Unit .NO	Name of the Unit	Topic /Sub Topic to be Deleted in detail heads
1	Liquid milks	1.2.Sterilized milk 1.5.Recombined milk 1.7 Standardized milk 1.9 Humanization of milk
2	Fat rich milk products	2.1.3 Factors affecting cream separation 2.2.4 Types and uses of butter 2.3.4 Prestratification method 2.3.5 Agmark grading
3	Ice cream	3.3 Figuring of ice cream nut 3.5 Role of ingredients in Ice cream
4	Fermented milk products	4.6 Cheddar cheese 4.8 Processed cheese
5	Concentrated and deride milks	5.5 Drum dried power 5.6 Spray dried milk power
6	Indigenous milk product	6.4 Channa 6.6 Channa
7	Dairy by products	7.5 Ghee residue – utilization
8	Packing and storage of milk products	8.4 Storage of milk products- desirable conditions

DAIRYING
II YEAR
PART B – VOCATIONAL SUBJECTS

PAPER – III: DAIRY ECONOMICS EXTENSION & ENTERPRENEURSHIP (THEORY)
PERIODS/WEEK:04 **PERIODS/YEAR:110**

S.No	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
I	Dairy Economics	15	10	2	1
II	Milk procurements	14	10	2	1
III	Dairy development programmes	14	10	2	1
IV	Dairy Cooperatives	15	10	2	1
V	Marketing	11	8	1	1
VI	Dairy accounts	10	8	1	1
VII	Dairy extension	16	10	2	1
VIII	Dairy entrepreneurship	15	10	2	1
	Total	**110**			

Syllabus:

1. **Dairy Economics**
   1.1. Scope and importance of principles of economics in Dairying
   1.2. Economic viability for different size of dairy enterprises
   1.3. Economic principles involved to enhance benefits in dairying
   1.4. Economic institutions supporting dairy development programmes
   ~~1.5. Projects reports to be submitted for financial institutions for 2,10,50 and 100 animal dairy farms~~
   ~~1.6. Project reports for 5,000 litres and 50,000 litres processing centres~~
2. **Milk procurement**
   2.1. Systems of Milk collection
   ~~2.2. Systems of Milk pricing~~
   ~~2.3. Principles involved in pricing of milk products~~
   2.4. Planning for milk collection and transportation routes.
   ~~2.5. Measures to enhance milk collection during lean season~~
   ~~2.6. Strategies for improvement in collection comparing with competitors~~
3. **Dairy development programmes**
   3.1. Various dairy development progr5amms available.
   3.2. White revolution-Aims-impact on economy of rural people
   3.3. Operation flood-different phases-aims and achievements
   ~~3.4. National Technology mission for dairy development~~
   3.5. Milk mission in A.P.
   3.6. Role of voluntary organizations in dairy development
   ~~3.7. Concept of socio-economic and cultural changes for dairying programmes.~~
4. **Dairy cooperatives**
   4.1. History of cooperative movement in India.
   ~~4.2. Cooperative movement in Dairy Industry.~~
   4.3. Milk cooperatives –Anand pattern
   4.4. Aims, and functioning of village milk cooperative society.
   ~~4.5. Structure and activities of district milk union.~~
   4.6. Role of state milk cooperative federations
   4.7. Records and registers in a milk society
   ~~4.8. Coordination with other institutions concerned with dairy development.~~
   4.9. Insurance of dairy animal and processing center.
5. **Marketing**
   5.1. Principles of marketing
   5.2. Marketing of dairy animals
   5.3. Marketing plans for liquid milks
   5.4. Strategy for marketing of milk products
   ~~5.5. Role of advertisement for market promotion~~
   ~~5.6. Analysis of consumer demand and acceptance~~
   5.7. Role of salesman and marketing personalities in marketing of dairy products.

6. **Dairy accounts**
   6.1. General principles of account keeping
   6.2. Single and double entry system
   ~~6.3. Various records pertaining to financial aspects~~
   ~~6.4. Preparation of balance sheet~~
   6.5. Auditing
7. **Dairy Extension**
   7.1. Role of Extension in dairy development
   7.2. Dairy Extension-methods
   7.3. Role of audiovisuals in Dairy development
   7.4. Selection of Extension methods for effective transfer technology
   ~~7.5. Communications process-aims objectives and problems~~
   7.6. Role of information technology in dairy extension.
   ~~7.7. Organizations of training programmes, cattle shows, exhibitions etc.,~~
   ~~7.8. Evaluation of training programmes~~
8. **Dairy Entrepreneurship**
   8.1. Entrepreneur-his behavior
   8.2. Dairying as self-employment
   8.3. Entrepreneur cycle for dairying
   ~~8.4. Entrepreneur development for rural youth~~
   8.5. Programmes for entrepreneurship development in dairying
   ~~8.6. Risks in self-employment and remedies.~~

DELETED TOPICS

S .NO	Unit No. Name of the Unit	Topic /Sub Topic to be Deleted in detail heads
1	Dairy Economics	1.5. Projects reports to be submitted for financial institutions for 2,10,50 and 100 animal dairy farms 1.6. Project reports for 5,000 litres and 50,000 litres processing centres
2	Milk procurements	2.2. Systems of Milk pricing 2.3. Principles involved in pricing of milk products 2.5. Measures to enhance milk collection during lean season 2.6. Strategies for improvement in collection comparing with competitors
3	Dairy development programmes	3.4. National Technology mission for dairy development 3.7. Concept of socio-economic and cultural changes for dairying programmes.
4	Dairy Cooperatives	4.2. Cooperative movement in Dairy Industry. 4.5. Structure and activities of district milk union. 4.8. Coordination with other institutions concerned with dairy development.
5	Marketing	5.5. Role of advertisement for market promotion 5.6. Analysis of consumer demand and acceptance
6	Dairy accounts	6.3. Various records pertaining to financial aspects 6.4. Preparation of balance sheet
7	Dairy extension	7.5. Communications process-aims objectives and problems 7.7. Organizations of training programmes, cattle shows, exhibitions etc., 7.8. Evaluation of training programmes
8	Dairy entrepreneurship	8.4. Entrepreneur development for rural youth 8.6. Risks in self-employment and remedies.

DAIRYING (DAIRY) COURSE CODE 106
MODEL QUESTION PAPER
FIRST YEAR
PAPER-III: ANIMAL HEALTH (THEORY)

Time: 3 Hours **Max.marks:50**

SECTION - A

Note: i) Answer all Questions.
ii) Each question carries 2 marks **2x10=20 Marks**

1. What is Health?
2. Define First Aid.
3. Mention any two viral diseases.
4. Expand R.P and FMD.
5. What is tick fever?
6. Mention the causative organism of Liver flukes.
7. What is aspergillosis?
8. What is Ketosis?
9. What is Anoestrum?
10. What is Deworming?

SECTION – B

Note: i) Answer any 5 Questions
ii) Each Question Carries 6 marks **5x6=30 Marks**

11. What are the signs of Healthy animal?
12. What are the contains of first aid box?
13. Describe in detail the disease “Black Quarter
14. Briefly write about ”Rinderpest’ disease in cattle.
15. Explain in detail about ‘trypanosomiasis’ disease.
16. Write short notes on (a) Ticks (b) Mites.
17. Explain about the Ring Worm.
18. Explain about Enteritis.
19. Write detail about Dystocia.
20. Explain the procedures of sterilization of equipment.

DAIRYING (DAIRY) COURSE CODE 106
MODEL QUESTION PAPER
FIRST YEAR
PAPER-I: QUALITY CONTROL OF MILK & PROCESSING (THEORY)

Time: 3 Hours **Max.marks:50**

SECTION - A

Note: i) Answer all Questions.
ii) Each question carries 2 marks **2x10=20 Marks**

1. Define milk.
2. Mention the colour of cow and buffalo milks.
3. Mention the various adultrants used in milk.
4. Mention various organisms under Leuconostoc group.
5. How you will interpret the SPC results?
6. Name different modes of milk transport.
7. What is the filtration of milk?
8. Define pasteurization.
9. What is CIP system?
10. Mention different types of boilers.

SECTION – B

Note: i) Answer any 5 Questions
ii) Each Question Carries 6 marks **5x6=30 Marks**

11. Give the composition of cow, buffalo, sheep, goat and human milks

12. Explain about specific gravity of milk.

13. Explain briefly about detection of preservatives in milk.

14. Classify milk borne diseases with suitable examples.

15. Explain in details MBRT test.

16. Discuss in detail about platform tests.

17. Explain the various factors affecting cream separation.

18. What are the advantages and disadvantages of HTST system?

19. Mention the desirable characteristics of a good detergent and Sanitizers.

20. Write brefily about various types of steam.

DAIRYING
MODEL QUESTION PAPER
SECOND YEAR

PAPER-II: MILK PRODUCTS (THEORY)

Time: 3 Hours **Max.marks:50**

SECTION - A

Note: i) Answer all Questions.
ii) Each question carries 2 marks **10x2=20 Marks**

1. Define flavoured milk?
2. Define Ghee?
3. What is Softy Ice-cream?
4. Mention any four fermented milk products.
5. Define Shrikhand?
6. What is evaporated milk?
7. Define Kheer?
8. What is Whey?
9. Define Packing?
10. What is toned and double toned milk?

SECTION – B

Note: i) Answer any 5 Questions
ii) Each Question Carries 6 marks **5x6=30 Marks**

11. Explain the method of manufacturing process of sterilized milk?
12. How do you prepare creamery method of butter?
13. Explain in detail, about the classification of Ice cream.
14. Explain the preparation method of Dahi.
15. Write the preparation method of condensed milk.
16. Write the preparation method of Khoa.
17. Write short notes on:
    a. Skim Milk
    b. Butter Milk
18. Explain in detail about packing material.
19. Explain the method of manufacturing process of Yoghurt.
20. Explain the method of manufacturing process of Sterilized milk.

DAIRYING
MODEL QUESTION PAPER
SECOND YEAR

PAPER-III: DAIRY ECONOMICS. EXTENSION AND ENTERPRENUERSHIP (THEORY)

Time: 3 Hours **Max.marks:50**

SECTION - A

Note: i) Answer all Questions.
ii) Each question carries 2 marks **10x2=20 Marks**

1. Define farm production economics?
2. Define milk shed?
3. What is lean season?
4. What do you mean by white revolution?
5. What is Amul?
6. Define Market?
7. Define Advertisement?
8. What is Ledger?
9. Define Farm and home visit?
10. Define Entrepreneur?

SECTION – B

Note: i) Answer any 5 Questions
ii) Each Question Carries 6 marks **5x6=30 Marks**

11. Briefly write about cattle insurance.
12. Briefly explain about milk procurement system.
13. Explain different dairy development programmes started in India.
14. With the help of schematic diagram, explain Anand pattern.
15. Explain marketing of dairy animals.
16. Briefly explain about activities and skills of a salesman.
17. Explain about objectives and functions of auditing.
18. Explain dairy extension and give the importance of dairy extension.
19. Briefly write about theory and practice of self-employment in dairying.
20. What are the registers and records to be maintained in the milk society?

SERICULTURE

I YEAR
PART B – VOCATIONAL SUBJECTS
PAPER – : MULBERRY CULTIVATION (THEORY)

PERIODS/WEEK: 04 PERIODS/YEAR: 135

S. No	NAME OF THE UNIT	No. of Periods	Weightage in marks	Short answer questions	Essay questions
1.	**History of Sericulture** – Introduction, History, Silk Road	5	2	1	-
2.	**Morphology of Mulberry**- Introduction, Distribution of Mulberry , Mulberry varieties, systematic position, morphology of mulberry	20	16	2	2
3.	**Taxonomy of Mulberry**- Introduction, mulberry taxonomy, non-mulberry taxonomy, conditions required for mulberry growth	20	8	1	1
4.	**Soils and Preparation of Land**- Introduction, types of soils and properties, soil P^H and reclamation, selection of land , land preparation, soil erosion, moisture and conservation.	20	8	1	1
5.	**Propagation of Mulberry**- Introduction, sexual propagation, asexual propagation.	20	8	1	1
6.	**Cultivation and Cultural Practices**- Introduction, garden implements, selection of mulberry varieties, mulberry plant spacing, weeds and inter-cultivation, pruning and training, importance of water shed, methods of irrigation.	20	8	1	1
7.	**Manures & Fertilizers** – Introduction, farm yard manure, types of fertilizers, vermi- compost, application methods and schedules.	20	10	2	1
8.	**Leaf Harvesting**- Introduction, harvesting methods, preservation of mulberry leaves.	10	8	**1**	**1**
	Total	**135**	**68**	**10**	**8**

DELETED TOPICS

S .NO	Unit No. Name of the Unit	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1	History
2	Unit-2	systematic position
3	Unit-3	non-mulberry taxonomy
4	Unit-4	Soil erosion, moisture and conservation.
5	Unit-5	Sexual propagation, asexual propagation.
6	Unit-6	importance of water shed, methods of irrigation
7	Unit-7	Application methods and schedules.
8	Unit-8	Preservation of mulberry leaves.

SERICULTURE
I YEAR
PART B – VOCATIONAL SUBJECTS
PAPER – II: FARM MANAGEMENT AND SERI-BIOTECHNOLOGY [THEORY]

PERIODS/WEEK: 05 PERIODS/YEAR:180

S.No.	Name of the unit	No. Of Periods	Weightage in marks	Short answer questions	Essay questions
1	**Farm Management**- Introduction, mulberry farming, ~~labour management~~, farm records.	5	8	1	1
2	**Mulberry Diseases** – Introduction, fungal diseases, bacterial diseases, viral diseases, ~~nutrient deficiency diseases and control~~	20	10	2	1
3	**Mulberry Pests** – Introduction, ~~Lepidopteran~~ pests, Jassids, Thrips, Mites, Beetles.	20	10	2	1
4	**Estimation of Leaf Yield** – Introduction, methods of estimation.	20	6	-	1
5	**Economics of Mulberry cultivation** – Introduction, Nursery, Rain-fed cultivation, irrigation cultivation, ~~Economics of 1 acre Mulberry.~~	20	8	1	1
6	**Seri- Bio Technology** – Introduction, Tissue and Organ culture, ~~Plant Bio-Technology, Silkworm Bio-Technology.~~	20	8	1	1
7	**Secondary Food Plants and Diet** – Introduction, Secondary Food Plants, ~~Artificial diet, composition of diet,~~ preparation of diet.	20	8	1	1
8	**Cytology and Genetics of Mulberry** – Introduction, Mitosis and meiosis, Mendelian principles of genetics~~, importance of mulberry breeding.~~	10	10	2	1
	Total	**135**	**68**	**10**	**8**

DELETED TOPICS

S .NO	Unit No. Name of the Unit	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1 –	labour management,
2	Unit-2 –	nutrient deficiency diseases and control
3	Unit-3–	Lepidopteran
4	Unit-4–	
5	Unit-5–	Economics of 1 acre Mulberry.
6	Unit-6–	, Plant Bio-Technology, Silkworm Bio-Technology.
7	Unit-7–	Artificial diet, composition of diet,
8	Unit-8–	Importance of mulberry breeding.

SERICULTURE (CC:112):

I st Year: Paper-1.

Mulberry Cultivation.(OLD).

Time: 3 Hours. **Section- A.** **Max.Marks: 50.**

Note: Answer ALL questions.
Each question carries TWO Marks. 10x2= 20 Marks.

1. What is Silk Road?
2. Name some Hybrid varieties?
3. Write the Systematic position of Mulberry?
4. What is Soil PH?
5. Draw a neat diagram of Mulberry seed.
6. What is Layering?
7. Define Weed?
8. What is Compost?
9. Expand FYM and NPK?
10. What is the best time for leaf leaf harvesting?

Section-B.

Note: Answer any FIVE questions. 5x6=30 Marks.

Each question carries SIX Marks.

11. Describe the Morphology of Mulberry Plant?
12. Explain the Indian varieties of Mulberry?
13. Write about the environmental conditions required for Mulberry growth.
14. Explain different types of soils in Telangana?
15. Explain about the Bud Grafting methods in Mulberry?
16. Write about control methods of Weeds?
17. Explain about Bulky Organic Manures?
18. Write about the methods of harvesting of Mulberry leaves.
19. What is Prunning? Write about methods of pruning?
20. Write short notes on:
    a) M5 Leaf.
    b) Air-Layering.
    c) Vermis-compost.

SERICULTURE (CC:112)

I st Year: Paper-2.

FARM MANAGEMENT & SERI-BIOTECHNOLOGY.(OLD).

Time: 3 Hours. **Section- A.** **Max.Marks: 50.**

Note: Answer ALL questions.
Each question carries TWO Marks. 10x2= 20 Marks.

1. Mention different types of farms?
2. What are the symptoms of Leaf spot?
3. Mention some Mulberry diseases?
4. Define Pest?
5. What is Tukra Disease?
6. Mention some farm implements?
7. What is Tissue and Organ culture?
8. Name some secondary food plants?
9. What is Mitosis?
10. What are Mendel's Laws?

Section-B.

Note: Answer any FIVE questions. 5x6=30 Marks.

Each question carries SIX Marks.

11. Write about Mulberry farm records?
12. Describe Powdery Mildew disease?
13. Explain about Root Knot disease with neat diagrams?
14. Write about life cycle of Scale Insects.
15. Describe about Thrips?
16. "Leaf estimation improves crop results" Comment.
17. Write about economics of Nurseries?
18. Write about Tissue and Organ culture in detail?
19. Explain in detail about secondary food plants?
20. Write short notes on:
    d) Meiosis.
    e) Mites.
    f) Leaf spot.

BANKING AND FINANCIAL SERVICES
I YEAR
PAPER-III BANKING-I (THEORY)

PERIODS/WEEK : 05 **PERIODS/YEAR : 135**

TIME SCHEDULE, WEIGHTAGE & BLUE PRINT

S, No.	Name of the Unit	No. of periods	Weightage in marks	Short answer questions	Problem questions
1.	Bank and Banking	20	10	2	1
2.	Commercial Banking in India	25	16	2	2
3.	Banking Legislation in India	20	10	2	1
4.	Central Banking functions	25	14	1	2
5.	Negotiable instruments Act	20	10	2	1
6.	Banker and Customer	25	08	1	1
	Total :	135	68	10	8

I. BANK AND BANKING

Origin and growth of Banking – Meaning and definition of Bank – Types of Bank: Commercial Banks, Industrial banks, agricultural Banks, ~~Exchange banks~~, Central Bank, Co-operative banks, Nationalized banks, (Old &New Pvt. Banks) Regional Rural Banks, NABARD, Asian Development Bank, Banking systems; ~~Branch banking~~ – Meaning, Advantages and Disadvantages. UNIT banking: meaning, Advantages and Disadvantages, Commercial Banks: Functions-Credit creation – Role of Commercial banks in a developing economy- ~~lead bank~~ schemes – ~~Unit Branch~~ – Franchise Banking –Branch Banking.

II. COMMERCIAL BANKING IN INDIA ;

Structure of Indian Commercial banking system – Recent trends in Commercial banking, ~~Deposit Insurance~~, Credit Guarantee Schemes – ~~innovative Banking~~ (Only General Awareness) : Social banking, Merchant banking, Mutual funds, ~~Venture Capital~~, Factoring Services, E-Banking – ~~Banking Sector Reforms.~~

III.BANKING LEGISLATION INDIA :

Banking regulation Act ; Important provisions Viz Definition of ~~Banking Company~~, Capital, Restriction on banking operations, powers of the RBI (General Awareness)

IV. CENTRAL BANKING FUNCTIONS:

Credit control : Meaning, Objectives :Method : ~~Quantitative and Qualitative methods~~ – Note issue systems – Principals of Note Issue – ~~methods of Note Issue~~ – Role of Central Banks in developing countries – Reserve Bank of India Organization Structure.

V. NEGOTIABLE INSTRUMENTS ACT.

Negotiable Instruments : ~~Meaning~~ – characteristics – Kinds of promissory notes, Bills of exchange ~~cash credit~~, Discount & purchase of Bank Draft – Parties to negotiable instruments – Crossing ~~– Endorsement~~ – Collection and payment of cheques – Dishonour of Cheques – MICR cheques – Important sectors relating to Banker.

VI. BANKER AND CUSTOMER :

Definition of Banker – Services to customers – Meaning of Customer-Relationship between banker and customers obligations of Banker – Rights of the Banker ~~Rights of a customer under consumer protection Act.~~

DELETED TOPICS

S .NO	**Unit No. Name of the Unit**	**Topic /Sub Topic to be Deleted in detail heads**
1	Unit-1 – BANK AND BANKING	Exchange banks, Branch banking, lead bank schemes – Unit Branch
2	Unit-2 – COMMERCIAL BANKING IN INDIA	Deposit Insurance , innovative Banking, Venture Capital, Banking Sector Reforms
3	Unit-3– BANKING LEGISLATION INDIA	Banking Company,
4	Unit-4– CENTRAL BANKING FUNCTIONS	Quantitative and Qualitative methods, methods of Note Issue,
5	Unit-5– NEGOTIABLE INSTRUMENTS ACT	Meaning, cash credit, Endorsement
6	Unit-6– BANKER AND CUSTOMER	Rights of a customer under consumer protection Act.

BANKING AND FINANCIAL SERVICES
II YEAR
PAPER-I FINANCIAL SERVICES (THEORY)

PERIODS/WEEK : 05 **PERIODS/YEAR : 110**

TIME SCHEDULE, WEIGHTAGE & BLUE PRINT

S, No.	Name of the Unit	No. of periods	Weightage in marks	Short answer questions	Problem questions
1.	Interest Calculation	20	10	2	1
2.	Leasing	15	8	1	1
3.	Hire Purchase	15	8	1	1
4.	Insurance	20	16	2	2
5.	Mutual funds	20	16	2	2
6.	Micro-Credit Agencies	20	10	2	1
	Total :	110	68	10	8

1. **INTEREST CALCULATION :**
   Calculation of Interest, Simple Interest, Compound Interest, Compound Amount, ~~Compound Rate (CAER), Add on Interest~~, Reducing Balance Rate of Interest (EMI), Present value of sum of money Reading interest, to help Interest Calculation on various types of advances (term loans, over drafts, cash credit, demand loans) and bills discounting.
2. **LEASING :**
   Concept and classification (- finance lease and operating lease – Sale and lease back and Direct Lease) – ~~Sources of Finance to a leasing company (equity capital, Debenture, Term Loans, Public Deposits, Bank Deposits, Bank Borrowings etc.) – Tax aspects~~, Lease Evaluation (Lessor and lessee's point of view) – legal aspects, Lease Accounting and Reporting :- Current Accounting and Reporting Practices, Accounting Treatment for Finance Leases and Reporting for operating leases – Accounting for lease – hold and Buildings.
3. **HIRE – PURCHASE :**
   Concept and characteristics of Hire Purchase – ~~Legal aspects – Income Tax aspects~~ – Accounting aspects (in the books of hirer and finance company (owner) ~~– Different types of Repayment Methods~~ – Difference between leasing and Hire purchase – Hire Purchase Act 1972 (all the provisions)

INSURANCE :
Introduction – Types – (Life Insurance and Non-life Insurance) – kinds of Insurance policies – Re-insurance, ~~Insurance premium determination~~, Reading the Insurance premium charts (present value of One Rupee, compound sum of One Rupee, etc.) – ~~Calculated surrender values for various types of policies~~.

5. **MUTUAL FUNDS :**
   Introduction – Classification of Mutual fund schemes (Open and closed End Schemes Liquid Fund Schemes – Debt fund schemes – Tax savings schemes – Income and Growth schemes) ~~SEBI guidelines for Mutual funds investments~~ – Net Asset Value (NAV) of the fund – ~~Rating of Mutual Fund/ Schemes.~~
6. **MICRO – CREDIT AGENCIES :**
   Introduction – Formation of Groups – Self Groups (SHG)m Micro-Finance Institutions – Registration – Empowerment of women – Role of the Micro Credit Agencies in meeting the credit needs of women – ~~Group dynamics – Bank linkage~~ – Features of the SHG – Revolving Funds – Recovery need for control over the micro-credit agencies.

DELETED TOPICS

S .NO	**Unit No. Name of the Unit**	**Topic /Sub Topic to be Deleted in detail heads**
1	Unit-1 – **INTEREST CALCULATION**	Compound Rate (CAER), Add on Interest
2	Unit-2 – **LEASING**	Sources of Finance to a leasing company (equity capital, Debenture, Term Loans, Public Deposits, Bank Deposits, Bank Borrowings etc.), Tax aspects
3	Unit-3– **HIRE – PURCHASE**	Legal aspects – Income Tax aspects, Different types of Repayment Methods
4	Unit-4– **INSURANCE**	Insurance premium determination, Calculated surrender values for various types of policies
5	Unit-5– **MUTUAL FUNDS**	SEBI guidelines for Mutual funds investments,
6	Unit-6– **MICRO – CREDIT AGENCIES**	Group dynamics – Bank linkage

BANKING AND FINANCIAL SERVICES
II YEAR
PAPER-III BANKING II (THEORY)

PERIODS/WEEK : 05 **PERIODS/YEAR : 110**

S, No.	Name of the Unit	No. of periods	Weightage in marks	Short answer questions	Problem questions
1.	Deposit Accounts	20	10	2	1
2.	Loans and Advances	10	8	1	1
3.	Specific Loans	20	10	2	1
4.	Securities for Advances	20	10	2	1
5.	Handling Cash	10	8	1	1
6.	Clearing House: Meaning	10	8	1	1
7.	Innovative Products	20	10	2	1
	Total :	110	68	10	8

1. **DEPOSIT ACCOUNTS :**
   Meaning – Types of Deposit Accounts viz, Fixed Deposit, Saving Bank Account, Current Deposit, Recurring Deposit – Fixed deposit, opening and operation, payment of interest, advance against fixed deposit, Surrender of Deposit before maturity – Deposits in Joint names, Repayment of Deposit – Savings Bank Deposits Accounts : opening and operation Accounts, Interest Calculations – Current Deposits: Account Opening and operation – Recurring Deposit Account : Opening and Operation – Opening of Account for different types of customers – Minors, Lunatics, ~~Married woman~~, pardanashin women, illiterate persons, Trustees, Executors and Administrators, Joint Accounts, Joint Accounts~~, Partnership Firms~~, HUF, Joint Stock Companies, Societies and other non-trading institutions – Know Your Customer – ~~Anti Money Laundering~~ – Multi Option Deposit – ~~Cash Key~~ – Unfixed Deposit – ~~Floating Deposit~~ – Standing Instructions Implementations – Tax Deducted At Source.
2. **LOANS & ADVANCES :**
   Meaning of the term loans – Considerations for sound lending – types of loans : cash credit, overdraft, bills discounting and purchase – ~~consortium finance~~, Term loans.
3. **SPECIFIC LOANS :**
   Personal Loans – Housing Loans – consumer Loans – ~~Priority sector Advances -~~ ~~Loans for Weaker sections~~, small scale Industries, Agriculture, self employed and professionals etc. – Gold – Loan against Hypothecation – Duties and Responsibilities of Bank in Disbursing Loan – Consumer Loan – Auto Loan – Role of recovery agents – mode of recovery - Recovery Agent - ~~Direct selling Agent~~ – verification Agent – Bank ombudsman.
4. S**ECURITIES FOR ADVANCES** :
   Meaning – Kinds of securities : ~~Term Deposit Receipts~~, Gold, Vehicles, Land, Buildings, Goods, Document of Title Government Securities, Modes of Charging the security : Lien, pledge, Hypothecation, Mortgage.
5. **HANDING CASH :**
   Functions of Cash Department – Receipt and Payments Recording – ~~Safe Keeping of cash by Double Lock system – Teller system –~~ Sorting of notes – Procedure of opening Strong Room. ATM – Innovative Banking Mobile & Tele, ~~Internet Door step banking.~~
6. **CLEARING HOUSE : MEANING**
   Functions – Working Rules – Receiving Local Cheques, Drafts etc, Stamping, sorting, preparing schedule and general summary, exchanging the cheques in clearing house and balancing – Sorting bank wise and Branch wise, putting Bank's Endorsement, Returning the Dishonored Cheques. Real Time Gross Settlement (RTGS), Electronic funds Transfer, (EFT) Electronic clearing service (ECS), ~~Core Banking – Advantages~~ – anywhere banking, ~~Multi city cheques, Single window service~~
7. **INNOVATIVE PRODUCTS :**
   Credit Cards, Debit Cards, ATM Cards – NRI Deposits – ~~Foreign Exchange~~ – Front Office – Back Office

DELETED TOPICS

S. No	Unit No. Name of the Unit	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1 – **DEPOSIT ACCOUNTS**	Married woman, Partnership Firms, Anti Money Laundering, Cash Key, Floating Deposit
2	Unit-2 – **LOANS & ADVANCES**	Consortium finance
3	Unit-3– **SPECIFIC LOANS :**	Priority sector Advances - Loans for Weaker sections, Direct selling Agent
4	Unit-4– **SECURITIES FOR ADVANCES** :	Term Deposit Receipts,
5	Unit-5– **HANDING CASH**	Safe Keeping of cash by Double Lock system – Teller system – Internet Door step banking.
6	Unit-6– **CLEARING HOUSE : MEANING**	Core Banking – Advantages, Multi city cheques, Single window service
7	Unit-7– **INNOVATIVE PRODUCTS**	Foreign Exchange

MARKETING & SALESMANSHIP
I YEAR
PART B – VOCATIONAL SUBJECTS
PAPER – III: ELEMENTS OF MARKETING

PERIODS/WEEK : 05 PERIODS/YEAR : 135

S.No	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
01	INTRODUCTION	25	8	1	1
02	MARKETING FUNCTIONS	20	10	2	1
03	SELLING	20	16	2	2
04	MARKETING MIX	30	16	2	2
05	CHANNEL OF DISTRIBUTION	20	10	2	1
06	MARKETING INFORMATION	20	8	1	1
		135	68	10	08

Note: The question paper contains two sections.

Section – A of question paper contains 10 questions carries 2 marks each. The student has to answer all questions.
Section – B of question paper contains 8 questions carries 6 marks each. The student has to answer five questions.

COURSE CONTENTS:

Unit - I: Introduction
Nature And Scope Of Marketing –Meaning of marketing – Scope and nature of Marketing - Evolution Of Marketing - Marketing Process -Difference Between Marketing And Selling - ~~Contribution Of Marketing To The Society~~
Unit – II: Marketing Functions:
Concentration – Dispersion - Equalization - Buying And Selling - Transportation And Storage-Standardization And Grading ~~Financing-Risk Management And Insurance~~ -Marketing Information And Promotion
Unit – III: Selling:
Meaning And Importance -Characteristic Of Indian Marketing -Product Planning And Development- Consumerism - Characteristic Of Consumer ~~- Industrial Service Mark In India~~
Unit – IV: Marketing Mix
Concept And Elements Of Marketing Mix - Product Classification ~~Branding~~ Packing - Concept Of Product Life Cycle- Physical Distribution- Pricing
Unit –V: Channel Of Distribution
Meaning And Functions Of Channels Of Distribution- Types Of Middle Men- Channels-used For Consumer And Industrial Goods- ~~Importance Of Warehousing And Its Types~~
Transportation –Modes
Unit Vi: Marketing Information
Importance - Methods Of Collecting Marketing Information- External Source Of Information - Organizing And Analyzing Information For Improving Sales- ~~Obtaining Information Through Direct Market Research~~

DELETED TOPICS

S .NO	Unit No. Name of the Unit	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1 – **Introduction**	Contribution Of Marketing To The Society
2	Unit-2 – **Marketing Functions**:	Financing-Risk Management And Insurance
3	Unit-3– **Selling**	Industrial Service Mark In India
4	Unit-4– **Marketing Mix**	Branding
5	Unit-5– **Channel Of Distribution**	Importance Of Warehousing And Its Types
6	Unit-6–**Marketing Information**	Obtaining Information Through Direct Market Research

DENTAL HYGIENIST
DENTAL ANATOMY, PHYSIOLOGY & HISTOLOGY
1ST YEAR
PART-B (VOCATIONAL)
PAPER-1(THEORY)

Theory : 135hrs Marks: 50

S. NO.	Name of the unit	No.of periods	Weight age in marks	Short answer questions	Essay type questions
I	Terminology in Dental and General Anatomy Structure & functions of Oral Mucosa Bones of the Cramium & Face ~~Embriology –Devolopment of Maxilla ,Mandible& tooth~~	20	10	2	1
II	Types of Muscles Structure & Functions of Muscles of Mastication ,muscles of Facial Expression Blood Vessels-Structure functions .Blood supply to face jawas & teeth. Blood grouping, mechanism of clotting Structure & functions of Nerves Cranial Nerves- description of V&VII ~~Cranial nerve~~ ~~Salivary glands ,composition and functions of saliva~~	25	16	2	2
III	Temporo Mandibular joint –Basic anatomy physiology functions & movements of TMJ ~~Structure of tpngue taste buds .~~ Nomenclature of tooth Parts of tooth, morphology, eruption shedding& occlusion of teeth	25	16	2	2
IV	~~Structure of enamel Dentine ,pulp cementum & periodontal apparatus~~ Functions of perodentium- gingiva, cementum periodontal ugament, alveolar process ~~Process of Mastication, deglutition & phonation~~	20	10	2	1
V	~~Structure of human cell~~ Histology of enamel ,Dentine pulp, Cementum , gigiva , Periodontal membrane alveolar bone ,nasmyths membrane. ~~Structure of RBC,W.B.C&Platelets~~	25	16	2	2

DELETED TOPICS

S .NO	Unit No. Name of the Unit	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1 –	Embriology –Devolopment of Maxilla ,Mandible& tooth
2	Unit-2 –	Cranial nerve Salivary glands ,composition and functions of saliva
3	Unit-3–	Structure of tpngue taste buds .
4	Unit-4–	Structure of enamel Dentine ,pulp cementum & periodontal apparatus Process of Mastication, deglutition & phonation
5	Unit-5–	Structure of human cell Structure of RBC,W.B.C&Platelets
6	Unit-6–	Embriology –Devolopment of Maxilla ,Mandible& tooth

DENTAL HYGIENIST

PAPER-II: ORAL PATHOLOGY, BACTERIOLOGY& DENTAL PHARMACOLOGY (THEORY)
1ST YEAR

Theory : 135hrs Marks: 50

S. NO.	Name of the unit	No. of periods	Weight age in marks	Short answer questions	Essay type questions
I	General principals of pathology Inflammation ,repair ,de generation &Necrosis ~~Immunity~~ White lesions of oral cavity	20	08	1	1
II	Pre-cancerous lesions & conditions Neoplasm-differences between malignant & Benign lesions ~~Systemic diseases with oral manifestations~~ Nutritional, vitamin,& iron deficiency Infections of oral Cavity-ANUG, Herpetic stomatitis ,candidiasis, HIV, Hepatitis	20	10	2	1
III	Sterilization & Infection control ~~Bacteria- types~~ ~~Dental anomalies~~ Attrition ,abrasion &erosion Normal microbial flora of oral cavity Dental caries- etiology, pathogenesis	30	18	3	2
IV	**Dental Pharmacology**: ~~Nomenclature, sources of various drugs~~ ,routes of Drug administration Pharmacological action & therapeutic uses of drugs commonly used in dentistry Antibiotics ~~Chemotherapeutic agents~~ Analgesics & anti inflammatory drugs	25	16	2	2
V	Sedatives Local anesthetics Haemostatics ~~Astringents~~	20	08	1	1
VI	Antiseptics Mouth washes, Gum paints, disclosing agents ~~Obtundents, dentifrices.~~	20	08	1	1

DELETED TOPICS

S .NO	Unit No. Name of the Unit	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1 –	Immunity
2	Unit-2 –	Systemic diseases with oral manifestations
3	Unit-3–	Bacteria- types Dental anomalies
4	Unit-4–	Nomenclature, sources of various drugs Chemotherapeutic agents
5	Unit-5–	Astringents
6	Unit-6–	Obtundents, dentifrices.

DENTAL HYGIENIST

PAPER-III : DENTAL RADIOLOGY, FOOD &NUTRITION(THEORY)
1ST YEAR

Theory : 135hrs Marks: 50

S. NO.	Name of the unit	No.of periods	Weight age in marks	Short answer questions	Essay type questions
I	Properties & production of x-rays ~~Radiation Physics~~ X-ray film composition classification of x-ray film	15	08	1	1
II	Technique of intra oral x-rays Composition of developer and fixer ~~Processing &mounting of dental radio graphs~~ Common errors in x-ray processing	15	08	1	1
III	Hazards of radiation Protection from hazards Protection of the patient Protection of the operator	20	10	2	1
IV	~~Normal radiographic anatomy~~ Study of normal radio graph	10	08	1	1
V	Food & Nutrition: Basic food chemistry in relation to general & oral health Carbohydrates: their effects on general & oral health Proteins: their effects on general & oral health Fats: their effects on general & oral health Vitamins: their effects on general & oral health Minerals: their effects on general & oral health	20	10	2	1
VI	Etiology of dental caries, rampant caries, prevention of dental caries role of Fluorides s in prevention of dental caries Fluorosis	20	08	1	1
VII	Dietary requirement- in maxilla facial injury Dietary requirement-during pregnancy ,during lactation, during development of jaw bones & in geriatric patients	20	08	1	1
VIII	Dietary management of new denture wearer, ~~patients with cleft palate & after cleft palate repair~~ Dietary management of diabetic patients, individual dietary requirement & diet counseling ~~Effects of mal nutrition on general & oral tissues~~	15	08	1	1

DELETED TOPICS

S . NO	Unit No. Name of the Unit	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1 –	Radiation Physics
2	Unit-2 –	Processing &mounting of dental radio graphs
3	Unit-3–	
4	Unit-4–	Normal radiographic anatomy
5	Unit-5–	
6	Unit-6–	
7	Unit-7–	
8	Unit-8–	patients with cleft palate & after cleft palate repair Effects of mal nutrition on general & oral tissues

DENTAL HYGIENIST
SECOND YEAR
PAPER-I: DENTAL HYGIENE & ORAL PROPHYYLAXIS(THEORY)

Theory : 110hrs Marks: 50

S.NO.	Name of the unit	No.of periods	Weight age in marks	Short answer questions	Essay type questions
I	Definition of Hygiene & Health ~~Objectives of Dental Hygiene~~ ~~Classification of Gingival & Periodontal diseases~~	10	04	2	
II	Periodontal micro biology Plague_ Definition ,Composition, Classification & its role in periodontal diseases. Calculus-Definition composition ,~~Classification mode of attachment, Mechanism of formation & its role in periodontal diseases.~~	20	16	2	2
III	Etiology of gingival &periodontal diseases Gingival enlargements. Acute infection of oral cavity-ANUG-Herpetic gingivostomatitis, Pericoronitis oral thrush Gingivities & periodontitis-clinical features Desquamative gingivitis	30	16	2	2
IV	AIDS & periodontal manifestations , special care Periodontal pockets ,pathogensis, classification, clinical signd& symptoms Periodontal Instrumentation , scaling instruments ~~Special emphasis on probes& scaling instruments.~~ ~~Instruments used for impant surgery~~	25	16	2	2
V	Plague control methods Brushing and inter dental cleaning Aggressive periodontitis(juvenile periodontities) Patients education &motivation Mouth washes & gum paints Desensitization of teeth	25	16	2	2

DELETED TOPICS

S .NO	Unit No. Name of the Unit	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1 –	Objectives of Dental Hygiene Classification of Gingival & Periodontal diseases
2	Unit-2 –	Classification mode of attachment, Mechanism of formation & its role in periodontal diseases.
3	Unit-3–	
4	Unit-4–	Special emphasis on probes& scaling instruments. Instruments used for impant surgery

DENTAL HYGIENIST
SECOND YEAR -PAPER-II (THEORY)
PUBLIC HEALTH AND DENTAL PUBLIC HEALTH

Theory : 110hrs Marks: 50

S.NO.	Name of the unit	No.of periods	Weight age in marks	Short answer questions	Essay type questions
I	Introduction to public Health: Introduction Definition of Health Definition of Health-WHO Epidemiological triad Iceberg of disease Definition of Primary Health care Elements/Components of Primary Health care ~~Principals of Primary Health care~~ ~~Public Health care in India~~	15	02		1
II	Public Health Dentistry: Difference between Public Health dentist and General Dentist ~~Private practice and public health Dentistry~~ Definition of Prevalence, point prevalence Definition of incidence Pondemic Epidemic Endemic Uses of Epidemiology	10	08	1	1
III	Epidermiology, ethology and prevention of dental caries Prevention of periodontal diseases and ~~prevention of oral cancers~~	5	02	1	
IV	Oral Health Education and Promotion Principals of Health Education ~~Contents of Health Education~~ ~~Health Education & Propaganda~~ Components of communication Types of communication	10	08	1	1
V	School Dental Health Programme Definition Aspects of Health Services Objectives Ideal requirements Advantages ~~Elements/Components of School Dental Health Program me.~~	10	08	1	1
VI	Fluorides in preventive dentistry. Fluoride delivery methods Unital fluorides, compounds used in preventive dentistry. Water fluoridation ~~Salt fluoridation~~ ~~Milk fluoridation~~ Fluoride tablets/drops/lozenges Fluoride toxicity.	15	08	1	1
VII	Indices in dental epidemiology Introduction Definitions Ideal requisites of an index ~~Criteria for selecting an index~~ Classification of indices	20	08	1	1

S.NO.	Name of the unit	No.of periods	Weight age in marks	Short answer questions	Essay type questions
	Uses of index Indices used for assessing oral hygiene and plaque. Oral Hygiene Index (OHI) Simplified Oral Hygiene Index (OHI-S) Indices used for assessing gingival and periodontal disease Russels Periodontal Index Community Periodontal Index of Treatment Needs (CPITN) Community Periodontal Index and Loss of Attachment (CPILOA) Indices used for assisting dental caries DMFT Index DMFS Index Indices used for assessing fluorosis				
VIII	Dental Man Power Introduction Dentist Dental Auxiliaries Frontier Auxiliaries ~~New Auxiliary Types~~ ~~Dental Manpower in India~~	10	08	1	1
IX	Atraumatic Restorative Treatment (ART) Introduction Principles Indications Advantages Procedure	10	08	1	1
1X	Environment and Health Water Waste Management	5	02	1	
XI	Occupational Hazards and Infection control in Dentistry	5	02	1	

DELETED TOPICS

S .NO	Unit No. Name of the Unit	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1 –	Principals of Primary Health care Public Health care in India
2	Unit-2 –	Private practice and public health Dentistry
3	Unit-3–	prevention of oral cancers
4	Unit-4–	Contents of Health Education Health Education & Propaganda
5	Unit-5–	Elements/Components of School Dental Health Program me.
6	Unit-6–	Salt fluoridation Milk fluoridation
7	Unit-7–	Criteria for selecting an index
8	Unit-8–	New Auxiliary Types Dental Manpower in India

DENTAL HYGIENIST

SECOND YEAR

PAPER-III (THEORY) CHAIR SIDE ASSISTANCE, DENTAL ETHICS, JURISPRUDENCE AND DENTAL MATERIALS

Theory: 110 **Marks:50=**

S. No	Name of the Unit	No of Periods	Weight age Marks	Short Questions	Long Questions
1	Reception of patients management of waiting patients. , Chairside assisting in various dental surgical procedures., ~~Chairside~~ assisting in dental Implant placement.	15	08	1	1
2	Preparation of patient for treatment sterilization of dental equipment and various instruments Maintenance and care for infection control in dental practice.	10	08	1	1
3	Care and Maintenance of dental instruments Requirements of an Ideal Dental Clinic Sharpening of instruments, Charting of teeth Instructions to patients before and after surgery. Homecare procedures and follow up after receiving dental implants. Local Anesthetics used in dental practice. Through knowledge about components of dental chair and adjustments, ~~Basic knowledge about management of medical emergencies.~~	30	20	4	2
4	Dental Ethics and Juries procedures Principles of ethics code of professional conduct ~~Dentists Act 1948~~ Dental Auxiliaries Duties of a dental hygienist according to 1948 act. ~~Dental Council of India.~~	15	08	1	1
5	State Dental Council Indian Dental Association Aims and Objectives of WHO ~~Health Organization of India~~	15	08	1	1
6	Dental Materials 1. General Knowledge of various materials used in dental practice, Gypsum Products Waxes,Impression materials	15	08	1	1
7	Filling materials-Temporary and permanent Mixing techniques of filling materials Their composition and uses. Mixing techniques of silver amalgam impression materials ~~Denture base materials~~ ~~Dental implant materials~~	10	08	1	1

DELETED TOPICS

S .NO	Unit No. Name of the Unit	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1 –	
2	Unit-2 –	
3	Unit-3–	Basic knowledge about management of medical emergencies.
4	Unit-4–	Dentists Act 1948 Dental Council of India.
5	Unit-5–	Health Organization of India
6	Unit-6–	
7	Unit-7–	Denture base materials Dental implant materials

DENTAL TECHNICIAN

FIRST YEAR

PAPER – I : APPLIED ORAL ANATOMY (THEORY)

PERIODS/WEEK: 05 PERIODS/YEAR: 135

TIME SCHEDULE, WEIGHTAGE & BLUE PRINT

S.No	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
I.	**Introduction**: A] Dental formulae. B] ~~Chronology~~ C] Parts of tooth D] Elementary Anatomy of Structure of denture bearing area.	20	10	2	1
2.	A] Anatomical land marks B] Human dentition and occlusion C] ~~Functions of teeth~~	20	08	1	1
3.	Morphology of Crowns of teeth. i. Maxillary anterior teeth ii. Maxillary posterior teeth	25	16	2	2
4.	Morphology of Crowns of teeth i. Mandibular anterior teeth ii. Mandibular posterior teeth.	30	18	3	2
5.	A] Muscles of mastication B] ~~Muscles of facial expression~~ C] Nerve supply of maxillary and mandibular teeth. D] Blood supply of maxillary and mandibular teeth.	20	08	1	1
6.	A] Temporo mandibular joint B]Jaw bones : Maxilla, Mandible	20	08	1	1
	Total	**135**			

DELETED TOPICS

S .NO	**Unit No. Name of the Unit**	**Topic /Sub Topic to be Deleted in detail heads**
1	Unit-1 –	B] Chronology
2	Unit-2 –	Functions of teeth
3	Unit-3–	
4	Unit-4–	
5	Unit-5–	Muscles of facial expression
6	Unit-6–	

DENTAL TECHNICIAN

FIRST YEAR

PAPER – II : DENTAL MECHANICS (PRIMARY) [THEORY]

PERIODS/WEEK: 05 PERIODS/YEAR : 135

S. No	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay type questions
1.	Introduction a) Dental formulae. ~~b) Chronology~~ c) Anatomical Land marks.	20	08	1	1
II.	A] Impression trays: Impression trays classification B] Primary impression care ~~C] Final Impression care:~~ ~~Beading and boxing of final impression~~	20	10	2	1
III	A]Construction of special trays with ~~i. Shellac base plate.~~ ii. Self-care acrylic with spacer and without spacer. B] Cast preparation and trimming. C] Preparation of occlusal rims D] Articulators i. Classification ii. Parts of Articulator.	20	08	1	1
IV.	~~A]Selection of teeth~~ B] Principles of teeth setting i. Maxillary ii. Mandibular C] Articulation D]Occlusal plane ~~E] Curve of spee.~~ ~~F]Compensating curve~~ ~~G] Balancing occlusion~~ ~~H] Protrusive Balance~~ I] Over Jet – Over bite J] Key of occlusion.	30	18	3	2
V.	A. Flasking B. Dewaxing C. Packing D. Curing E. Deflasking. F. Trimming G. Finishing and polishing of Acrylic dentures. ~~H. Denture relining & rebasing~~ ~~I. Immediate denture~~ ~~J. Denture repair with :~~ ~~i. Self cure acrylic~~ ~~ii. Heat cure acrylic.~~	20	08	1	1
VI.	A. Kennedy's Classification of partial dentures B. Principles of partial denture design ~~C. Surveyor: parts of surveyor, uses of surveyor, blocking undercuts.~~ ~~D. Duplicating the cast~~ E. Designing of removable partial denture, parts of clasp. F. Principles of wire bending ~~G. wrought wire clasp preparation~~ H. 'C' clasp preparation I. Parts of removable partial dentures.	15	08	1	1
VII.	General Principles for denture retention	10	08	1	1

DELETED TOPICS

S .NO	Unit No. Name of the Unit	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1 –	Chronology
2	Unit-2 –	Final Impression care: Beading and boxing of final impression
3	Unit-3–	iii. Shellac base plate.
4	Unit-4–	A]Selection of teeth E] Curve of spee. F]Compensating curve G] Balancing occlusion H] Protrusive Balance
5	Unit-5–	H. Denture relining & rebasing I. Immediate denture J. Denture repair with : i. Self cure acrylic ii. Heat cure acrylic.
6	Unit-6–	Surveyor: parts of surveyor, uses of surveyor, blocking undercuts. Duplicating the cast wrought wire clasp preparation

DENTAL TECHNICIAN

I YEAR

PART B – VOCATIONAL SUBJECTS

PAPER – III: DENTAL MATERIALS [THEORY]

PERIODS/WEEK: 05 PERIODS/YEAR : 135

S.No	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay type questions
1.	A] The science of Dental Materials- Introduction B] Gypsum and Gypsum products C] Impression materials [Rigid]	20	10	2	1
2.	A] Elastic impression materials B] Irreversible Hydrocolloid - Alginate	20	08	1	1
3.	A] Elastomeric Impression Materials B] Denture base materials.	20	08	1	1
4.	~~A] Dental Cements~~ ~~B] Direct filling gold.~~	25	10	2	1
5.	A] Dental casting Alloys B] Dental waxes	30	16	2	2
6.	A] Dental Casting Investment materials ~~B] Model, cast and die materials~~ ~~C] Dental ceramics.~~	10	08	1	1
7.	A] Abrasive and Polishing Agents. B] Trimming Burs. i. Acrylic Trimming Burs. ii. Metal Trimming Burs. iii. Ceramic Trimming Burs. ~~C] Materials used for Dental implants.~~	10	08	1	1
	Total	**135**			

DELETED TOPICS

S .NO	**Unit No. Name of the Unit**	**Topic /Sub Topic to be Deleted in detail heads**
1	Unit-1 –	
2	Unit-2 –	
3	Unit-3–	
4	Unit-4–	A] Dental Cements B] Direct filling gold.
5	Unit-5–	
6	Unit-6–	B] Model, cast and die materials C] Dental ceramics.
7	Unit-7–	C] Materials used for Dental implants.
8	Unit-8–	

DENTAL TECHNICIAN

SECOND YEAR

PAPER – I DENTAL MECHANICS (FINAL) [THEORY]

PERIODS/WEEK: 05 PERIODS/YEAR: 110

S.No	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay type questions
1.	A] Introduction i. Crown and Bridge ii. Importance iii. Advantages of Crown and Bridge B] Casting: Types of casting Machines. a. Centrifugal casting machine. b. Pressure casting machine. c. Induction casting machine.	20	10	2	1
2.	~~A] Casting furnaces and procedures involved.~~ B] Principles of casting C] Casting Techniques of Bridges, full crowns, occlusal rests, partial denture [Skeleton]	20	10	2	1
3.	A] Wax pattern fabrication B] Spruing the wax pattern ~~C] Investing procedures with casting ring and without casting ring.~~ D] Casting procedures E] Burnout procedures. F] Metal trimming, Finishing and polishing.	20	16	2	2
4.	A] Inlay classification. B] Types of Abutments C] Various Pontic designs. D] Bridge retainers ~~E] Cobalt Chromium denture bases~~ ~~F] Wrought alloy denture bases.~~	30	16	2	2
5.	A] Cast gold restorations B] Ceramics ~~C] Maxillo facial prosthesis~~ i. obturators ii. Splints iii. Mouth guards. ~~D] Cast duplication various methods.~~ ~~E] Immediate denture construction~~ ~~F] Over dentures.~~	20	16	2	2
	Total	**110**			

DELETED TOPICS

S .NO	**Unit No. Name of the Unit**	**Topic /Sub Topic to be Deleted in detail heads**
1	Unit-1 –	
2	Unit-2 –	A] Casting furnaces and procedures involved.
3	Unit-3–	C] Investing procedures with casting ring and without casting ring.
4	Unit-4–	E] Cobalt Chromium denture bases F] Wrought alloy denture bases.
5	Unit-5–	C] Maxillo facial prosthesis D] Cast duplication various methods. E] Immediate denture construction F] Over dentures.
6	Unit-6–	

DENTAL TECHNICIAN
II YEAR
PAPER-II ORTHODONTICS (THEORY)

Periods Per Week: 05 **Total Periods: 110**

S.NO	NAME OF THE UNIT	NO.OF PERIODS	WEIGHTAGE IN MARKS	SHORT ANSWER QUESTIONS	ESSAY TYPE QUESTIONS
I	A) INTRODUCTION: 1. Definition of Malocclusion ~~2. Nature of Malocclusion~~ ~~3. The need for Orthodontic treatment~~	10	08	1	1
II	Malocclusion: ~~1. Malposition of Individual teeth~~ 2. Classification of Malocclusion	20	10	2	1
III	Appliance therapy in general: 1. Removable Appliances 2. Myofunctional Appliances ~~3. Orthopaedic Appliances (Removable).~~ 4. The component parts of appliances	20	16	2	2
IV	~~A) Anchorage~~ ~~B) Relative advantages of fixed and removable appliances.~~ C) Appliance design D) Materials used in the construction of appliances E) Soldering F) Welding	20	10	2	1
V	A) Removable and Functional Appliances: ~~i) Removable appliances in which screws are incorporated~~ ii) Removable appliances with auxiliary spring. iii) The construction of removable appliances with screws and springs. ~~B) Fixed appliances~~ ~~i) Types of fixed appliances~~ ~~ii) Attachments~~ ~~iii) Molar bands~~ ~~iv) Incisor bands~~ ~~v) Brackets~~ ~~vi) Labiolingual appliances~~ ~~vii) Spring/flexible bows~~ viii) ~~Local fixed appliances~~	20	16	2	2
VI	~~A) Surgical orthodontics~~ ~~B) Computers in orthodontics~~ C) Study models D) Retention appliances.	20	08	1	1
	TOTAL PERIODS:	**110**			

DELETED TOPICS

S .NO	Unit No. Name of the Unit	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1 –	2. Nature of Malocclusion 3. The need for Orthodontic treatment
2	Unit-2 –	3. Malposition of Individual teeth
3	Unit-3–	3. Orthopaedic Appliances (Removable).
4	Unit-4–	G) Anchorage H) Relative advantages of fixed and removable appliances.
5	Unit-5–	iv) Removable appliances in which screws are incorporated Fixed appliances ix) Types of fixed appliances x) Attachments xi) Molar bands xii) Incisor bands xiii) Brackets xiv) Labiolingual appliances xv) Spring/flexible bows Local fixed appliances
6	Unit-6–	E) Surgical orthodontics F) Computers in orthodontics

DENTAL TECHNICIAN
II YEAR
PAPER-III DENTAL METALLURGY (THEORY)

Periods Per Week: 05 **Total Periods: 110**

S.NO	Name of the unit	No.of periods	Weightage in marks	Short answer questions	Essay type questions
I	Introduction A) Metallurgical terms B) General properties of metals C) Study of metals used in dentistry ~~i) Gold~~ ii) Silver iii) Copper iv) Zinc ~~v) Tin~~ ~~vi) Lead~~ vii) ~~Aluminium~~	25	16	02	02
II	Alloys used in Dentistry particularly: i) Cast gold ~~ii) Wrought gold~~ iii) Silver alloys iv) Stainless steel v) Copper alloys vi) Cobalt alloys	25	16	02	02
III	A) Heat treatment B) Annealing C) Tempering D) Solders E) Fluxes F) Anti fluxes	30	18	03	02
IV	A) Tarnish and corrosion ~~B) Electrodeposition~~ ~~C) Dies-counterdies-Electroforming~~ D) Soldering and welding ~~E) Chrom-cobalt casting~~ F) Metal polishing materials	30	18	03	02
	TOTAL PERIODS :	**110**			

DELETED TOPICS

S .NO	Unit No. Name of the Unit	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1 –	Gold Tin Lead Aluminium
2	Unit-2 –	Wrought gold
3	Unit-3–	
4	Unit-4–	Electrodeposition Dies-counterdies-Electroforming Chrom-cobalt casting
5	Unit-5–	
6	Unit-6–	

BUILDING CONSTRUCTION AND MAINTENANCE TECHNICIAN (THEORY)
PAPER I : WATER SUPPLY ENGINEERING
FIRST YEAR

Periods/ Week: 4 **Periods/ Year: 135**

Sl. No.	Units	No of periods	Weightage of marks	No. Of short questions	No. Of essay questions
1	Introduction	5	2	1	-
2	Water Demand	10	6	-	1
3	Sources of Water Supply	10	6	-	1
4	Quality of Water	15	8	1	1
5	Treatment of Water	25	10	2	1
6	Distribution System	25	10	2	1
7	Appurtenances in the distribution system	10	8	1	1
8	Water Supply Plumbing systems in Buildings and Houses	15	8	1	1
9	Rain water Harvesting	5	2	1	-
10	Liquids and Their Properties	5	2	1	-
11	Pressure Head and Measurement	10	6	-	1
	Total	135	68	10	8

Detailed Syllabus:

1.0. Introduction

1.1. Importance and Necessity for planned water supplies
1.2. Wholesome water
1.3. Status of protected water supply in India
~~1.4. Planning and Execution of Modern water supply schemes~~

2.0. Water Demands

2.1. Various types of water Demands
- 2.1.1. Domestic Demand
- 2.1.2. Industrial Demand
- 2.1.3. Institutional and commercial water demand
- 2.1.4. Demand for Public uses
- 2.1.5. Fire demand
- 2.1.6. Losses and wastes

2.2. Per capita demand
2.3. Factors affecting per capita demand
2.4. Variations in demand
- 2.4.1. Seasonal variations
- 2.4.2. Daily variations
- 2.4.3. Hourly variations

~~2.5. Design Period~~
~~2.6. Total requirement of water for a town or a city~~
2.7. Population forecasting methods and problems
- 2.7.1. Arithmetical increase method
- 2.7.2. Geometrical increase method
- 2.7.3. Incremental increase method, etc.

3.0. Sources of water supply

3.1. Hydrological concepts
- 3.1.1. Definition
- 3.1.2. Precipitation, Infiltration, Run off, Evaporation, Transpiration

3.2. Surface sources
- 3.2.1. Natural ponds and lakes
- 3.2.2. Streams and rivers
- 3.2.3. Impounding reservoirs

3.3. Sub surface sources
- 3.3.1. Infiltration galleries
- 3.3.2. Infiltration wells
- 3.3.3. Springs
- 3.3.4. Wells
  - (a) Shallow wells

(b) Deep wells

~~3.4. Intakes for collecting surface water, definitions and general introduction~~

4.0. Quality of water

4.1. General Introduction

4.2. Characteristics of Water

4.2.1. Physical Characteristics

4.2.1.1. Turbidity

4.2.1.2. Colour and Temperature

4.2.1.3. Taste and Odour

4.2.2. Chemical Characteristics

4.2.2.1. Total Solids and suspended solids

4.2.2.2. PH value of water

4.2.2.3. Hardness of water

4.2.2.4. Chloride content

4.2.2.5. Nitrogen content

4.2.2.6. Metals and other Chemical substances

4.2.2.7. Dissolved Gases

4.2.2.8. Bio-chemical Oxygen Demand

4.2.3. Bacterial and Microscopical characteristics

~~4.3. Water Borne Diseases~~

~~4.4. Drinking water standards~~

5.0. Treatment of Water

5.1. General Introduction

5.2. Treatment unit flow diagram

5.3. Screening

5.4. Sedimentation

5.4.1. Plain Sedimentation

5.4.2. Sedimentation aided with Coagulation

5.5. Filtration

5.5.1. Theory of filtration

5.5.2. Slow sand filters construction and operation

5.5.3. Rapid sand filters

~~5.5.4. Pressure filters~~

5.6. Disinfection

5.6.1. Methods of Disinfection

5.6.2. Chlorination, pre, post, Break-point Chlorination and Dechlorination

~~5.7. Defluoridation - by Nalgonda technique~~

6.0. Distribution System

6.1. General Introduction

6.2. Requirements of a good distribution system

6.3. Layouts of Distribution Networks

6.3.1. Dead end system

6.3.2. Grid iron system

6.3.3. Ring system

6.3.4. Radial system

6.4. Systems of Distribution

6.4.1. Gravitational system

6.4.2. Pumping system

6.4.3. Combined system

~~6.5. Pumps~~

6.5.1. Types of pumps and their suitability

6.5.2. Centrifugal pumps - Components

6.5.3. Selection of pump horse power

6.5.4. Operation and maintenance

6.5.5. Trouble Shooting

6.6. Requirement of pipe materials

6.6.1. Different types of pipes

6.6.2. Laying and Testing

6.6.3. Maintenance

6.6.4. Pipe Corrosion - Causes and Prevention

7.0. Appurtenances in the distribution system

7.1. Understand the various appurtenances in a distribution system

7.2. Use of

7.2.1. Sluice valves

7.2.2. Check valves or reflux valves

7.2.3. Air valves

7.2.4. Drain valves or Blow off valves

7.2.5. Scour valve

~~7.2.6. Water meter~~

7.2.7. Fire Hydrants

8.0. Water supply plumbing systems in buildings and Houses

8.1. Plumbing System in Water Supplies

8.2. The House Water Connection

8.3. Stop Cocks

8.4. Water taps and Bib cocks

8.5. Pipe fittings

8.6. Storage of water in buildings

8.6.1. Estimating Storage Capacity

8.6.2. Overhead Storage, Underground Storage tanks

8.6.3. Types of tanks, RCC, GI and HDPE tanks

~~8.6.4. General requirements of domestic water storage~~

~~8.7. Water piping systems in building~~

8.7.1. Piping system using direct supply

8.7.2. Piping system using over head tanks

8.7.3. Piping system using underground - overhead tank supply

8.7.4. Pumped systems

9.0. Rainwater Harvesting

9.1. Rain water Harvesting structures into the ground

9.1.1. Collection of rain water

9.1.2. Separation of first rain flush

9.1.3. Filtration of rain water

9.1.4. Storage of rain water

9.1.5. Distribution of water

~~9.2. Rain water directed to Service wells~~

~~9.3. Rain water harvesting by percolation pit method~~

10.0 Liquids and Their Properties

10.1. Mass Density – Specific Weight – Specific Gravity

10.2. Adhesion – Cohesion – Surface Tension – Capillarity – Compressibility

~~10.3. Dynamic Viscosity – Vapour Pressure~~

11.0.Pressure Head and Measurement

11.1. Atmospheric Pressure – Gauge Pressure – Absolute Pressure

11.2. Pressure Measuring Instruments - Piezometer – Manometer and Differential Manometer

~~11.3. Pressure Head – Datum Head and Kinetic Head~~

11.4. Bernoullis Theorm

~~11.5. Water Hammer~~

DELETED TOPICS

S .NO	Unit No.	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1	1.4. Planning and Execution of Modern water supply schemes
2	Unit-2	2.5. Design Period 2.6. Total requirement of water for a town or a city
3	Unit-3	3.4. Intakes for collecting surface water, definitions and general introduction
4	Unit-4	4.3. Water Borne Diseases 4.4. Drinking water standards
5	Unit-5	5.7. Defluoridation - by Nalgonda technique
6	Unit-6	6.5. Pumps
7	Unit-7	7.2.6. Water meter
8	Unit -8	8.6.4. General requirements of domestic water storage 8.7. Water piping systems in building
9	Unit -9	9.2. Rain water directed to Service wells 9.3. Rain water harvesting by percolation pit method
10	Unit -10	10.3. Dynamic Viscosity – Vapour Pressure
11	Unit -11	11.3. Pressure Head – Datum Head and Kinetic Head 11.5. Water Hammer

BUILDING CONSTRUCTION AND MAINTENANCE TECHNICIAN
PAPER - I : ENVIRONMENTAL ENGINNERING [THEORY]
II YEAR

Periods/ Week: 4 **Periods/ Year: 110**

TIME SCHEDULE

SL. NO.	UNITS	NO.OF PERIODS	WEIGHTAGE OF MARKS	NO. OF SHORT QUESTIONS	NO. OF ESSAY QUESTIONS
1	Introduction	**5**	**2**	**1**	**-**
2	Quantity of sewage	**5**	**2**	**1**	**-**
3	Sewerage systems	**10**	**8**	**1**	**1**
4	Sewer Appurtenances	**10**	**8**	**1**	**1**
5	Sewage Characteristics	**10**	**6**	**-**	**1**
6	Sewage Treatment and Disposal	**20**	**14**	**1**	**2**
7	Solid waste Management	**20**	**14**	**1**	**2**
8	Drainage and sanitation in buildings	**10**	**4**	**2**	**-**
9	Rural Water supply and Sanitation	**10**	**4**	**2**	**-**
10	Air pollution and Ecology	**10**	**6**	**-**	**1**
	Total	**110**	**68**	**10**	**8**

Detailed Syllabus :

1.0. Introduction

1.1. Objects of providing sewerage works
1.2. Definition of terms - Sullage, Sewage, sewer and sewerage
1.3. Classification of sewage
1.4. Systems of sewage disposal
~~1.5. Types of sewerage systems and their suitability separate, combined and partially separate systems~~

2.0. Quantity of Sewage

2.1. Quantity of discharge in sewers, dry weather flow, variability flow
~~2.2. Determination of storm water flow~~
2.3. Surface drainage - requirements, shapes, laying and construction

3.0. Sewerage systems

3.1. Different shapes of cross section for sewers, circular and noncircular, merits and demerits
3.2. Brief description and choice of types of sewers - stoneware, cast Iron, cement concrete and A.C. pipes
3.3. ~~Laying of Sewers - setting out alignment of a sewer, excavation, checking the gradient, preparation of bedding, handling, lowering, laying and jointing, testing and back filling~~

4.0. Sewer Appurtenances

4.1. Brief description, location, function and construction of
4.1.1. Manholes
4.1.2. Drop Manholes
4.1.3. Street inlets
4.1.4. Catch basins
4.1.5. Flushing tanks
4.1.6. Regulators
4.1.7. Inverted siphon
~~4.2. Necessity of pumping sewage - location and component parts of pumping station~~

5.0. Sewage Characteristics

5.1. Strength of sewage, sampling of sewage, characteristics of sewage, physical, chemical and biological
5.2. Analysis of Sewage - significance of the following tests. 1. Solids,
2. C.O.D, 3. B.O.D, 4. PH- value, 5. Chlorides (No details of tests)
5.3. Characteristics of industrial waste water - ~~principles of treatment, reduction of volume, and strength of waste water.~~

6.0. Sewage treatment and disposal

6.1. Preliminary treatment - Brief description and functions of the following units 1. Screens, 2. Skimming tanks and 3. Grit chambers
6.2. Primary treatment - Brief description and functions of plain sedimentation
6.3. Secondary treatment - Brief description of 1. Trickling filters, 2. Activated sludge process.
6.4. Septic tank
~~6.5. Sewage disposal - dilution, disposal on to lands, groundwater recharge, reuse etc~~

7.0. Solid Waste Management

7.1. Municipal, Industrial, Hazardous solid wastes, their characteristics, study of solid waste treatment systems - Sources - collection methods - transportation - disposal methods - dumping, sanitary land fill, incineration - composting ~~- preparation~~

8.0. Drainage and sanitation in Buildings

8.1. Aims of building drainage and its requirements - General layout of Sanitary fittings to a house, drainage arrangements for a single and multi storeyed buildings as per IS code of practice

8.2. Sanitary fittings - traps, water closets, flushing cisterns, urinals, inspection chambers, ~~antisiphonage inspection, testing and maintenance of sanitary fittings~~

9.0. Rural water supply and sanitation

9.1. Disinfection of wells

9.2. Rural Sanitation ~~and sanitary latrines~~, brief description and operational details of bio-gas plant using cow dung, night soil and agricultural waste

10.0. Air pollution and Ecology

10.1. Definition - sources of air pollution - effects of air pollution

10.2. Control of air pollution - methods - air pollution control at source - zoning - installation of control devices and equipment

10.3. Air pollution control by stacks and vegetation

10.4. Environment - Biosphere - Atmosphere - Acid rains, Greenhouse effect - Ozone layer depletion

10.5. ~~Ecology and Ecosystem - Components of Ecosystem flow of matter in an ecosystem~~

Journals :

1. All leading Journals on Environmental Engineering
2. All leading Journals on Air Pollution
3. All leading Journals on Solid Waste Management

DELETED TOPICS

S .NO	Unit No. Name of the Unit	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1	1.5. Types of sewerage systems and their suitability separate, combined and partially separate systems
2	Unit-2	2.2. Determination of storm water flow
3	Unit-3	3.3. Laying of Sewers - setting out alignment of a sewer, excavation, checking the gradient, preparation of bedding, handling, lowering, laying and jointing, testing and back filling
4	Unit-4	4.2. Necessity of pumping sewage - location and component parts of pumping station
5	Unit-5	5.3 principles of treatment, reduction of volume, and strength of waste water.
6	Unit-6	6.5. Sewage disposal - dilution, disposal on to lands, groundwater recharge, reuse etc
7	Unit-7	7.1 preparation
8	Unit -8	8.2 antisiphonage inspection, testing and maintenance of sanitary fittings
9	Unit -9	
10	Unit -10	10.5. Ecology and Ecosystem - Components of Ecosystem flow of matter in an ecosystem

BUILDING CONSTRUCTION AND MAINTENANCE TECHNICIAN
PAPER – II : BUILDING MATERIALS AND MAINTENANCE [THEORY]
II YEAR

Periods/ Week: 4 **Periods/ Year: 110**

Sl. no.	Units	No. Of periods	Weightage of marks	No. Of short questions	No. Of essay questions
1	Stones	9	6	-	1
2	Bricks	9	4	2	-
3	Cement	9	8	1	1
4	Sand	5	2	1	-
5	Mortar	5	2	1	-
6	Concrete	9	8	1	1
7	Timber	9	6	-	1
8	Miscellaneous Building materials	10	8	1	1
9	Types of buildings	5	2	1	-
10	Foundations	10	6	-	1
11	Masonry	5	2	1	-
12	Maintenance Problems in Building and their solutions	25	14	1	2
	Total	**110**	68	10	8

Old Name	New Name
Building Material and Construction	Building Material and Maintenance.

Detailed Syllabus :

1. Stones

1.1. Classification of rocks
1.1.1 Geological Classification
1.1.2.Physical Classification
1.2. Uses of Stones
1.3 Requirements of good building stones
1.4. Characteristics of stones - Granite, Sand Stone, lime Stone and marble
1.5. Selection of Stones and marble
~~1.6. Artificial Stones~~
~~1.7. Introduction of aggregate - grading of aggregates~~

2. Bricks

2.1. Definition - Composition of good brick earth – Manufacturing process
2.2. Classification of bricks
2.3. Properties of bricks
~~2.4. Special types of bricks and their uses~~
~~2.5. Grade of bricks as per B.I.S.~~

3. Cement

3.1. Definition - Composition of ordinary portland cement – Functions of cement, ingredients
3.2. Different types of cements
3.3. Grades of cement (33, 43 and 53)
3.4. General Uses of Cement
3.5. Admixtures - uses
~~3.6. Lime as basic ingredient of cement - importance of lime in construction - classification of lime - Fat, Hydraulic and poor lime - modern usage of lime as cem.~~

4. Sand

4.1. Sources of sand
4.2. Characteristics of good sand
4.3. Grading of sand
~~4.4. Bulking of sand~~

5. Mortar

5.1. Definition - Properties and uses of mortar
5.2. Types of mortar - Cement, Lime mortar
~~5.3. Preparation of cement mortar~~

6. Concrete

6.1. Definition - Constituents of concrete and their requirements
6.2. Uses of Concrete - Types of Concrete

6.3. Preparation of cement concrete - Hand mixing, Machine mixing and Ready mix concrete
~~6.4. Compaction of concrete - Methods~~
6.5. Curing of concrete - Methods

7. Timber

7.1. Common Varieties of Timber
7.2. Defects in timber - Seasoning of timber
~~7.3. Wood based products~~
7.4. Characteristics of good timber

8. Miscellaneous building Materials

8.1. Metals
8.1.1.Types of metals used in construction - cast iron - steel - Mild steel - Galvanised iron - Aluminium - Copper and Alloys.
8.1.2.Uses of different types of metals
8.2. Plastics
8.3. Asbestos - Uses of asbestos
~~8.4. Adhesives - Uses of Adhesives~~
8.5. Glass
8.6. Thermocole
8.7. Plaster of Paris
~~8.9. Wall paper~~
8.10. P.V.C
8.11. Bitumen and tar
~~8.12. Fal-G Concrete~~

9. Types of Buildings

9.1. Classification of building as per NBC
9.2. Component parts of building

10. Foundations

10.1. Definition - Functions of Foundation
~~10.2. Classification of Soil~~
10.3. Types of foundations - Shallow and deep
~~10.4. Bearing capacity of soil~~
10.5. Requirements of good foundation
10.6. Causes of failures of foundations and remedial measures

11. Masonry

11.1. Stone Masonry - Definition - ~~Material required for stone masonry - tools required~~ - types of masonry - rubble and ashlar masonry.
11.2. Brick masonry - Definition - Types of brick masonry – English and flemish bonds

12. Maintenance Problems in Building and Their Solutions

12.1. Definition – Objectives of Maintenance – Annual and Special
12.2. Dampness in buildings at various locations - causes
12.3. Treatment with standard water proofing chemicals
12.4. Cracks in walls – causes and preventions
12.5. Types of floors – construction of cement concrete flore, mosaic floor, and marble floor
12.5.1. Maintenance of floors – ~~Settlement of floors - repairs~~
~~12.5.2. Removal of stains~~
12.6. Types of Roofs – Pitched roof - flat roof
12.6.1. Roofs – Leakages of Roofs – causes and repairs
~~12.6.2. Spalling of concrete~~
~~12.6.3. Corrosion of Reinforcement - repairs~~

DELETED TOPICS

S .NO	Unit No.	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1	1.6. Artificial Stones 1.7. Introduction of aggregate - grading of aggregates
2	Unit-2	2.4. Special types of bricks and their uses 2.5. Grade of bricks as per B.I.S.
3	Unit-3	3.6. Lime as basic ingredient of cement - importance of lime in construction - classification of lime - Fat, Hydraulic and poor lime - modern usage of lime as cem.
4	Unit-4	4.4. Bulking of sand
5	Unit-5	5.3. Preparation of cement mortar
6	Unit-6	6.4. Compaction of concrete - Methods
7	Unit-7	7.3. Wood based products
8	Unit -8	8.4. Adhesives - Uses of Adhesives 8.9. Wall paper 8.12. Fal-G Concrete
9	Unit -9	
10	Unit -10	10.2. Classification of Soil 10.4. Bearing capacity of soil
11	Unit -11	11.1 Material required for stone masonry - tools required
12	Unit -12	12.5 Settlement of floors – repairs 12.6.2. Spalling of concrete 12.6.3. Corrosion of Reinforcement – repairs

BUILDING CONSTRUCTION AND MAINTENANCE TECHNICIAN
II YEAR
PAPER III: ESTIMATING AND COSTING THEORY

Periods/ Week: 4 **Periods/ Year: 110**

Sl. No.	Units	No. Of periods	Weightage of marks	No. Of short questions	No. Of essay questions
1	Introduction	10	8	1	1
2	Methods of Building Estimates	30	14	1	2
3	Analysis of Rates	30	18	3	2
4	Estimation of Open drains and roads	15	12	3	1
5	Estimation of Public	25	16	2	2
	Total	**110**	**68**	**10**	**8**

1.0. Introduction

1.1. Definition – Purpose – Data required for estimation
1.2. Types of estimates
1.2.1. Detailed Estimate - Abstract estimate - Definitions - formats for detailed and abstract estimates
1.2.2. Preliminary estimate or Approximate estimate - plinth area estimate - cubic rate estimate
1.3. Units of measurement of various Items of work as per IS Code 1200

2.0. Methods of Building Estimates

2.1. Preparation of detailed estimates of building using centre line method/long wall - short wall method
a) Single room building
~~b) Single room with varandah~~
c) Two rooms building
d) Two rooms building with Varandah
e) Single bedroom house including ~~with RCC staircase~~
~~f) Double bedroom house including with RCC staircase~~
~~g) Compound wall and steps~~

3.0. Analysis of Rates

3.1. Definition – data required
3.2. Factors effecting Rate Analysis
3.3. Cost of material at source and at site
3.4. Standard Schedule of Rates (SSR) of different materials
3.5. Types of Labour - Wages as per SSR
3.6. Lead and lift - preparation of lead statement
3.7. Preparation of unit rates for finished items of works using standard data & SSR
3.8. Methods of claculating quantities of ingredients of various proportions of cement concrete

4.0. Estimation of Open Drains and Roads

4.1. Estimation of open drain in rural area
~~4.2. Estimation of earthwork by trapeziodal Rule~~
~~4.3. Estimation of earthwork by prismoidal method~~
4.4. Estimation of roads (abstract estimates) of
~~a) Water bound Macadam Road~~
b) Cement Concrete Road

5.0. Estimation of public health engineering works

5.1. Preparation of detailed estimates of
a) Septic tank
b) Estimation of quantity of sanitary pipes and pipe specials and fittings for a building from the plan of the building

DELETED TOPICS

S .NO	Unit No.	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1	
2	Unit-2	2.1 b) Single room with varandah e) Single bedroom house including with RCC staircase f) Double bedroom house including with RCC staircase g) Compound wall and steps
3	Unit-3	
4	Unit-4	4.2. Estimation of earthwork by trapeziodal Rule 4.3. Estimation of earthwork by prismoidal method 4.4 a) Water bound Macadam Road
5	Unit-5	

CONSTRUCTION TECHNOLOGY
I YEAR
PAPER – I : CONSTRUCTION MATERIALS (THEORY)

PERIODS/ WEEK: 4 **PERIODS / YEAR: 135**

S.NO.	TOPICS	NO.OF PERIODS	WEIGHTAGE OF MARKS	NO. OF SHORT QUESTIONS	NO.OF ESSAY QUESTIONS
1	Introduction	2	-	-	-
2	Stones	4	6	-	1
3	Bricks	14	8	1	1
4	Clay Products	15	8	1	1
5	Lime	3	2	1	-
6	Cement	20	8	1	1
7	Sand	10	2	1	-
8	Mortar	5	2	1	-
9	Concrete	20	12	-	2
10	Timber	5	2	1	-
11	Metals	15	8	1	1
12	Surface Protective Materials	14	8	1	1
13	Miscellaneous Materials	8	2	1	-
	Total	**135**	**68**	**10**	**8**

Detailed Syllabus:

1. Introduction
   1.1. General
   1.2. Scope and purpose of the subject
2. Stones
   2.1. Introduction
   2.2. Classification of Rocks
      2.2.1. Geological classification
      2.2.2. Physical classification
   2.3. Common varieties of stones – their uses
   2.4. Availability of important stones
   2.5. Dressing of stones
   ~~2.6. Different types of surface finishes~~
   ~~2.7. Introduction of aggregates – grading of aggregates~~
3. Bricks
   3.1. Composition of good brick earth
   3.2. Requirements of good brick earth
   3.3. Manufacture of Bricks
      3.3.1. Preparation of brick earth
      3.3.2. Moulding
      3.3.3. Drying
      3.3.4. Burning
   ~~3.4. Field tests of good bricks~~
   3.5. Characteristics of good bricks
   3.6. Classification of Bricks as per I.S.
   ~~3.7. I.S.I. Specification for bricks~~
   ~~3.8. Special Forms of Bricks~~
   3.9. Special purpose Bricks
      3.9.1. Cement bricks, Uses and advantages
      3.9.2. Fly ash bricks , uses and advantages
4. Clay Products
   4.1. Tiles – Types of Tiles
   4.2. Roofing Tiles
   4.3. Flooring Tiles
   4.4. Stone ware pipes
   ~~4.5. Glazing~~
   ~~4.6. Porcelain~~
   4.7. Terra- cotta

5. Lime

   5.1. Introduction

5.2. Lime - properties and uses
5.3. ~~Sources of lime~~
5.4. Calcinations of lime
5.5. Slaking of lime
~~5.6. Quick lime~~
5.7. Classification of lime

6 Cement

6.1. Introduction
6.2. Chemical composition of Portland cement
6.3. Manufacture of ordinary Portland cement
6.3.1. Dry Process
6.3.2. Wet Process
6.4. Field tests of cement
~~6.5. Tests for cement as per I.S.I.~~
~~6.5.1. Fineness test by sieving~~
~~6.5.2. Consistency test~~
~~6.5.3. Initial and Final setting times test~~
~~6.5.4. Compressive strength test~~
6.6. Types of cement
6.6.1. Grades of Cement
6.6.2. Ordinary Portland cement (O.P.C)
6.6.2. Quick Setting Cement
6.6.3. Rapid hardening cement
6.6.4. White cement
6.6.5. P.P.C.

7. Sand

7.1. Sources of sand
7.2. Natural sand
7.3. Robo sand
7.4. Characteristics of good sand
~~7.5. Grading of sand~~
7.6. Bulking of sand

8. Mortars

8.1. General
8.2. Classification of Mortars
8.3. Different proportions of mortars for various construction works
~~8.4. Precautions in use of Mortars.~~

9. Concrete

9.1. Definition, purpose of concrete
9.2. Types of concrete
9.3. Ingredients of plain concrete
~~9.4. Proportions and uses of different grades of concrete.~~
9.5. Re-inforced cement concrete
~~9.6. Pre-cast concrete~~
9.7. Water - cement ratio
9.8. Mixing of concrete - methods
9.9. Batching of concrete
9.10. Transporting of concrete - methods
9.11. Placing of concrete
~~9.12. Compaction of concrete - usage of vibrators~~
~~9.12.1. Types of vibrators~~
9.13. Curing of Concrete - methods
~~9.14. Workability of concrete - slump cone test~~
~~9.14.1 Ready Mix concrete.~~

10. Timber

10.1. Introduction
~~10.2. Defects in timber~~
10.3. Common varieties of timber in A.P.
10.4. Wood Products
10.5. Characteristics of good timber

11. Metals

11.1. Types of metals
11.2. Properties, chemical composition and uses of cast iron
11.3. Properties, chemical composition and uses of wrought iron
11.4. Properties and uses of steel.
11.5. Commonly used structural steel sections
~~11.6. Re-inforcing steel – types, chemical composition~~
~~11.7. Weights of tor steel per meter length of rods of various diameters~~
~~11.8. Tests on Metals~~

12. Surface Protective Materials

12.1. Introduction
12.2. Paints and Types of paints
12.3. Functions of paints
12.4. Ingredients of paint
12.5. Characteristics of good paint
~~12.6. Varnishes~~
~~12.6.1. Ingredients of varnish~~
~~12.6.2. Types of varnishes~~
~~12.7. French Polish~~

13. Miscellaneous Material

13.1. Glass
~~13.2. Adhesives~~
13.3. Asbestos
13.4. Thermocole
13.5. Plaster of Paris
~~13.6. Fibre Reinforced concrete~~
~~13.7. Wall Paper~~
13.8. P.V.C.
13.9. Bitumen and Tar
13.10. Aluminium

DELETED TOPICS

S .NO	Unit No.	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1	
2	Unit-2	2.6. Different types of surface finishes 2.7. Introduction of aggregates – grading of aggregates
3	Unit-3	3.4. Field tests of good bricks 3.7. I.S.I. Specification for bricks 3.8. Special Forms of Bricks
4	Unit-4	4.5. Glazing 4.6. Porcelain
5	Unit-5	5.6. Quick lime
6	Unit-6	6.5. Tests for cement as per I.S.I. 6.5.1. Fineness test by sieving 6.5.2. Consistency test 6.5.3. Initial and Final setting times test 6.5.4. Compressive strength test
7	Unit-7	
8	Unit -8	8.4. Precautions in use of Mortars.
9	Unit -9	9.4. Proportions and uses of different grades of concrete. 9.6. Pre-cast concrete 9.12. Compaction of concrete - usage of vibrators 9.12.1. Types of vibrators 9.14. Workability of concrete - slump cone test 9.14.1 Ready Mix concrete.
10	Unit -10	10.2. Defects in timber
11	Unit -11	11.6. Re-inforcing steel – types, chemical composition 11.7. Weights of tor steel per meter length of rods of various diameters 11.8. Tests on Metals
12	Unit -12	12.6. Varnishes 12.6.1. Ingredients of varnish 12.6.2. Types of varnishes 12.7. French Polish
13	Unit -13	13.2. Adhesives 13.6. Fibre Reinforced concrete 13.7. Wall Paper

CONSTRUCTION TECHNOLOGY
II YEAR
PAPER I :CONSTRUCTION PRACTICE (THEORY)

Periods/ Week: 4 **Periods/ Year: 110**

TIME SCHEDULE

S. NO.	TOPICS	No. Of periods	Weightage of marks	No. Of short questions	No. Of essay questions
1	Introduction	5	-	-	-
2	Foundations	15	8	1	1
3	Masonry work (a) Stone Masonry (b) Brick Masonry	15	14	1	2
4	Openings (a) Doors & Windows (b) Ventilators	5	6	-	1
5	Lintels and sunshades	5	2	1	-
6	Floors	10	8	1	1
7	Roofs	10	8	1	1
8	Stairs and Stair Cases	10	4	2	-
9	Form work	10	6	-	1
10	Scaffolding, shoring and under pinning	6	2	1	-
11	Carpentry and Joinery	6	2	1	-
12	Surface Finishing	5	2	1	-
13	Basic knowledge of equipment and construction machinery	8	6	-	1
	Total	110	68	10	8

Detailed Syllabus :

4.1 Introduction :

1.1. Classification of Buildings as per NBC - Component parts of a building

2. Foundations :

2.1. Definition
2.2. Functions of Foundations
2.3. Shallow and deep foundations (Definitions)
2.4. Bearing capacity of soil
2.5. Essential requirements of good foundation
2.6. Classification of foundations
2.6.1.Raft foundations
2.7. Construction details of spread footing
2.7.1. Foundation for walls
2.7.2. Masonry and concrete pillars
~~2.7.3. Stepped foundations~~
~~2.8. Causes and importance of insecticides, pesticides and their treatments~~
~~2.9. Causes of failure of foundations and remedial measures~~

3. Masonry

3.1. Stone masonry
3.1.1. Definition
3.1.2. Material required for stone masonry
3.1.3. Classification of stone Masonry(mention names)
3.1.4. Rubble and Ashlar masonry.
~~3.1.5. Tools required for stone masonry~~
~~3.1.6. Types of joints in stone masonry~~
3.1.7. Supervising points to be observed in stone masonry.
3.2. Brick masonry
3.2.1. Definition
3.2.2. Types of brick masonry
3.2.3. English Bond - Flemish bond 1,11/2 2 Brick walls
3.2.4. Defects in brick masonry
~~3.2.5. Structures in brick masonry~~
3.2.6. Tools required.

3.2.7. Supervising points to be observed in brick masonry.

4. Openings

4.1. Doors and Windows

4.1.2. General Terms

4.1.3. Types of Doors

4.1.4. Types of windows

4.1.5. Fixtures and fastenings for doors and windows.

~~4.2. Ventilators~~

~~4.2.1. Types of ventilators - Fixed, Swing~~.

5. Lintels and Sun-shades

5.1. Types of Lintels

~~5.2. Definition of sun shade~~

6. Floors

6.1. General terms

6.2. Types of floors

~~6.3. Materials required for Cement concrete, Terrazzo, Mosaic, Marble and Stone slab floors~~

6.4. Method of construction of Cement Concrete, Mosaic, Terrazzo and Marble floors.

7. Roofs

7.1. Definition

7.2. Classification of Roofs - Pitched roofs - King post, Queen Post

7.3. Steel Trusses –

7.4. Roof Covering Material for pitched roofs -Flat Roof - R.C.C. roof

~~7.5. Tools required to fix AC sheet GI sheet and Roof covering~~

7.6. Methods for fixing of AC sheet

7.7. General requirements

~~7.8. Weather proof course on R.C.C. roof.~~

8. Stairs and Staircases

8.1. Technical terms

8.2. Characteristics of a good Stair

8.3. Types of Stairs - Straight, Quarter turn, half turn, Doglegged, Open well, ~~Bifurcated and Spiral stairs~~.

9.Form Work

9.1. Requirement of Form work

9.2. Material used for Form work

9.3. Removal of Form work

~~9.4. Failure of Form work~~

9.5. Form work for - Column, Footing, Columns and Stairs

10. Scaffolding, shoring and under pinning

10.1. Definition

10.2. Types of scaffolding

~~10.3. Shoring and under pinning~~

11. Carpentry and Joinery

11.1. Technical terms

11.2. Classification of Joints

11.3. Tools used in carpentry

12. Surface Finishing

12.1. Plastering

12.1.1. Purpose

12.1.2. Types of Plastering

12.2. Procedure of plastering

12.3. Pointing

12.3.1. Purpose

12.3.2. Types of Pointing

12.4. Painting

~~12.4.1. Method of Painting new and old surfaces - wood and metal surfaces~~

13. Basic Knowledge of Equipment and Construction Machinery

13.1. Bull dozers- Concrete Mixers- Cranes-Pulley Blocks- Pumps- ~~Winches- Excavators etc~~.

Note : Latest Developments on this subject should be noted from time to time

DELETED TOPICS

S .NO	Unit No.	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1	
2	Unit-2	2.7.3. Stepped foundations 2.8. Causes and importance of insecticides, pesticides and their treatments 2.9. Causes of failure of foundations and remedial measures
3	Unit-3	3.1.5. Tools required for stone masonry 3.1.6. Types of joints in stone masonry 3.2.5. Structures in brick masonry –
4	Unit-4	4.2. Ventilators 4.2.1. Types of ventilators - Fixed, Swing.
5	Unit-5	5.2. Definition of sun shade
6	Unit-6	6.3. Materials required for Cement concrete, Terrazzo, Mosaic, Marble and Stone slab floors
7	Unit-7	7.5. Tools required to fix AC sheet GI sheet and Roof covering 7.8. Weather proof course on R.C.C. roof.
8	Unit -8	Bifurcated and Spiral stairs.
9	Unit -9	9.4. Failure of Form work
10	Unit -10	10.3. Shoring and under pinning
11	Unit -11	
12	Unit -12	12.4.1. Method of Painting new and old surfaces - wood and metal surfaces
13	Unit -13	13.1 Winches- Excavators etc.

MECHANICAL ENGINEERING TECHNICIAN
FIRST YEAR
PAPER-II MECHANICAL TECHNOLOGY [THEORY]

PERIODS PER WEEK : 4 **PERIODS PER YEAR : 135**

Sl. No.	Name of the Unit	No. of Periods	Weightage in Marks	Short answer questions	Essay type questions
1.	Thermo Dynamics	10	04	2	Nil
2.	Laws of Thermo dynamics	8	02	1	Nil
3.	Laws of perfect gases	15	10	2	1
4.	Thermo dynamics process in gases	21	08	1	1
5.	Fuels and combustions	20	08	1	1
6.	Air standard cycles	10	08	1	1
7.	I.C. Engines	36	20	4	2
8.	Pumps	15	08	1	1
	Total	**135**	**68**	**13**	**7**

Sl. No.	Name of the Unit	No. of Periods	Weightage in Marks	Short answer questions	Essay type questions
1.	**Thermo Dynamics** : 1.1 Introduction 1.2 Thermo dynamic system, 1.3 Types of thermo dynamic systems, 1.4 Properties thermodynamic systems, 1.5 definitions of properties like pressure (P) Volume (V) Temperature (T) Enthalpy, ~~Atmospheric pressure~~, Internal Energy, ~~specific heat.~~	10	04	2	Nil
2.	**Laws of Thermodynamics :** 2.1 Zeroth law of thermodynamics, 2.2 First law of thermodynamics, ~~2.3 Second law of thermo dynamics~~	8	02	1	Nil
3.	**Laws of perfect gases :** 1.1 Introduction, ~~1.2~~ Brief Explanation of Boyles Law, Charles Law, ~~Avagadro's Law, Joules law, Regnaults law,~~ 1.3 Characteristic of gas equation, 1.4 General gas equation	15	10	2	1
4.	**Thermo dynamics process in gases :** 4.1 Types of thermodynamic processes, 4.2 Constant volume process, ~~constant pressure process, constant temperature process, Adiabatic process, polytropic process~~, 4.3 Equation for work done during the above processes and calculations of change of internal energy, 4.4 Evaluation of heat supplied or rejected during the process	21	08	2	1
5.	**Fuels and combustions :** 5.1 Introduction, 5.2 Types of fuels, solid fuels, liquid fuels, gasesous fuels, 5.3 Merits and demerits of liquid fuel, ~~5.4 Merits and demerits of gaseous fuels,~~ 5.5 Calorific value	20	08	2	1
6.	**Air standard cycles :** 6.1 Introduction, 6.2 Study of cornot cycle, Otto Cycle, ~~Diesel cycle,~~	10	08	2	1

Sl. No.	Name of the Unit	No. of Periods	Weightage in Marks	Short answer questions	Essay type questions
	6.3 Comparison of Otto Cycle and ~~Diesel Cycle.~~				
7.	**I.C. Engines :** 7.1 Heat Engines 7.2 Classification of engines 7.3 Classification of I.C. Engines, 7.4 Working principle of two stroke petrol and diesel engine, 7.5 Working principle of four stroke petrol and diesel engine, 7.6 Comparison between two stroke and four stroke cycle engine, ~~7.7 Comparison between petrol & diesel engine,~~ ~~7.8 Carburetor, fuel injection pump.~~	36	20	2	2
8.	**Pumps :** 8.1 Functions of a pump, 8.2 Classification of pumps, 8.3 Applications of pump, 8.4 Working of centrifugal, reciprocating, ~~jet,~~ submersible pumps	15	08	1	1
	Total	**135**			

S.No.	*Unit deleted*	*Unit added*
1.	*Sprinklers*	*FIP Pump, Carburetor*

DELETED TOPICS

S .NO	**Unit No. Name of the Unit**	**Topic /Sub Topic to be Deleted in detail heads**
1	Unit-1	~~1..5 specific heat.~~ ~~Atmospheric pressure~~
2	Unit-2	~~2.3 Second law of thermo dynamics~~
3	Unit-3	3.2 ~~Avagadro's Law, Joules law, Regnaults law,~~
4	Unit-4	4.2 ~~constant pressure process, constant temperature process, Adiabatic process, polytropic process~~,
5	Unit-5	~~5.4 Merits and demerits of gaseous fuels,~~
6	Unit-6	~~6.2 Diesel cycle,~~
7	Unit-7	~~7.7 Comparison between petrol & diesel engine,~~ ~~7.8 Carburetor, fuel injection pump.~~
8	Unit -8	

MECHANICAL ENGINEERING TECHNICIAN

FIRST YEAR
PAPER-III ELECTRICAL TECHNOLOGY THEORY

PERIODS PER WEEK : 4 **PERIODS PER YEAR : 135**

Sl. No.	Name of the Unit	No. of Periods	Weightage in Marks	Short answer questions	Essay type questions
1.	Safety	7	2	1	
2.	Basic Electricity	22	08	1	1
3.	Work Power and Energy	12	08	1	1
4.	Conductors and Insulators	12	02	1	
5.	Electrical Accessories	12	08	1	1
6.	Magnetism and Electro Magnetism	22	08	1	1
7.	Electro Magnetic Induction	7	08	1	1
8.	Electrical Machines	17	08	1	1
9.	Electrical Appliances	12	08	1	1
10.	Batteries	12	08	1	1
	Total	**135**	**68**	**10**	**8**

Sl. No.	Name of the Unit	No. of Periods	Weightage in Marks	Short answer questions	Essay type questions
1.	**Safety** : 1.1 Introduction, 1.2 Safety precautions, 1.3 Removal from Electric Shock, ~~1.4 Methods of Artificial Respiration,~~ 1.5 Hand tools of an electrician	7	2	1	Nil
2.	**Basic Electricity :** 2.1 Introduction, 2.2 Electric Potential, 2.3 Potential Difference, 2.4 Resistance, 2.5 Current, 2.6 Ohm's Law, 2.7 Problems on ohm's Law, 2.8 Laws of Resistance, ~~2.9 Specific Resistance~~ ~~2.10 Specific conductivity,~~ 2.11 Effects of Temperature on Resistance, 2.12 Series and parallel connections of Resistance, 2.13 Simple problems on series and parallel, ~~2.14 Kirchoff's Laws,~~ ~~2.15 Problems on Kirchoff's Law,~~ ~~2.16 Wheat stone Bridge~~	22	08	1	1
3.	**Work, Power and Energy :** 1.5 Work and its units, 1.6 Power and its units 1.7 Energy and its units, 1.8 Electrical power, 1.9 Electrical Energy, ~~1.10 Simple problems on Monthly electricity bills.~~	12	08	1	1
4.	**Conductors and Insulators :** 4.1 Conductors, 4.2 Properties of conductors, 4.3 Insulators, 4.4 Properties of insulators, 4.5 Semi conductors, ~~4.6 Grading of conducting wires.~~	12	02	1	Nil
5.	**Electrical Accessories :**	12	08	1	1

Sl. No.	Name of the Unit	No. of Periods	Weightage in Marks	Short answer questions	Essay type questions
	5.1 Electrical Accessories and their uses, 5.2 Switches and their types, 5.3 Lamp holders and their types, 5.4 Ceiling rose, 5.5 Pin plug, ~~5.6 Socket and adopter,~~ ~~5.7 Fuses,~~ 5.8 Wires and cables.				
6.	**Magnetism and Electro Magnetism :** 6.1 Some important Definitions of Magnetism, 6.2 Magnetic field, 6.3 Magnetic poles, 6.4 Magnetic lines of force, 6.5 Magnetic flux, 6.6 Flux Density, 6.7 Magneto motive force, ~~6.8 Reluctance,~~ 6.9 Care and maintenance of magnets, ~~6.10 Magnetic field around a current carrying conductor,~~ ~~6.11 Comparison between Electric and Magnetic Circuits.~~	22	08	1	1
7.	**Electro Magnetic Induction :** 7.1 Faraday's Laws of Electromagnetic Induction, ~~7.2 Lenz's Law,~~ 7.3 Flemings Right hand rule, 7.4 Self inductance, 7.5 Mutual Inductance.	7	08	1	1
8.	**Electical Machines :** 8.1 D.C Generator, 8.2 Principle of working, 8.3 Parts of Generator, 8.4 D.C. Motors, 8.5 Principle of Working, 8.6 Parts of Motor, 8.7 Flemings Left hand and Right hand rule, ~~8.8 Trouble shooting in an electric motor.~~	17	08	1	1
9.	**Electrical Appliances :** ~~9.1 Immersion Rod,~~ 9.2 Electric Iron, 9.3 Electric stove, ~~9.4 Geyser,~~ 9.5 Water Heater, 9.6 Ceiling Fan	12	08	1	1
10.	**Batteries :** 10.1 Batteries, 10.2 Cell, 10.3 Lead-Acid Cell Construction, 10.4 Applications of Lead-Acid Cells, ~~10.5 Care and Maintenance of Cells,~~ ~~10.6 Charging and discharging of Batteries.~~	12	08	1	1
	Total	135			

DELETED TOPICS

S .NO	Unit No. Name of the Unit	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1	1.4 Methods of Artificial Respiration,
2	Unit-2	2.9 Specific Resistance 2.10 Specific conductivity, 2.14 Kirchoff's Laws, 2.15 Problems on Kirchoff's Law, 2.16 Wheat stone Bridge
3	Unit-3	3.10 Simple problems on Monthly electricity bills.
4	Unit-4	4.6 Grading of conducting wires.
5	Unit-5	5.6 Socket and adopter, 5.7 Fuses,
6	Unit-6	6.8 Reluctance, 6.10 Magnetic field around a current carrying conductor, 6.11 Comparison between Electric and Magnetic Circuits.
7	Unit-7	7.2 Lenz's Law,
8	Unit -8	8.8 Trouble shooting in an electric motor.
9	Unit -9	9.1 Immersion Rod, 9.4 Geyser,
10	Unit -10	10.5 Care and Maintenance of Cells, 10.6 Charging and discharging of Batteries.

MECHANICAL ENGINEERING TECHNICIAN
SECOND YEAR
PAPER-I ENERGY SOURCES & POWER PLANT [THEORY]

PERIODS PER WEEK: 4 **PERIODS PER YEAR: 110**

Sl. No.	Name of the Unit	No. of Periods	Weightage in Marks	Short answer questions	Essay type questions
1.	Energy Sources	5	2	1	Nil
2.	Solar Energy	20	10	--	2
3.	Wind Energy	5	4	2	
4.	Bio Energy	15	10	--	2
5.	Tidal Energy	8	4	2	
6.	Fuel Cells	8	4	2	
7.	Steam Boiler	15	10	1	2
8.	Steam Nozzle	10	10	2	1
9.	Steam Turbine	15	10	2	1
10.	Steam Condenser	9	04	2	
	Total	**110**			

Sl. No.	Name of the Unit	No. of Periods
1.	Energy Sources : 1.1 Introduction to Energy 1.2 Different forms of Energy ~~1.3 Energy Sources and their availability~~ **Primary secondary Energy sources** 1.4 Conventional and Non-Conventional sources of energy	5
2.	Solar Energy : 2.1 Introduction 2.2 Solar Constant ~~2.3 Solar Radiation at the Earth's Surface~~ **Diffuse, Global Radiation** 2.4 Instruments for measuring Solar Radiation and Sun shine 2.5 Solar Energy Utilisation - ~~Basic ideas about the pre-historic ways of using solar energy.~~ 2.6 Solar energy applications – Solar collectors, solar cooker, solar water heater, solar distillation, ~~solar pumping, electricity from solar energy, solar photo voltaic, applications of solar photo voltaic system in Rural areas~~	20
3.	Wind Energy : 1.1 Introduction 1.2 Classification of wind mills Principle of Wind Mill, Factors for wind floor 1.3 Horizontal wind mills, Vertical wind mills 1.4 Advantages and Disadvantages of wind energy	5
4.	Bio Energy : 4.1 Introduction, ~~History of Bio-gas~~ 4.2 Process of Bio-gas, generation-wet process, dry process. ~~4.3 Raw materials available for Bio-gas fermentation~~ ~~4.4 Selecting of site for installation of a Bio-gas plant~~ 4.5 Materials required for the construction of Bio-gas plant 4.6 Constructional Details of Bio-gas plant	15
5.	Tidal Energy : 5.1 Introduction **Classification, Double Besin, Use of sluice gates, Classification of Sluice Gates** 5.2 Components of Tidal Power Plant 5.3 Sinde tidal power plant 5.4 Advantages and imitations of tidal Power plant	8
6.	Fuel Cells : **Disadvantages of Fuel Cell** 6.1 Working principle 6.2 Bacar's High Pressure Fuel cell-construction details and working principle ~~6.3 Aluminium and fuel cell working principle~~	8
7.	Steam Boilers : 7.1 Classification, function use or boilers **Firetube Boiler** ~~7.2 Cochran and Babcock Wilcox boilers~~	15

8.	Steam Nozzles : Classification 8.1 Flow of steam through Nozzles, convergent Nozzle, Divergent nozzle. **Frictionless flow with Mollover Chart**	10
9.	Steam Turbines : ~~9.1 Classification, working principle of impulse & reaction turbines with line diagrams~~ **Comparision between Impulse & Reaction**	15
10.	Steam condenser : 10.1 Function Advantages & Dis advantages	9
	Total	**110**

NOTE: SUBJECT NONCONVENTIONAL ENERGY SOURCES RENAMED AS ENERGY SOURCES AND POWER PLANT.

DELETED TOPICS

S .NO	Unit No.	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1	1.3 Energy Sources and their availability **Primary secondary Energy sources**
2	Unit-2	2.3 Solar Radiation at the Earth's Surface **Diffuse, Global Radiation** **2.6** solar pumping, electricity from solar energy, solar photo voltaic, applications of solar photo voltaic system in Rural areas
3	Unit-3	
4	Unit-4	4.3 Raw materials available for Bio-gas fermentation 4.4 Selecting of site for installation of a Bio-gas plant
5	Unit-5	
6	Unit-6	6.3 Aluminum and fuel cell working principle
7	Unit-7	7.2 Cochran and Babcock Wilcox boilers
8	Unit -8	
9	Unit -9	9.1 Classification, working principle of impulse & reaction turbines with line diagrams
10	Unit -10	

MECHANICAL ENGINEERING TECHNICIAN
SECOND YEAR
PAPER-III REFRIGERATION AND AIR CONDITIONING [THEORY]

PERIODS PER WEEK: 4 **PERIODS PER YEAR: 110**

Sl. No.	**Name of the Unit**	**No. of Periods**	**Weightage in Marks**	**Short answer questions**	**Essay type questions**
1.	Fundamentals of Refrigeration	10	10	2	1
2.	Refrigeration equipment	25	16	2	2
3.	Refrigeration applications	15	8	1	1
4.	Fundamentals of Air conditioning	10	10	2	1
5.	Air conditioning equipment	25	8	1	1
6.	Air conditioning applications	15	8	1	1
7.	Servicing and maintenance of Refrigeration and air conditioning equipment	10	8	1	1
		110	68	10	8

Sl. No.	Name of the Unit	No. of Periods
1.	Fundamentals of Refrigeration : Introduction 1) Methods of refrigeration Ice refrigeration Dry ice refrigeration ~~Air expansion refrigeration~~ ~~Liquid gas refrigeration~~ Vapor compression refrigeration	10
2.	Refrigeration equipment : 2.1 Compressors 2.2 Condensers & cooling towers 2.3 Evaporators 2.4 Expansion devices	25
3.	Refrigeration applications : Definition of refrigeration Unit of refrigeration, Domestic refrigerator, Water cooler, ~~Ice plant, Cold storage~~	15
4.	Fundamentals of Air conditioning : 4.1 Introduction 4.2 Meaning of air conditioning 4.3 Psychrometry & its properties 4.4 Dry air 4.5 Moist aid ~~4.6 Dry bulb temperature~~ 4.7 wet bulb temperature	10
5.	Air conditioning equipment : 5.1 Fans & Blowers 5.2 Ducts 5.3 Supply air outlets 5.4 Return air outlets ~~5.5 Filters & dust collectors~~ ~~5.6 Heating and cooling coils~~	25
6.	Air conditioning applications : 6.1 Air cooler 6.2 Window air conditioner ~~6.3 Split air conditioner~~ ~~6.4 Packaged air conditioner~~	15
7.	Servicing and maintenance of Refrigeration and air conditioning equipment:	10
		110

DELETED TOPICS

S .NO	Unit No.	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1	Air expansion refrigeration Liquid gas refrigeration
2	Unit-2	
3	Unit-3	Ice plant, Cold storage
4	Unit-4	4.6 Dry bulb temperature
5	Unit-5	5.5 Filters & dust collectors 5.6 Heating and cooling coils
6	Unit-6	6.3 Split air conditioner 6.4 Packaged air conditioner
7	Unit-7	

MECHANICAL ENGINEERING TECHNICIAN
FIRST YEAR
PAPER-II MECHANICAL TECHNOLOGY [THEORY]

Time: 3 hrs Max. Marks: 50

SECTION – A 10 x 2 = 20

Note: (i) Answer all questions.
(ii) Each question carries **two** marks.

1. Explain Isolated system.

2. Explain zeroth law of Thermodynamics.

3. Define Boyle's law.

4. Draw P-V diagram of constant volume process

5. What is meant by the term fuel? What are its constituents ?

6. Write types of fuels

7. What is air standard cycle?

8. Define Heat Engine.

9. Explain “scavenging”

10. What is priming?

SECTION - B 5 x 6 = 30

Note: (i) Answer any **five** questions.
(ii) Each question carries **six** marks.

11. Explain the characteristic gas equations

12. Explain constant volume process and derive an expression for work done, change in Internal Energy, Heat supplied and relation between P, V and T.

13. Explain briefly about liquid fuels

14. Explain merits and demerits liquid fuels.

15. Derive an expression for thermal efficiency of Carnot cycle

16. Derive an expression for thermal efficiency of otto cycle

17. With a neat Sketch explain the working principle of 2-Stroke petrol engine

18. With a neat Sketch explain the working principle of 4-stroke Diesel engine.

19. Explain in detail the classification of pumps

20. With a neat sketch working of submersible pump.

MECHANICAL ENGINEERING TECHNICIAN
FIRST YEAR
PAPER-III ELECTRICAL TECHNOLOGY THEORY

Time: 3 hrs Max. Marks: 50

SECTION – A 10 x 2 = 20

Note: (i) Answer all questions.
(ii) Each question carries **two** marks.

1. Mention the hand tools of an Electrician
2. Define network.
3. What is Electric power & Give units.
4. Define semiconductor. Give examples.
5. What are the types of Switches?
6. Define magnetic axis.
7. State Faraday's first law of electromagnetic Induction:
8. What is DC Generator?
9. Mention the parts of ceiling fan.
10. Distinguish between cell and battery.

SECTION - B 5 x 6 = 30

Note: (i) Answer any **five** questions.
(ii) Each question carries **six** marks.

11. Explain the different methods of artificial respiration.
12. Derive an expression for an equivalent resistance, when three resistances are connected in parallel
13. Write short notes on (i) work (ii) power (iii) Energy
14. What are conductors? Give the general properties of Conductors.
15. What are the types of lamp holders and explain.
16. Explain about care and maintenance of magnets.
17. State and explain Faraday's laws of Electromagnetic Induction.
18. Describe the parts of the practical motor
19. Explain the working principle of Electric Iron with the help of neat Sketch
20. What are the applications of Lead-Acid cell?

MECHANICAL ENGINEERING TECHNICIAN
SECOND YEAR
PAPER-I ENERGY SOURCES & POWER PLANT [THEORY]

Time: 3 hrs Max. Marks: 50

SECTION – A 10 x 2 = 20

Note: (i) Answer all questions.
(ii) Each question carries **two** marks.

1. What are the conventional Sources of energy?
2. Define solar constant.
3. What are the disadvantages of wind power?
4. What the types of Bio-gas plant
5. Define tidal energy
6. Write the advantages of fuel cell.
7. What are the basic elements of boiler?
8. What is divergent nozzle?
9. What are the disadvantages of steam turbines?
10. What is the function of steam condense?

SECTION - B 5 x 6 = 30

Note: (i) Answer any **five** questions.
(ii) Each question carries **six** marks.

11. What are the non-conventional energy sources and explain briefly
12. Explain solar collectors with a neat sketch
13. Explain briefly about vertical wind mill with a neat sketch.
14. Explain Pragathi design bio-gas plank with a heat sketch.
15. Explain briefly about main components of Tidal power plant.
16. Explain briefly components of Fuel cell.
17. Explain briefly about working principle of cochran boiler.
18. Explain briefly about the super saturate, Steam flow in a Nozzle.
19. Explain briefly about Reaction steam Turbine with a neat sketch
20. Explain briefly the function of steam Condenser with a neat sketch.

MECHANICAL ENGINEERING TECHNICIAN
SECOND YEAR
PAPER-III REFRIGERATION AND AIR CONDITIONING [THEORY]

Time: 3 hrs Max. Marks: 50

SECTION – A 10 x 2 = 20

Note: (i) Answer all questions.
(ii) Each question carries **two** marks.

1. Define Refrigeration.
2. What is vapor compression Refrigeration System?
3. State the function of Condenser and classify the condensers.
4. State the function of capillary Tube
5. Mention the parts of water cooler
6. Write the classification of Air-Conditioning,
7. What is Dry Air?
8. State the function of Fan.
9. What are the main features of Air Cooler?
10. How the leakage test conducted for Ammonia Refrigerated?

SECTION - B 5 x 6 = 30

Note: (i) Answer any **five** questions.
(ii) Each question carries **six** marks.

11. Write short notes on Dry Ice Refrigeration
12. Explain the working Shell and Tube condenser
13. Explain the working of Double tube condenser
14. Draw a neat sketch of water cooler and explain its working
15. Explain the various types of Axial Fans with a neat sketch
16. Describe various types of Duct system used to supply conditioned air to outlets.
17. Explain the working of Air Cooler with a neat sketch
18. Describe the working of window Air-conditioner with a neat sketch
19. Describe the different methods for leak testing of the following Refrigerants

    a. Ammonia b. Freon c. Sulphur Dioxide

20. Explain any six trouble shooting in Refrigeration system.

TOURISM & TRAVEL TECHNIQUES
FIRST YEAR
PAPER-II: TOURISM GEOGRAPHY, CULTURAL HERITAGE –I (THEORY)
PERIODS/WEEK : 05 **PERIOD/YEAR-135**

S. No.	Name of Unit	No of Periods	Weightage in Marks	Short Answer Questions	Essay Questions
1	Introduction to Geography	20	10	2	1
2	Indian Geography	30	16	2	2
3	A.P Geography and Tourism Resources	25	16	2	2
4	Outline of Indian History	20	10	2	1
5	Cultural Heritage of India	20	10	2	1
6.	Managing Heritage	20	08	1	1
	Total	135			

COURSE CONTENTS

1. INTRODUCTION GEOGRAPHY: - Meaning of Geography, Importance of Geography for Tourism, Climate variations, Study of Maps, Longitude, & Latitude~~, International Date Line~~, Time variations and Time Difference.

2. INDIAN GEOGRAPHY: - Physical and Political Features Of Indian Geography, ~~Various Climate Condition~~ and Forests.

3. AP GEOGRAPHY & TOURISM RESOURCES: ~~Physical And Political Features Of Andhra Pradesh Geography,~~ Various Climate Stages Of AP, Various Natural And Man- Made Tourism Resources Of Andhra Pradesh.

4. OUTLINES OF INDIAN HISTORY –Evolution Of Indian Culture, ~~AP – Brief History And Culture Features.~~

5. CULTURAL HERITAGE OF INDIA-Heritage Meaning and Importance; Heritage Site, ~~World Heritage Site: Criteria for Selection~~, Monuments and Architect.

6. MANAGING HERITAGE –How To Manage Heritage. Protection Conservation & Preservation of Cultural Heritage, Marketing For Heritage.

DELETED TOPICS

S .NO	Unit No. Name of the Unit	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1	International Date line
2	Unit-2	Various Climate Condition
3	Unit-3	Physical And Political Features Of Andhra Pradesh Geography,
4	Unit-4	AP –Brief History And Culture Features.
5	Unit-5	World Heritage Site: Criteria For Selection
6	Unit-6	

TOURISM & TRAVEL TECHNIQUES

I YEAR

PAPER III: TOURISM PRODUCTS-I (THEORY)

PERIODS/WEEKS: 05 **PERIODS/YEAR- 135**

S. NO.	NAME OF THE UNIT	NO. OF PERIODS	WEIGHTAGE AND MARKS	SHORT ANSWER QUESTIONS	Essay Question
1	Introduction to tourism products	20	10	2	1
2	Nature based tourism products	20	16	2	2
3	Culture based tourism products-I	30	16	2	2
4	Culture based tourism products-II	25	10	2	1
5	Recreation based tourism products	20	10	2	1
6	Adventure based products	20	08	1	1
		135			

COURSE CONTENTS:

1. Introduction to tourism products: - meaning and definition of tourism products, ~~characteristics of tourism products,~~ different types of tourism products
2. Nature based products: - Various tourism products based on climate, Landscape, ~~mountains~~, Rocks, valleys, caves, deserts, ~~Rivers, lakes~~, beaches, waterfalls, wildlife centaury, and National parks.
3. Culture based products part-I : - Historical places, ~~Archaeological sites~~, Heritage sites, Museums, Art Galleries.
4. Culture based products part- II: - ~~Religious and spirituals centres~~, Dance forms, ~~Music,~~ Fair & Festivals, Folk arts, tourist festivals.
5. Recreation based products: - ~~Duty free shops, malls~~, cinema halls, Theatre, Theme parks, Amusement parks, Resorts.
6. Adventure based products: - Various land based sports, ~~water sports~~, Air - sports

DELETED TOPICS

S .NO	**Unit No. Name of the Unit**	**Topic /Sub Topic to be Deleted in detail heads**
1	Unit-1	characteristics of tourism products
2	Unit-2	mountains, Rivers, lakes
3	Unit-3	Archaeological sites,
4	Unit-4	Religious and spirituals centres
5	Unit-5	Duty free shops, malls
6	Unit-6	water sports

TOURISM AND TRAVEL TECHNIQUES
APPLICATION OF COMPUTER FOR TOURISM & TRAVEL
PAPER-III- THEORY (2ND YEAR)

Periods /Week : 05 **Periods /year : 115**

S. No.	Name of the Unit	No. of periods
1.	Introduction to computer	10
2.	MS-Office	30
3.	MS-Excel /Power point	30
4.	Net working	10
5.	Internet / CRS	30

Course contents:

1. Computer Lab – Introduction to computers.
2. MS-Word- MS-word documents preparation, using word commands.
3. MS-Excel / MS-power point – preparation of excel sheets; excel command practices, power point presentation, and power point commands practices.
4. Net working – understudy LAN, Wan.
5. Internet /CRS- Browsing Internet, Google search, creating e-mail-ID, CRS- practices.

Unit 1 :- Introduction to Computers 1.1. Introduction 1.2. Meaning and Definition of Computer 1.3. Historical Evolution of Computer 1.4. Computer Terminology – Abbreviations & Definitions 1.5. Components of Computers ~~1.6. Types of Computers~~ ~~1.7. Characteristics of Computers~~ 1.8. Uses of Computers ~~1.9. Role of Computers/ IT in different service sectors~~ 1.10. The Applications of Computers on Tourism Industry
Unit 2 :- MS Office 2.1 Introduction to MS- Office 2.2 Origin of MS- Office 2.3 Components of MS- Office ~~2.4 Main Features of MS Office~~ 2.5 Importance & Advantages of MS- Office 2.6 Introduction of MS Word ~~2.7 MS- Word Document Preparation~~ 2.8 Using Word Commands
Unit 3: Introduction to MS- Excel 3.1 Components of MS-Excel 3.2 Uses and Advantages of MS Excel 3.3 Main functions of MS-Excel 3.4 Operation Procedures of Excel ~~3.5 Introduction to MS- PowerPoint~~ 3.6 Preparation of MS- Excel Sheets ~~3.7 Excel Command Practices~~ ~~3.8 PowerPoint Presentation~~ 3.9 Power Point Commands
Unit 4:- Networking 4.1 Introduction to Networking 4.2 Types of Networking 4.3 Network Topology ~~4.4 Understanding LAN~~ 4.5 Main features of LAN 4.6 LAN Networks 4.7 Understanding WAN ~~4.8 Networks of WAN~~
Unit 5 :- Internet & CRS

5.1. Introduction to Internet
5.2. History of Development of Internet
5.3. Advantages & Disadvantages of Internet
5.4. Functions of Internet
5.5. Role of Internet in Tourism Industry
~~5.6. Browsing Internet~~
~~5.7. Google Search~~
5.8. E-Mail
5.9. Computer Reservation System & Practices

DELETED TOPICS

S .NO	Unit No.	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1	1.6. Types of Computers 1.7. Characteristics of Computers 1.9. Role of Computers/ IT in different service sectors
2	Unit-2	2.4 Main Features of MS Office 2.7 MS- Word Document Preparation
3	Unit-3	3.5 Introduction to MS- PowerPoint 3.7 Excel Command Practices 3.8 PowerPoint Presentation
4	Unit-4	4.4 Understanding LAN 4.8 Networks of WAN
5	Unit-5	5.6. Browsing Internet 5.7. Google Search

FASHION GARMENT MAKING
1st YEAR
PAPER- I FUNDAMENTALS OF GARMENT CONSTRUCTION
THEORY

Periods / week: 05 Periods / year 135

S.No	Name of the Unit	No. of Periods	Weightage in marks	Short Answer Questions	Problem Questions
1. 1	**Sewing equipment and tools**: Measuring, Marking, Cutting, ~~General tools and Pressing tools~~ – their selection, use and care	10	2	1	
2.	**Sewing machine:** Types of sewing machines- domestic models, Parts and functions, Threading the ~~machine, Machine adjustments- stitch length,~~ tension, changing the needle, minor defects and repair, Care of machine- cleaning and oiling	15	8	1	1
3.	**Hand sewing techniques:** Temporary stitches- uneven and even; Permanent stitches- running, ~~back stitch, run and back~~; hemming- ~~slip~~, knotted hemming; suitability of stitches for various fabric types	15	8	1	1
4.	**Seams and seam finishes:** Importance, and types- Plain, French, ~~Flat and fell~~, Lapped, ~~Bound, Counter seam;~~ suitability of seams to various fabric types and end uses Seam finishes- importance; types - Pinking, Double stitch, Edge stitch finish; suitability on different fabrics	15	8	1	1
5.	**Creating fullness in garments :** Methods: Tucks- Pin, Shell, Cross; Pleats – Knife, Box, Inverted box: Gathering ; ~~Shirring~~; Ruffles ~~and godets~~; Smoking – preparation and stitches used	15	8	1	1
6.	**Placket Openings**: Standards of a good placket; Types – Continuous, Bound and faced, ~~Zipper, Tailored~~	15	8	1	1
7.	**Methods of finishing necklines** Bias strip and its preparation; Application of bias facing, bias binding and ~~fitted facing.~~	15	8	1	1
8.	**Types of Fasteners and their suitability to different openings** Types -Buttons and button holes; Hooks and eyes-~~metal, thread~~; Press buttons; Fancy buttons;	15	8	1	1

S.No	Name of the Unit	No. of Periods	Weightage in marks	Short Answer Questions	Problem Questions
	Suitability, ~~Positioning, stitching~~ of fasteners				
9.	**Importance of paper patterns** Types of paper patterns, contents of patterns and its uses	10	8	1	1
10.	**Body measurements :** ~~Principles and rules in~~ Measuring ; ~~Direct and Standard system of measurements~~	10	2	1	

DELETED TOPICS

S .NO	Unit No. Name of the Unit	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1	General tools and Pressing tools
2	Unit-2	machine, Machine adjustments- stitch length,
3	Unit-3	back stitch, run and back;
4	Unit-4	Flat and fell, Bound, Counter seam;
5	Unit-5	Shirring, and godets
6	Unit-6	Zipper, Tailored
7	Unit-7	fitted facing.
8	Unit -8	metal, thread; Positioning, stitching
9	Unit -9	
10	Unit -10	Principles and rules in ,Direct and Standard system of measurements

FASHION GARMENT MAKING
1st YEAR
PART- B – VOCATIONAL SUBJECTS
PAPER- II FUNDAMENTALS OF TEXTILES
THEORY

Periods / week: 05 Periods / year 135

Time Schedule, Weightage & Blue Print

S.No	Name of the Unit	No. of Periods	Weightage in marks	Short Answer Questions	Problem Questions
1.	**Textile terms and definitions:** Fiber, Yarn, Filament, Staple, Count, ~~Denier, Thermoplastic~~, Elasticity, ~~Hydrophilic, Hydrophobic, Elongation,~~ Absorbency, Luster, Heat Sensitivity, Solubility, Resiliency, ~~Cohesiveness~~	15	2	1	
2.	**Classification of fibers:** Natural,- vegetable, animal, ~~mineral;~~ Manmade-cellulosic, ~~synthetic~~ Classification by length – staple, filament	15	8	1	1
3.	**Processing cotton fiber and its properties:** Processing cotton - Opening, Blending, Carding, Combing, Drawing and ~~Spinning; Properties-physical, Chemical~~	15	8	1	1
4.	**Processing wool fiber and its properties** Types of wool- Pulled, Lamb's Wool; ~~Processing – Shearing, Sorting, Scouring, Oiling, Dyeing;~~ Properties-Physical, Chemical	15	8	1	1
5.	**Processing silk fiber and its properties:** ~~History of silk; Cultivation of Silk Worm,~~; Processing- Sorting, Softening, Reeling, Spinning; Properties-Physical, Chemical	15	8	1	1
6.	**Origin, manufacture and properties of manmade cellulosic-Rayon fiber** Manufacture ; Processing- Spinning, ~~Dyeing;~~ Properties-Physical, ~~Chemical~~	15	8	1	1
7.	**Origin, manufacture and properties of manmade synthetic fiber-Polyester** ~~Manufacture ; Processing- Spinning,~~ dyeing; Properties-Physical, Chemical	15	8	1	1
8.	**Types of yarns :**	10	8	1	1

S.No	Name of the Unit	No. of Periods	Weightage in marks	Short Answer Questions	Problem Questions
	Classification – Simple, Double, Ply, Cord ; Novelty Yarns / ~~Fancy Yarns~~ Yarn twist, ~~yarn fineness~~				
9.	**Fabric construction methods:** Major methods-Weaving, ~~Knitting,~~ Other methods -Felting, ~~Non woven, laces, nets~~	10	8	1	1
10.	**Textile finishes :** Classification of finishes-mechanical, ~~chemical;~~ Mechanical-Calendaring, Singeing, ~~Tentering,~~ Napping,; Chemical finishes-Bleaching~~, Mercerizing, Burnt out~~	10	2	1	

DELETED TOPICS

S .NO	Unit No. Name of the Unit	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1	Denier, Thermoplastic, Hydrophilic, Hydrophobic, Elongation, Cohesiveness
2	Unit-2	mineral; synthetic
3	Unit-3	Spinning; Properties-physical, Chemical
4	Unit-4	Processing – Shearing, Sorting, Scouring, Oiling, Dyeing;
5	Unit-5	History of silk; Cultivation of Silk Worm
6	Unit-6	Dyeing; Chemical
7	Unit-7	Manufacture ; Processing- Spinning,
8	Unit -8	Fancy Yarns ,yarn fineness
9	Unit -9	Knitting, , Non woven, laces, nets
10	Unit -10	chemical; Tentering, Mercerizing, Burnt out

FASHION GARMENT MAKING
1st YEAR
PAPER-III FASHION AND APPAREL DESIGNING [THEORY]

Periods / week: 05 Periods / year 135

S.No	Name of the Unit	No. of Periods	Weightage in marks	Short Answer Questions	Problem Questions
1.	**Introduction to Design :** Elements of Designing - ~~Colour,~~ Line, Texture, ~~Shape~~ -Principles of Design - Balance, Rhythm, ~~Proportion,~~ Harmony, Emphasis	20	8	1	1
2.	**Colour and colour theory :** Colour charts -Prang colour chart; Value, Hue and Intensity; Tints, Shades; Colour harmonies- Monochromatic, Complementary, ~~Split Complementary,~~ Analogous, ~~Triad;~~ Use of colour in designing	25	16	2	2
3.	**Introduction to elements of fashion :** Classification of fashion, Definition of fashion Fashion Terminology- Fashion, Style, Garment, Silhouette, ~~Avant Garde~~, Fad, ~~Craze,~~ Classic, Couture, ~~Knock-Offs;~~ Fashion cycle-importance and length of cycles Fashion theories- Trickle down, Bottom up, Trickle across; ~~Silhouettes and their types~~	25	16	2	2
4.	**Designing Process :** Theme based - designing fashion illustrations, ~~Colours and Textures~~	25	16	2	2
5.	**Designers of India :** Famous designers of India- any ten designers and their work for fashion industry	20	16	2	2
6.	**Fashion and fabric information :** Through different media like films, news papers, magazines, ~~fashion services,~~ ~~fashion advertisements.~~	20	8	1	1

DELETED TOPICS

S .NO	Unit No. Name of the Unit	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1	Colour, Shape, Proportion
2	Unit-2	Split Complementary, Triad
3	Unit-3	Avant Garde, Knock-Offs; Silhouettes and their types
4	Unit-4	Colours and Textures
5	Unit-5	
6	Unit-6	Fashion services, fashion advertisements.

FASHION GARMENT MAKING
2nd YEAR
PAPER-I ADVANCED DRESS DESIGNING [THEORY]

Periods / week: 05 Periods / year 110

S. No	Name of the Unit	No. of Periods	Weightage in marks	Short Answer Questions	Problem Questions
1.	**Garment Making Principles :** Drafting, Draping and Flat pattern designing- Definition, ~~advantages and disadvantages of each type~~	10	8	1	1
2.	**Handling methods for various fabrics** Handling of Chiffon, Georgette, ~~Pile fabrics, Velvets, Lace fabrics~~, One way design fabrics, Satins, Fabric preparation techniques; Types of layouts and cutting methods.	10	8	1	1
3.	**Selection of Clothing :** Selection of fabrics and garment styles according to age, occasion, ~~figure type~~, fashion, ~~colour~~ suitability for Children , Adolescents, Adults, ~~old age people.~~	10	8	1	1
4.	**Types of Sleeves:** Basic sleeve and its adaptation into different sleeve types- Puff Sleeve and Its variations, Bell Sleeve, Bishop Sleeve, Kimono Sleeve ~~Raglan Sleeve~~, Umbrella Sleeve, ~~Leg-O Mutton; Suitability of sleeves types to figure types~~	20	10	2	1
5.	**Drafting Yokes :** Definition; Types of yokes**.** Selection of yoke design for different dresses, ~~Creating variety~~	10	8	1	1
6.	**Drafting of Collars :** Introduction to different collar types; Terms used in collars ; ~~Creating variety in collar designs~~	20	10	2	1
7.	**Pattern Grading :** Introduction to Grading, Grading Principles, Methods of Grading, ~~Grading Machine; Grading Procedure for Basic Slopers~~	10	8	1	1
8.	**Automation in Garment Industry :** Importance, ~~Laying~~, cutting, sewing and finishing equipment	20	8	1	1

DELETED TOPICS

S .NO	Unit No.	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1	advantages and disadvantages of each type
2	Unit-2	Pile fabrics, Velvets, Lace fabrics,
3	Unit-3	figure type, colour
4	Unit-4	Raglan Sleeve, Leg-O Mutton; Suitability of sleeves types to figure types
5	Unit-5	Creating variety
6	Unit-6	Creating variety in collar designs
7	Unit-7	Grading Machine; Grading Procedure for Basic Slopers
8	Unit -8	Laying

FASHION GARMENT MAKING
2nd YEAR
PAPER-II TRADITIONAL TEXTILES [THEORY]

Periods / week: 05 Periods / year 110

S.No	Name of the Unit	No. of Periods	Weightage in marks	Short Answer Questions	Problem Questions
1.	**Study of Motifs:** Types of Motifs - Geometric, Natural ~~Abstract, Stylized,;~~ types of layouts- Side and ~~half drop~~, Border, all over. Mofits of India - Styles & color combinations	25	16	2	2
2.	**Hand Woven Fabrics of India:** Study of Dacca Muslins, Chanderi, Potala, ~~Paithani,~~ Pitambari, Himurs, Armus, ~~Baluchar, Buttedar,~~ Pochampalli; Motifs used, colours used in these textiles	30	18	3	2
3.	**Traditional Dyed, Painted and Printed textiles of India:** Bandhani's, ~~Kalamkari, Madhubani Batik~~ and other resist dyed textiles; Printed textiles of Rajasthan; ~~Process~~, Designs and colours used for different types mentioned above	35	18	3	2
4.	**Traditional Embroidered textiles of India:** Banjara, ~~Kutch, Kasheeda,~~ Kasuti, Kantha, Chikunkari, ~~Chambarumals,~~ Pulkari	20	16	2	2

DELETED TOPICS

S .NO	Unit No. Name of the Unit	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1	Abstract, Stylized,; half drop
2	Unit-2	Baluchar, Buttedar,
3	Unit-3	Kalamkari, Madhubani Batik, Process
4	Unit-4	Kutch, Kasheeda, Chambarumals,

FASHION GARMENT MAKING
2nd YEAR
PAPER-III FASHION GARMENT DESIGNING [THEORY]

Periods / week: 05 Periods / year :110

S. No	Name of the Unit	No. of Periods	Weightage in marks	Short Answer Questions	Problem Questions
1	**Designing through flat pattern technique:** ~~Principles;~~ terminology Material used; Techniques followed	10	8	1	1
2	**Designing through draping** ~~Basic tools,~~ Principles of draping	20	10	2	1
3	**Fashion Scenario**	10	8	1	1
4	**Status of Indian apparel Industry**	10	8	1	1
5	**Fashion Accessories:** Bags, Shoes, Jewellery, Hats, Scarves, Ties, Belts and buckles; ~~Terminology used in each; Various Designs~~	20	10	2	1
6	**Study on different costumes styles of India** a) Andhra Pradesh b) Tamilnadu c) Karnataka e) ~~Maharashtra~~ f) Punjab g) Rajasthan h~~) Kashmir~~ ~~i) Gujarat~~	20	16	2	2
7	**Fashion Merchandising and Marketing:** Basic terminology, ~~Core Concepts~~, Product development, Product Pricing, ~~Branded versus unbranded items~~	20	8	1	1

DELETED TOPICS

S .NO	Unit No.	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1	Principles
2	Unit-2	Basic tools,
3	Unit-3	
4	Unit-4	
5	Unit-5	Terminology used in each; Various Designs
6	Unit-6	e) Maharashtra h) Kashmir i) Gujarat
7	Unit-7	Core Concepts ,Branded versus unbranded items

MODEL QUESTION PAPERS

FASHION GARMENT MAKING
1st YEAR
PART- B – VOCATIONAL SUBJECTS
PAPER- I FUNDAMENTALS OF GARMENT CONSTRUCTION THEORY

Time: 3 hrs Max. Marks: 50

SECTION – A 10 x 2 = 20

Note: (i) Answer all questions.
(ii) Each question carries **two** marks.

1. Give the broad classification of sewing machines
2. List the types of sewing machines
3. How do you Start tacking?
4. How seams are broadly classified?
5. What is a tuck?
6. Classify the plackets
7. What is true bias?
8. What are the different types of buttonholes?
9. What is a sloper?
10. What is basic equipment required to take body measurements?

SECTION - B 5 x 6 = 30

Note: (i) Answer any **five** questions.
(ii) Each question carries **six** marks.

11. Write about the different types of cutting tools used in sewing process?
12. Explain the steps involved in Threading the machine
13. Write a short note on temporary hand stitches
14. What are the factors that effect in selection of seams and seam finishes?
15. What are ways of introducing the fullness in garments? Explain about tucks and pleats
16. write good standards of placket
17. what is bias binding / Explain the methods followed
18. Explain the difference between the hooks and eyes
19. what is commercial pattern and discuss about Content of a commercial pattern
20. How do you take upper bodice measurements?

FASHION GARMENT MAKING
1st YEAR
PART- B – VOCATIONAL SUBJECTS
PAPER- II FUNDAMENTALS OF TEXTILES
THEORY

Time: 3 hrs Max. Marks: 50

SECTION – A 10 x 2 = 20

Note: (i) Answer all questions.
(ii) Each question carries **two** marks.

1. What is filament fibers?
2. How does the vegetable fiber classified?
3. List out uses of cotton.
4. What is felting?
5. What the types of silk?
6. What is rayon fiber?
7. How are polyester fibers formed?
8. What is yarn twist?
9. What is wearing?
10. What is napping?

SECTION - B 5 x 6 = 30

Note: (i) Answer any **five** questions.
(ii) Each question carries **six** marks.

11. What is pilling, staple and filament?
12. Write down the sources of manmade fiber?
13. Write down physical properties of cotton.
14. How is wool classified?
15. Explain about the processing steps of silk fiber.
16. How rayon different from silk fiber?
17. Describe the flow chart of polyester manufacture
18. Write any three types at novelty Yarns with diagrams.
19. What are the parts of loom? Explain with diagram?
20. What are the different types & calendaring?

FASHION GARMENT MAKING

1st YEAR

PART- B – VOCATIONAL SUBJECTS

PAPER-III **FASHION & APPAREL DESIGNING**

THEORY

Time: 3 hrs Max. Marks: 50

SECTION – A 10 x 2 = 20

Note: (i) Answer all questions.
(ii) Each question carries **two** marks.

1. What is a story board ?
2. What are catalogues?
3. Who is called as the "Bad Boy of fashion world"?
4. Which designer is famous for block prints?
5. How does a line start ?
6. What is meant by couture?
7. What is the difference between Style and fashion?
8. What are the properties of color?
9. Write short note on the use of color in designing.
10. What is meant by radial balance?

SECTION - B 5 x 6 = 30

Note: (i) Answer any **five** questions.
(ii) Each question carries **six** marks.

11. Differentiate between

    a) chintz and chiffon fabrics. b) Damask and brocade fabrics.

12. what are the basic requirements of a designer?
13. write about Tarun Tahiliani as a designer
14. Write about story boards and their preparation
15. How are color, swatch and illustration boards created?
16. Describe fashion cycle.
17. Write about theories of fashion adoption.
18. What are the different major color harmonies
19. How can harmony be introduced into garments?
20. what are the different types of balance used in clothing

FASHION GARMENT MAKING
2nd YEAR
PART- B – VOCATIONAL SUBJECTS
PAPER-I ADVANCED DRESS DESIGNING
THEORY

Time: 3 hrs Max. Marks: 50

SECTION – A 10 x 2 = 20

Note: (i) Answer all questions.
(ii) Each question carries **two** marks.

1. What is Draping?
2. What is stay stitching?
3. Write about laced fabrics.
4. List out various parts of sleeve
5. What is Bell sleeve?
6. How do you decorate Yoke?
7. Mention the terms used in collar ?
8. What is Ruffle collar?
9. Write any two grading Principles?
10. Name the sewing machine used of apparel Industry?

SECTION - B 5 x 6 = 30

Note: (i) Answer any **five** questions.
(ii) Each question carries **six** marks.

11. Explain in detail about Drafting
12. Write in detail different types of layout.
13. Write short notes
    a) Chiffon b) satin c) Georgette
14. Explain in detail about selection of fabrics?
15. Explain the drafting procedure of Bishop Sleeve?
16. Explain in detail about different types of puff sleeves?
17. Explain about mid-riff yoke?
18. With the help of the diagram explain scalloped collar.
19. Write about the methods of grading
20. Write in detail about catting machine.

FASHION GARMENT MAKING

2nd YEAR

PART- B – VOCATIONAL SUBJECTS

PAPER-II TRADITIONAL TEXTILES

THEORY

Time: 3 hrs Max. Marks: 50

SECTION – A 10 x 2 = 20

Note: (i) Answer all questions.

(ii) Each question carries **two** marks.

1. Define motif
2. What are realistic motifs
3. What are boRder layouts
4. What do you mean buy Muslin? Explain?
5. Which states of India produce tie and die textiles?
6. What are the types of bhandini's?
7. What is pat in madhubani, Paintings?
8. What is resist dyeing?
9. What is meant by kantha?
10. Explain the stitches used in kasauti work?

SECTION - B 5 x 6 = 30

Note: (i) Answer any **five** questions.

(ii) Each question carries **six** marks

11. Classify and explain the types of motifs with Examples
12. Define pattern layout. Enumerate the types of pattern layouts with suitable diagrams,
13. Explain the process of wearing Chanderi sarees?
14. Write about the dyeing process of Pochampalli Textiles
15. What are the traditional woven textile in Maharashtra? Explain in brief the process of weaving?
16. Give the detail process of tyeing and dying in Bhandini's of India?
17. Write about the printed textiles of Rajasthan?
18. Give an overview of painted textiles of traditional India?
19. Explain about the Phulkari of Punjab
20. What is chikankari embroidery? Classify and explain about the stitches used in chikankari work

FASHION GARMENT MAKING
2nd YEAR
PART- B – VOCATIONAL SUBJECTS
PAPER-III FASHION GARMENT DESIGNING
THEORY

Time: 3 hrs Max. Marks: 50

SECTION – A 10 x 2 = 20

Note: (i) Answer all questions.
(ii) Each question carries **two** marks.

1. Write two uses pivot method?
2. What are the principles used in draping?
3. List out the tools used in draping.
4. What is the history of apparel industry in India?
5. What is fashion?
6. List out the types of shoes
7. What is chokar?
8. List out the costumes of Punjab.
9. What is a choli?
10. What is product pricing?

SECTION - B 5 x 6 = 30

Note: (i) Answer any **five** questions.
(ii) Each question carries **six** marks.

11. Write in detail about slash and spread method.
12. Describe the various pattern making tools.
13. write the present stations of garment units
14. write about shoes
15. write in detail about varieties of bags
16. What are the points to be considered while draping the garment?
17. Explain in detail about costumes of Andhra Pradesh
18. Write about male and female costumes of Tamil nadu.
19. Describe the following
    a) Design
    b) Adaptation
    c) man fashion.
20. Explain briefly about the history of fashion.

HOTEL OPERATIONS
FIRST YEAR
PAPER – I: FOOD PRODUCTION – I

Sl. No.	Unit	Periods (hrs)	Weightage in marks	Short Answer questions	Essay type questions.
1.	**INTRODUCTION TO COOKERY** a) Culinary History: Indian Regional Cuisine, French & International Cuisines b) ~~Aims & Objectives of Cooking~~ – Effect of cooking, characteristics of raw materials: salt, liquids, sweetening, fats & oils, thickening & binding agents, flavourings & seasonings, spices & herbs c) Preparation of Ingredients: • Mise-en-place • Terms used in preparation of food ~~d) Texture~~	20	16	2	2
2.	**PRINCIPLES OF COOKING & MENU PLANNING** a) Cooking techniques • Methods of heat transfer • Different methods of cooking & their basic rules ~~• Infra-red cooking~~ ~~• Microwave cooking~~ b) Principles of Menu Planning – points to be considered while planning	20	8	1	1
3.	**UNDERSTANDING MAJOR COOKING INGREDIENTS** a) Cooking Pulses, rice & cereals ~~b) Vegetable cookery – Classification, composition, cuts & dishes~~ c) Egg Cookery – Structure, composition, use in cookery & bakery, dishes d) Fish cookery – Classification, cuts, selection & purchase guidelines, dishes ~~e) Poultry & Game Cookery – Classification, cuts of chicken, dishes~~ f) Meat Cookery – Pre slaughtering stages, factors affecting quality of meat, tenderizing meat, various cuts of Beef, veal & pork	20	16	2	2
4.	**BASIC PREPARATIONS** ~~a) Stocks: Definition, types & preparation~~ b) Sauces: Definition, types & preparation, dishes c) Soups: Definition, classification, preparation, International soups d) Salads: parts of salad, classification & types, dressings, classical examples ~~e) Garnishes & Accompaniments~~	20	16	2	2
5.	**KITCHEN OPERATIONS** a) The Hierarchy b) Attitude towards work c) Grooming & Personal hygiene d) Duties & responsibilities ~~e) Coordination with other departments~~	20	8	1	1

Sl. No.	Unit	Periods (hrs)	Weightage in marks	Short Answer questions	Essay type questions.
	f) Kitchen Equipment & tools – types, safety & precautions, general maintenance ~~g) Types of fuels & uses~~ h) Kitchen hazards – accidents & fire				
6.	**KITCHEN CONTROLS** a) Standard recipe system b) Portion control c) Food cost control d) Waste management ~~e) Garbage disposal~~	15	6	-	1
7.	**INTRODUCTION TO BAKERY & CONFECTIONERY** ~~a) Basic principles of Bakery & bakery terms~~ b) Bread • Role of various ingredients in bread making • Methods of bread making • Faults & remedies c) Cakes – Types, manufacturing process, faults & remedies ~~d) Cookies: Types, making, faults & remedies~~ e) Sugar: Importance of sugar, types of sugar, various stages of sugar cookery	20	14	1	2

DELETED TOPICS

S .NO	Unit No. Name of the Unit	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1	Aims & Objectives of Cooking, Texture
2	Unit-2	• Infra-red cooking • Microwave cooking
3	Unit-3	• Vegetable cookery – Classification, composition, cuts & dishes • Poultry & Game Cookery – Classification, cuts of chicken, dishes
4	Unit-4	• Stocks: Definition, types & preparation • Garnishes & Accompaniments
5	Unit-5	• Coordination with other departments • Types of fuels & uses
6	Unit-6	Garbage disposal
7	Unit-7	• Basic principles of Bakery & bakery terms • Cookies: Types, making, faults & remedies

HOTEL OPERATIONS
FIRST YEAR
PAPER – II: FOOD & BEVERAGE SERVICE – I

Sl. No.	Name of the Unit	No. of periods	Weightage in marks	Short answer questions	Essay type questions
1.	**INTRODUCTION TO HOSPITALITY INDUSTRY** a) Growth and development of catering industry b) Career opportunities ~~c) Classification of catering industry~~ d) Types of service operations	20	10	2	1
2.	**F&B SERVICE ORGANIZATION** a) Classification of F&B service department in a hotel b) Staff organization of F&B service department – Duties & responsibilities ~~c) Coordination with other departments~~ d) Attributes of a waiter	15	10	2	1
3.	**RESTAURANT OPERATIONS** a) Restaurant equipments : Types, standard sizes, care & maintenance, cleaning & polishing b) Duties of a waiter c) Mise-en-scene & Mise-en-place ~~d) Rules to be observed while laying a table and waiting at a table~~ e) Guest cycle f) Types and styles of food & beverage service: factors to be considered while deciding upon style of service i. Table service: • Silver service • American service • English service • French service • Russian service • Gueridon service • Bar ii. Assisted service • Carvery • Buffet iii. Self service • Counter service • Free flow • Echelon • Super market ~~iv. Single point service~~ ~~• Take away~~ ~~• Drive through~~ ~~• Fast food~~ ~~• Vending~~ ~~• Kiosk~~ ~~• Food court~~ v. Specialized form of service • Tray service • Trolley • Home delivery • Lounge • Room service • Drive in g) Room service	30	16	2	2

Sl. No.	Name of the Unit	No. of periods	Weightage in marks	Short answer questions	Essay type questions
4.	MEALS & MENU PLANNING a) Origin and functions of menu ~~b) Objectives of menu planning~~ c) Types of menu d) Courses of French classical menu e) Types of meals: i. Early morning tea ii. Breakfast (Continental, English, American, Indian) iii. Brunch iv. Lunch v. Afternoon / High tea vi. Dinner vii. Supper f) Non-alcoholic beverages i. Classification (Nourishing, Stimulating & Refreshing) ii. Tea: Origin, manufacturing, types & brands iii. Coffee: Origin, manufacturing, types & brands iv. Juices & soft drinks: Brand names of juices, soft drinks, mineral water, tonic water, energy drinks v. Cocoa and malted beverages: origin and manufacture ~~g) Tobacco~~ ~~i. History~~ ~~ii. Processing of cigarettes, pipe tobacco and cigars~~ iii. ~~Cigars: Parts, shapes, colours, sizes, service, storage~~	40	22	2	3
5.	**SIMPLE CONTROL SYSTEMS** ~~a) Necessity of control system in a restaurant~~ b) Functions of a control system c) Forms of KOTs' and Bills d) Triplicate checking system e) Cash handling equipment f) Record keeping	30	10	2	1

DELETED TOPICS

S .NO	Unit No.	Topic /Sub Topic to beDeleted in detail heads
1	Unit-1	c) Classification of catering industry
2	Unit-2	a) Coordination with other departments
3	Unit-3	d) Rules to be observed while laying a table and waiting at a table vi. Single point service • Take away • Drive through • Fast food • Vending • Kiosk • Food court
4	Unit-4	a) Objectives of menu planning g) Tobacco iv. History v. Processing of cigarettes, pipe tobacco and cigars Cigars: Parts, shapes, colours, sizes, service, storage
5	Unit-5	a) Necessity of control system in a restaurant

HOTEL OPERATIONS
FIRST YEAR
PAPER – III: ROOM DIVISION OPERATIONS – I

Hours – 135, Marks – 50

Sl. No	Unit	Periods (hrs)	Weightage in marks	Short Answer Questions	Essay type questions
1.	**INTRODUCTION TO HOSPITALITY INDUSTRY** ~~a) Evolution and growth of the Hospitality Industry~~ ~~• Indian~~ ~~• International~~ b) Classification of hotels • Size • Target Market • Levels of service • Management & affiliation • Star categorization in India • Others c) Types of rooms d) Examples of hotels in each category	10	08	1	1
2.	**ROOMS DIVISION – INTRODUCTION** ~~a) Functional organization of an all service hotel~~ b) Functional organization of a Rooms division c) Understanding the difference in functional organization, service & facilities between different star categorized hotels d) Hierarchy of Front Office & House Keeping brigades e) Job descriptions of the Accommodation department staff f) Interdepartmental coordination between Front Office & other departments g) Attributes of Front office & Housekeeping staff	20	08	1	1
3.	**ROOMS DIVISION LAYOUT** ~~a) Layout of hotel lobby~~ b) Layout of hotel house keeping c) Linen room & Laundry	20	06	0	1
4.	**FRONT OFFICE OPERATIONS** a) Guest cycle b) Formats and equipment used in front office c) Categorization of guests a. FIT b. Groups c. Crews etc… d) Associated functions in the guest cycle and the operating staff e) Basis of charging room tariff a. Check in checkout basis b. 24 hr basis c. Packages ~~f) Different types of tariff~~ ~~a. Rack rate/printed tariff~~ ~~b. Discounted rates~~ ~~i. CVGR~~	25	16	2	2

Sl. No	Unit	Periods (hrs)	Weightage in marks	Short Answer Questions	Essay type questions
	~~ii. Government rate.~~ ~~iii. Group rate.~~ ~~iv. Hospitality membership.~~ ~~c. Food plans~~ ~~i. European Plan~~ ~~ii. Bermuda Plan etc…~~ ~~g) Basis for pricing a room~~ ~~a. Hubbart's formula~~ b. Rule of thumb c. Market condition approach d. Day rate. e. Hourly rate				
5.	**RESERVATIONS** a) Importance of reservations b) Formats & reports used at reservations c) Handling telephonic reservations d)Telephone etiquettes • Telephone equipment used • Standard phrases • Handling calls for reservations • Handling calls for enquiries e) Handling reservations via other media f) Understanding CVGR and credit lists	20	08	1	1
6.	**BELL DESK/CONCIERGE – UNIFORMED STAFF** a) Organization of bell desk b) Hierarchy of bell desk c) Duties & responsibilities of bell desk staff d) Role of bell desk during check in & check out of guests e) Information directory a. Local site seeing b. Shopping f) Attributes of bell desk personnel	10	10	2	1
7.	**HOUSE KEEPING** a) Cleaning Equipment and its uses • Classification of equipment • Mechanical equipment • Containers, brushes, mops & broom b) Cleaning agents and their uses • Classification of cleaning agents • Types ~~c) Guest Supplies~~ ~~d) Bed making~~ e) Various formats used in House keeping	25	16	2	2
8.	**COMPUTERIZATION OF HOTELS** a) Names of software used at hotel b) Advantages & disadvantages of computers c) Equipment used in IT department	10	08	1	1

DELETED TOPICS

S .NO	Unit No. Name of the Unit	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1	e) Evolution and growth of the Hospitality Industry • Indian • International
2	Unit-2	a) Functional organization of an all service hotel
3	Unit-3	a) Layout of hotel lobby
4	Unit-4	Different types of tariff a. Rack rate/printed tariff b. Discounted rates i. CVGR ii. Government rate. iii. Group rate. iv. Hospitality membership. c. Food plans i. European Plan ii. Bermuda Plan etc… Basis for pricing a room d. Hubbart's formula
5	Unit-5	
6	Unit-6	
7	Unit-7	c) Guest Supplies d) Bed making
8	Unit -8	

HOTEL OPERATIONS
SECOND YEAR
PAPER – I : FOOD PRODUCTION – II

(110 hrs, 50 marks)

Sl. No.	Unit	Periods (hrs)	Weightage in marks	Short answer questions	Essay type questions
1.	**INDIAN CUISINE** a) Introduction to Indian food b) Spices used in Indian cookery ~~c) Masala mix used~~ d) Basic gravies e) Famous cuisines of India – (concise) • Kashmiri • Punjabi • Mughalai & Awadhi • Hyderabadi • Gujarati • Rajasthani • Marathi • Bengali • Goan • Chettinad • Kerala • Andhra	30	18	3	2
2.	**INTERNATIONAL CUISINES** a) French ~~& nouvelle~~ cuisine b) Italian cuisine c) Oriental cuisine	30	16	2	2
3.	**KITCHEN HYGIENE AND SANITATION** a) Food laws b) Food additives ~~c) Food adulteration~~ d) Causes of food spoilage e) Common food & water borne diseases and their prevention	20	16	2	2
4.	**ADVANCED BAKERY** a) Pastry • Short crust • Laminated • Choux • Puff b) Icings and pastry cream • Basic icing and pastry cream ~~• Uses in confectionary~~	30	18	3	2

DELETED TOPICS

S .NO	Unit No. Name of the Unit	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1	a) Masala mix used
2	Unit-2	
3	Unit-3	a) Food adulteration
4	Unit-4	Uses in confectionary

HOTEL OPERATIONS
SECOND YEAR
PAPER – II FOOD &BEVERAGE SERVICE – II

(Hours: 110, Marks: 50)

S. No.	Name of the Unit	No. of periods	Weightage in marks	Short answer questions	Essay type questions
1.	**ALCOHOLIC BEVERAGE** A. Introduction and definition B. Production of alcoholic • Fermentation process • Distillation process Classification with examples WINES A. Definition & history B. Classification with example • Table/still/natural • Sparkling • Fortified • Aromatized C. Production of wines D. Food & Wine Harmony E. Storage of wines Wine terminology (English &French) **BEER** ~~A. Introduction & Definition~~ ~~B. Types of Beer~~ ~~C. Production of Beer~~ ~~D. Storage~~ **SPRITS** A. Introduction and Definition B. Production of spirits • Pot –still method • Patent still method C. Production of • Whisky • Rum • Gin • Brandy • Vodka • Tequila D. Different Proof spirit • American Proof • British Proof (Sikes scale) • Gay Lussac (OIML Scale)	25	10	2	1
2.	**DISPENSE & COCKTAIL BARS** A. Introduction and definition B. Bar layout- physical layout of bar ~~C. Bar stock- alcohol & non alcohol beverages~~ D. Bar equipments	25	16	2	2
3.	**FUNCTION CATERING** **BANQUETS** a. History b.Types c. Organization of banquet department d. Duties and responsibilities	20	16	2	2

S. No.	Name of the Unit	No. of periods	Weightage in marks	Short answer questions	Essay type questions
	e. Sales f. Booking Procedure g. Banquet menus h. Banquet Protocol & Toasting ~~BUFFET:~~ ~~a. Introduction and types~~ ~~b. factors to plan buffet~~ ~~c. equipment~~				
4.	**FOOD COST CONTROL** a) Introduction to Cost Control b) Define Cost Control c) ~~The Objectives and advantages of Cost Control~~ d) Basic costing e) Food costing ~~**FOOD CONTROL CYCLE**~~ ~~Stages in food control cycle~~	20	16	2	2
5.	**KITCHEN STEWARDING** a. Importance b. Duties and responsibilities c .Staffing ~~d. Record keeping~~ ~~e. Inventory~~	20	16	2	2

DELETED TOPICS

S .NO	Unit No. Name of the Unit	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1	**BEER** A. Introduction & Definition B. Types of Beer C. Production of Beer D. Storage
2	Unit-2	C Bar stock- alcohol & non alcohol beverages
3	Unit-3	BUFFET: a. Introduction and types b. factors to plan buffet c. equipment
4	Unit-4	c) The Objectives and advantages of Cost Control **FOOD CONTROL CYCLE** Stages in food control cycle
5	Unit-5	d. Record keeping e. Inventory

HOTEL OPERATIONS
SECOND YEAR
PAPER – III ROOM DIVISION OPERATIONS – III
Hours – 110, Marks – 50

Sl . No.	Unit	Periods (hrs)	Weightage in marks	Short answer questions	Essay type questions.
1.	**FRONT OFFICE BASICS** • Guest Cycle - recapitulation • ~~Understanding the relation between Reservations & Registration~~ • Interdepartmental coordination between Front Office & House Keeping • Glossary of terms used at Front Office & House Keeping	10	02	1	-
2.	**REGISTRATION** a) Formats used at hotel reception b) A day as a front office assistant ~~a. Pre registration of guests~~ b. VIP blocks c. Rooms inventory d. Flight schedule c) Check in procedure for a. FIT i.DFIT ii.FFIT b. Group/Crew c. VIP/CIP/DG d. Walk in d) Check in procedure a. Receiving of guests b. Filling of relevant forms c. Key handling d. Mode of payment & advance payment policy e. Room allotment	10	08	1	1
3.	**RESPONSIBILITIES DURING GUEST STAY** a) Message handling ~~b) Paging~~ c) Mail handling d) Complaint handling etc…	10	08	1	1
4.	**CHECK OUT AND SETTLEMENT OF BILLS** a) Standard guest check out procedure ~~b) Check out procedure at Front Office & House Keeping~~ c) Handling various methods of payment a. Cash b. Credit card c. Bill to company d. Travel agents vouchers etc…	15	08	1	1
5.	**INTRODUCTION TO GUEST ACCOUNTING** • Vouchers • ~~Folios~~ • Ledgers • VTL	10	08	1	1
6.	**CLEANING ROUTINES** a) A day as a House keeping assistant b) Guest room cleaning • Cleaning process • Contents of guest room	10	08	1	1

	• Furniture • Fixtures • Bed, Mattresses, Bedding • Soft furnishings ~~c) Public area cleaning~~ ~~• Lobby~~ ~~• Corridors~~ ~~• Public restrooms~~ ~~• Elevators & Staircases etc…~~				
7.	**HOUSE KEEPING SUPERVISION** • Role of a HK supervisor • Duties & responsibilities of a supervisor	10	02	1	
8.	**DIFFERENT SURFACES USED IN HOTELS AND THEIR CARE** a) Wood & laminates b) Stone & ceramics ~~c) Leather, rubber & rexine~~ d) Metals e) Glass	15	08	1	1
9.	**FABRICS USED AT HOTELS AND THEIR CARE** a) Construction of cloth (warp/weft) b) Uniforms c) Upholstery d) Soft furnishings e) Washing/dry cleaning – chemicals used	10	08	1	1
10	**SAFETY & SECURITY** a) Theft by employee & guests ~~b) Fire, Bomb threats~~ c) Types of Keys & Key control – guestroom keys, department keys d) First aid a. Breathing disorders – asthma b. Cardiac arrest c. Burns & scalds d. Fainting	10	08	1	1

DELETED TOPICS

S .NO	Unit No. Name of the Unit	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1	• Understanding the relation between Reservations & Registration
2	Unit-2	a. Pre registration of guests
3	Unit-3	a) Paging
4	Unit-4	b) Check out procedure at Front Office & House Keeping
5	Unit-5	• Folios
6	Unit-6	d) Public area cleaning • Lobby • Corridors • Public restrooms Elevators & Staircases etc…
7	Unit-7	
8	Unit -8	e) Leather, rubber & rexine
9	Unit -9	
10	Unit -10	b) Fire, Bomb threats

HOTEL OPERATIONS

FIRST YEAR
PAPER I: FOOD PRODUCTION – I

Time: 3 hrs Max Marks: 50

Section - A

Note: (i) Answer all the questions 10x2=20
(ii) Each question carries 2 marks

1. What is Quick Bread?
2. Define pulses
3. Define Soup
4. Define a Menu
5. What is Cake?
6. Name any two Hand Tools
7. What is Grilling?
8. What is yoghurt?
9. Mention any two ingredients of bread
10. What do you mean by pastry?

SECTION - B 5 x 6 = 30

Note: (i) Answer any **five** questions.
(ii) Each question carries **six** marks.

11. Explain about the types in Cakes
12. Write about the types of Bread.
13. What are the precautions while handling kitchen equipment?
14. Write about the classification of fruits.
15. Write the classical Cuts of Fish with description.
16. Mention the types of Dairy Products.
17. Write about steps involved in cutting chicken.
18. Write about the following Cereal Products.
    a) Barley b) Millet c) Maize
19. Write the rules to be followed in vegetable Crockery to retain color and nutrients.
20. Write about the Classification of Soups.

Model question Paper

HOTEL OPERATIONS
FIRST YEAR
PAPER II: FOOD & BEVERAGE SERVICE – I

Time: 3 hrs Max Marks: 50

Section - A

Note: (i) Answer all the questions 10x2=20

(ii) Each question carries 2 marks

1. Name any two types of Catering
2. What is Inn?
3. Who is Sommelier?
4. Who is Chef de Rang.?
5. Name any two Restaurant Equipments
6. Define linen.
7. Define Menu
8. What do you mean by breakfast
9. Expand KOT
10. Mention any two modes of payment

SECTION - B 5 x 6 = 30

Note: (i) Answer any **five** questions.

(ii) Each question carries **six** marks.

11. Write about the Attributes of a water.
12. Write the features and advantages of Bars, Night clubs and Lounges
13. Write about the following Glass wares (a) Shot Glass (b) Tulip Glass (c) Red wine Glass
14. Write about the equipment handling in a restaurant
15. Write about the Growth and Development of Catering Industry.
16. Write about the classification of catering industry
17. Write the functions of menu
18. Write about continental breakfast
19. Write about the methods of order taking
20. Write the various billing methods with description

Model question Paper

HOTEL OPERATIONS
FIRST YEAR
PAPER III: ROOM DIVISION OPERATION – I

Time: 3 hrs Max Marks: 50

Section - A

Note: (i) Answer all the questions 10x2=20

(ii) Each question carries 2 marks

1. What is full service hotel?
2. Expand FIT
3. What is no show?
4. Expand HRACC
5. Write any two names of brooms.
6. What is computer?
7. Define Crew
8. What is bell desk?
9. What is front office?
10. Who is father of computer?

SECTION - B 5 x 6 = 30

Note: (i) Answer any **five** questions.

(ii) Each question carries **six** marks.

11. Classify hotels based on size
12. Write the features of full service hotel.
13. Explain about functions of room division dept. in a hotel
14. What are the Equipments used in front office?
15. What are the reservation modes?
16. Discuss about various types of food plans.
17. What are the attributes of housekeeping staff?
18. How does Computer help in hotel operation?
19. What are the advantages of computer in hotel industry?
20. Write the function of linen room.

HOTEL OPERATIONS
SECOND YEAR
PAPER I: FOOD PRODUCTION – II

Time: 3 hrs Max Marks: 50

Section - A

Note: (i) Answer all the questions 10x2=20

(ii) Each question carries 2 marks

1. Define Cuisine
2. What is the differences between awadh and mughalai Cuisine?
3. List out any four special equipment used for oriental cuisine
4. Define Cookery
5. Name any two water borne diseases.
6. Expand BIS.
7. What are the uses of royal Icing
8. How to make chocolate ganache?
9. What u pastry?
10. Name the different gravies.

SECTION - B 5 x 6 = 30

Note: (i) Answer any **five** questions.

(ii) Each question carries **six** marks.

11. Explain about the Hyderabad cuisine.
12. What are the different spices used in Indian cuisine
13. Explain about Rajasthan cuisine.
14. Write briefly about Italian Cooking
15. List out the common equipment for French Cooking
16. Write briefly about the fruit products order-1955
17. What are the Causes of food Spoilage?
18. Write the procedure of making puff pastry?
19. What is the difference between dairy whipping cream& Non-dairy whipping Cream?
20. What are the different spices used in Indian Cuisine?

HOTEL OPERATIONS
SECOND YEAR
PAPER II: FOOD & BEVERAGE SERVICE – II

Time: 3 hrs Max Marks: 50

Section - A

Note: (i) Answer all the questions 10x2=20

(ii) Each question carries 2 marks

1. Define what a beverage
2. What is wine?
3. What is bar?
4. What is cocktail shaker?
5. Define package.
6. What is cycle menu?
7. Expand FIFO.
8. What do you mean by standard recipe?
9. What is inventory?
10. Who is kitchen stewarding manager?

SECTION - B 5 x 6 = 30

Note: (i) Answer any **five** questions.

(ii) Each question carries **six** marks.

11. What is proof? Explain various scales used for measuring alcoholic strengths.
12. Explain the pot-still and the patent- still methods.
13. Draw the layout of model crowded bar with neat label
14. Differentiate between dispense bar and Cocktail bar.
15. What are the factors to be considered while planning a buffet
16. Explain about function catering.
17. What are the benefits of food cost Control?
18. What are the points must be remember, while controlling the food cost ?
19. Describe the Food wastage Dispensers.
20. Explain the process of the mechanical dish washing

Model question Paper

HOTEL OPERATIONS
SECOND YEAR
PAPER III: ROOM DIVISION OPERATION – II

Time: 3 hrs Max Marks: 50

Section - A

Note: (i) Answer all the questions 10x2=20

(ii) Each question carries 2 marks

1. What is No show.
2. Which guest is called walk in?
3. What is parcel Register?
4. Who is bell boy?
5. What u VTL?
6. What is a room Amenity?
7. What items come under floor linen?
8. Mention 5 characteristics of ceramic floor.
9. What is knitting?
10. Define master key.

SECTION - B 5 x 6 = 30

Note: (i) Answer any **five** questions.

(ii) Each question carries **six** marks.

11. List the various stages in the guest cycle in a hotels.
12. Mention the various modes by which bills can be settled in a hotel
13. What are the points to be taken Care while handling a guest complaint in a hotel?
14. Explain the various methods of payments
15. Explain the use of paid out. Voucher with the help of a diagram of the format
16. Write a note on Bed making.
17. Examine the duties of Floor Supervisor.
18. How is glass treated during cleaning Explain?
19. List and explain various chemicals used in the laundry
20. What is the first aid given during a guest suffering from Cardiac arrest?

OPHTHALMIC TECHNICIAN

I YEAR

PAPER – I: ANATOMY, PHYSIOLOGY & PHARMACOLOGY (THEORY)

Theory: 135 hours Marks: 50

S.No	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
1.	**Anatomy of the Eye**	**25**			
	• Lids • Conjunctiva Cornea and Sclera • Iris and Ciliary body • Lens and Vitreous • retina and Choroid • Ocular Muscles • Cranial Nerves – I, II, III, IV and VII • Lacrimal Apparatus. • Orbit and its immediate relations.		16	2	2
2.	**Physiology**	**50**			
	• General Physiology of the Eye and Introduction • Cornea and Lens • Pupillary Reflexes • ~~Visual Acuity and form sense~~ • Night Vision • Colour Vision • Accommodation • Convergence • Production of Aqueous • ~~Aqueous dynamics [Intra Ocular Pressure]~~ • Visual Fields • ~~Extrinsic Muscles~~, Actions and ocular Movements.		26	4	3
3.	• Ocular Pharmacology and Pathology • Mode of therapy Eg. Drops, Oral, Injection etc. • Commonly used Drugs in Ophthalmology. • Antibiotics • ~~Anti-inflammatory~~ • ~~Anti-Allergic~~ • ~~Mydriatics & Miotics~~. • Antiseptics • Methodology of applying medication to the Eye. • Aseptic Techniques. • Urine Examination. • Albumin • Sugar • Deposits. • General Information on • Infection • Inflammation • Hypersensitivity. • BP and Diabetics.	60	32	4	4
	Total	**135**			

DELETED TOPICS

S .NO	Unit No. Name of the Unit	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1	
2	Unit-2	• Visual Acuity and form sense • Aqueous dynamics [Intra Ocular Pressure] • Extrinsic Muscles,
3	Unit-3	• Anti-inflammatory • Anti-Allergic • Mydriatics & Miotics.

OPHTHALMIC TECHNICIAN

I YEAR

PAPER – II: PHYSICAL & PHYSIOLOGICAL ASPECTS OF SPECTACLES.

[THEORY]

Theory: 135 hours Marks : 50

S.No	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
	Elementary basics of light and vision	**70**			
1.	Principles of Refraction		6	-	1
2.	Retionscopy, Principles & Practice.		8	1	1
3.	Eye as refractive apparatus.		4	2	-
4.	Myopia and correction		6	-	1
5.	Hypermetropia and its correction.		2	1	
6.	Astigmatism and its correction		2	1	
7.	Presbyopia and its correction.		2	1	
8.	Prescription of Glasses.		2	1	
9.	Aphakia and ~~Pseudophakia and its correction.~~		6		1
10.	Low Visual Aids		8	1	1
	Optics	**65**			
11.	Ophthalmic Glasses		6	-	1
12.	~~Physical forms and sizes and shapes~~ [spherical – concave and convex]		6	-	1
13.	Astigmatic lenses [cylindrical and ptoric lenses]		6	-	1
14.	Prisms and its uses		6	1	1
15.	Prismatic effect		2	1	
16.	~~Chemistry of lens~~		2	1	
17.	Optical aberrations		8	1	
18.	Chemistry of frames		4	1	
19.	Measurement of power [lens meter and ~~Geneua~~ lens measure]		4	2	
20.	General Introduction of contact lens.		8	2	1

DELETED TOPICS

S .NO	Topic /Sub Topic to be Deleted in detail heads
1	• Chemistry of lens • Geneva Lens Measure • Retraction through Prism • Pseudophakia • Pseudophakia Correction • Physical forms of lenses

OPHTHALMIC TECHNICIAN

I YEAR

PAPER – III: COMMUNITY OPHTHALMOLOGY AND HEALTH EDUCATION

S.No	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
I.	**Examination of the Eye**	**10**	**10**		
II.	**Practical Demonstration of Eye problems and their management and referral**				
a)	Conjunctivitis	2	6	-	1
b)	Cataract	10	2	1	-
c)	Vitamin-A Deficiency	7	2	1	-
d)	Injuries and Occupational hazards	2	2	1	-
e)	Refractive Errors.	10	6	-	1
f)	Eye Donation	12	4	2	-
g)	Certain terms	10	4	2	-
	~~1. Incidence~~				
	~~2. prevalence~~				
	3. Epidemics				
	~~4. Enderics~~				
III	Community Ophthalmology				
a)	Screening and Survey of the School Children.	12	8	1	1
b)	Eye Screening of the Industrial workers.	10	6		1
c)	Eye Camps.	5	2	1	
d)	Detection of the Blind and their rehabilitation, and with note on preventable, permanent and ~~reversible blindness and visually handicapped.~~	10	8	1	1
e)	Reading problems in children.	3	2	1	
f)	~~Statistical evaluation of the surveys.~~	4	2	1	
g)	~~Detection of eye diseases due to Nutritional disorders.~~	2	2	1	
h)	Industrial hazards and protection of Industrial Hazards.	2	2	1	
i)	Governmental and Non-Governmental agencies serving the Community in the field of Ophthalmology.	10	4	2	
IV.	Health Education.				
a)	Blindness and Causes	10		2	1
b)	Nutrition	10	4	2	
c)	~~Environmental Sanitation and water supply, sewage, disposal.~~	2	2	1	
d)	Specific Measures for	10	4	2	
	1. Blindness and causes				
	2. Xerosis				
	3. Trachoma				
	4. Conjunctivitis				
	5. Cataract.				

DELETED TOPICS

S .NO	Unit No.	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1	
2	Unit-2	1. Incidence 2. prevalence 3. Epidemics 4. Enderics
3	Unit-3	reversible blindness and visually handicapped. Statistical evaluation of the surveys. Detection of eye diseases due to Nutritional disorders.
4	Unit-4	Environmental Sanitation and water supply, sewage, disposal.

OPHTHALMIC TECHNICIAN

II YEAR

PART B – VOCATIONAL SUBJECTS

PAPER – I: SPECTACLE LENS GRINDING DISPENSING OF SPECTACLES (THEORY)

Theory: 110 hours Marks: 50

S.No	NAME OF THE UNIT	No. Of Periods	Weight age in marks	Short answer questions	Essay/ Problem questions
1.	**Special Lens Grinding**	**50**	**36**	**6**	**4**
	a) Types of Lens b) Principles of Grinding c) Bifocal Grinding d) Cylindrical Grinding ~~e) Prismatic Lens Grinding~~ f) Aberrations and base curves g) Aphakic Glasses h) ~~Ingredient of Material~~ [Grinding ~~Powder,~~ ~~Pads,~~ Tools, ~~Laps~~ etc.]				
II.	**Dispensing of Spectacles**	**60**	**36**	**6**	**4**
	a) Human Eye and Spectacles, Intrapipulary distance b) Bifocals and Multifocal requirements, types centering c) Protective Glasses. d) Lens form and thickness effective, equivalent and vertex power. e) Trial lenses and Frames. f) Frame types and specific indications g) Faces and related spectacles measurements h) Bi-focal fitting i) cylindrical j) Measurement of spectacle lens, power and foci meter.				

DELETED TOPICS

S .NO	Unit No. Name of the Unit	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1	i) Prismatic Lens Grinding h. Ingredient of Material [Powder, Pads, Laps etc.]
2	Unit-2	

OPHTHALMIC TECHNICIAN

II YEAR

PAPER – I:I COMMON OCULAR DISEASES & PRIMARY OPERATION THEATRE PROCEDURES (THEORY)

Theory: 110 hours Marks: 50

S.No	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
I.	**Introduction of common EYE Diseases.**	**40**	**30**	**4**	**3**
	[Symptoms and Detection] a) Conjunctivitis b) Lid infection c) Styes d) Sub-conjunctival Haemorrahage e) Eye-Allergy f) Coaneal Ulcer g) Cataract h) Vitamin-A Deficiency i) Injuries.				
2.	**Routine Investigations** ~~a) Tension Taking [Tono meter]~~ b) Colour vision c) visual fields d) Various instrument and their principles. ~~e) Fluorescence staining and techniques.~~ f) Lacrimal test g) Urine – 1. Albumin 2. Sugar	**40**	**30**	**3**	**3**
3.	**Operation Theatre Procedure** O.T Minor Surgery [Introduction to Techniques and preparation of the patient] a) Asepsis – How to achieve and sterilization b) ~~Anesthetic agents~~ and where indicated. c) Carrying out pre-operative and post operative instructions. d) Bandaging the Eye. f) Syringing.	**30**	**20**	**3**	**2**

DELETED TOPICS

S .NO	Unit No.	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1	
2	Unit-2	a) Tension Taking [Tono meter] e) Fluorescence staining and techniques.
3	Unit-3	b) Anesthetic agents

OPHTHALMIC TECHNICIAN

II YEAR

PAPER – III: REFRACTIVE ERRORS, MAINTENANCE OF INVESTIGATIVE INSTRUMENTS & EQUIPMENT [THEORY]

S.No	NAME OF THE UNIT	No. Of Periods	Weightage in marks	Short answer questions	Essay/ Problem questions
I.	**Refractive Errors**	30	18	3	2
	1) Symptomatology and Management of Hypermetropia 2) Symptomatology and Management of Myopia. 3) Symptomatology and Management of Astigmatism. 4) Presbyopia. 5) Aphakia 6) Squint 7) ~~Contact lens~~: prescription and ~~practice~~				
II.	**Explanation and Maintenance of Equipment** a) Trial Set b) Torches c) Ophthalmoscope d) Slit lamps e) Keratometers. f) Surgical Instruments g) Foci meter [Lensometer]	30	16	2	2
III.	**Special Investigations**	40	26	4	3
	1. Visual Acuity Charting a) Distant b) Near c) With Pin Hole d) Colour Vision.				
IV.	~~**Maintenance of Medical Records and Statiscals.**~~	10	8	1	1

DELETED TOPICS

S .NO	Unit No.	Topic /Sub Topic to be Deleted in detail heads
1	Unit-1	1. 7. Contact lens: prescription and practice
2	Unit-2	
3	Unit-3	
4	Unit-4	**Maintenance of Medical Records and Statiscals.**

OPHTHALMIC TECHNICIAN
FIRST YEAR
PAPER – I: ANATOMY, PHYSIOLOGY & PHARMACOLOGY (THEORY)

Time: 3 hrs Max Marks: 50

Section - A

Note: (i) Answer all the questions 10x2=20

(ii) Each question carries 2 marks

1. Define visual field?
2. What is convergence?
3 How do you check papillary Reflexes?
4. Draw neat labelled diagram of eye?
5. What do you mean by divergence & eyes?
6. What are photoreceptor cells?
7. What do you mean by eye orbit?
8. How does metabolism take place in Cornea?
9. Is the Cornea covered by conjunction?
10 What is the use of the eye?

SECTION - B 5 x 6 = 30

Note: (i) Answer any **five** questions.

(ii) Each question carries **six** marks.

11. Give specifications of eye orbit with diagram?
12 Explain the anatomy of eye lids.
13 Write about Iris?
14. Explain briefly about cornea?
15. Write about physiology of the eye?
16. How do you perform visual field tests?
17 Write about Sterilization?
18 Important of Urine examination related to Eye?
19 Waite about Tear film?
20 What do you understand by ocular Pharmacology?

OPHTHALMIC TECHNICIAN
FIRST YEAR
PAPER – II: PHYSICAL & PHYSIOLOGICAL ASPECTS OF SPECTACLES.

Time: 3 hrs Max Marks: 50

Section - A

Note: (i) Answer all the questions 10x2=20

(ii) Each question carries 2 marks

1. Define LIGHT?
2. Define LASER and LASIKT
3. What are sign conventions?
4. Commonly used ophthalmic LASERS
5. What is the difference between H.M.C and SRC?
6 what is the use of Jackson's cross Cylinder
7. What does 'OD' and 'OS' represent in Ophthalmic Prescription?
8. Write about presbyopia?
9. What are aberrations?
10. What do you mean by “N.V” Add in prescription?

SECTION - B 5 x 6 = 30

Note: (i) Answer any **five** questions.

(ii) Each question carries **six** marks.

11. Explain briefly Aphakia?
12. Write about myopia with diagrams?
13. Explain briefly the properties of light
14. Explain Sign Conventions with diagram?
15. Waite about Astigmatism?
16 Waite about Properties of light?
17. Explain barely about Retinoscopy?
18 Explain briefly Snellen's Charts?
19 How is retraction done in Children?
20 Write all about Hypermetropia.

OPHTHALMIC TECHNICIAN
FIRST YEAR
PAPER – III: COMMUNITY OPHTHALMOLOGY AND HEALTH EDUCATION

Time: 3 hrs Max Marks: 50

Section - A

Note: (i) Answer all the questions 10x2=20

(ii) Each question carries 2 marks

1. Define Blindness?
2. What are all the causes for Red eye?
3. Draw a neat labelled diagram of Eye.
4. Define squint?
5. What are the causes for Childhood blindness?
6. What are Bitot's spots?
7. What is corneal xerosis?
8. What is a chalazion?
9. Write about Eye donation
10. What is Human Eye?

SECTION - B 5 x 6 = 30

Note: (i) Answer any **five** questions.

(ii) Each question carries **six** marks.

11. Waite about vitamin A Deficiency?
12. Explain briefly about Cataract?
13. What is conjunctivitis?
14. Write about Trachoma?
15. Write about Eye Camps?
16 Explain all parts of Human Eye.
17. What are Common Eye Problems and their causes?
18 What is the purpose of School Screening?
19 What are good eye-health habits?
20 Write about Industrial Eye Screening?

OPHTHALMIC TECHNICIAN
SECOND YEAR
PAPER – I SPECTACLE LENS GRINDING DISPENSING OF SPECTACLES (THEORY)

Time: 3 hrs Max Marks: 50

Section - A

Note: (i) Answer all the questions 10x2=20
(ii) Each question carries 2 marks

1. What is base curve?
2. How do you measure I.P.D?
3. Define Prism.
4. Write about Bi-focal grinding?
5. What is a trial frame?
6. Draw frame specifications, diagrams
7. How do you do cylindrical grinding?
8. What is Frame PD?
9. Write about bifocal fitting?

10 White about Lens-loam"

SECTION - B 5 x 6 = 30

Note: (i) Answer any **five** questions.
(ii) Each question carries **six** marks.

11. Write about the types of lenses.
12. Write about Aphakic glasses.
13. Write steps about lens grinding.
14. Write about Multifocal-fitting.
15. Write in detail about Lensometer.
16. Write about Centration of lenses.
17. Write about trial lenses.
18. What are the different types of frames available?
19. Write complete dispensing of frame.

20 Write about Human eye.

OPHTHALMIC TECHNICIAN
SECOND YEAR
PAPER – II COMMON OCULAR DISEASES & PRIMARY OPERATION THEATRE PROCEDURES

Time: 3 hrs Max Marks: 50

Section - A

Note: (i) Answer all the questions 10x2=20

(ii) Each question carries 2 marks

1. Write about pink-eye?
2. What is a Style?
3. Write about Injuries to eye?
4. Define vision field?
5. What is a Keratometer?
6. Write about sub-conjunctival Haemorragage
7. How do you achieve Asepsis?
8. Draw diagram of Lacrimal Apparehus.
9. What are the Causes for eye- Allergy?

10 write about albumin?

SECTION - B 5 x 6 = 30

Note: (i) Answer any **five** questions.

(ii) Each question carries **six** marks.

11. Write about lid-infections?
12. Explain briefly Corneal ulcer?

13 Write about Vitamin-A Deficiency

14. Write about pre and post-operative instructions to patients?
15. Write about minor 0.T Procedures?
16. Write about bandaging to eye?
17. Explain briefly Sac-syringing?
18. Draw a neat labelled diagram of eye lid?
19. Explain briefly Colour vision
20. How do you do visual field Tests?

OPHTHALMIC TECHNICIAN
SECOND YEAR
PAPER – III REFRACTIVE ERRORS, MAINTENANCE OF INVESTIGATIVE INSTRUMENTS & EQUIPMENT [THEORY]

Time: 3 hrs Max Marks: 50

Section - A

Note: (i) Answer all the questions 10x2=20

(ii) Each question carries 2 marks

1. How do you check distant vision?
2. Write about Pin-hore?
3. How do you check for Colour vision?
4. Write about Presbyopia.
5. What is Aprakia?
6. What is the use of occluder?
7. What is Myopia?
8. Define contact lens? '
9. Uses of Torch light in retraction.
10. How do you Check Near Vision?

SECTION - B 5 x 6 = 30

Note: (i) Answer any **five** questions.

(ii) Each question carries **six** marks.

11. Write about Symptomatalogy and management of Hypermetropia?
12. Explain briefly instigmatism?
13. Explain Slit-lamp with diagrams?

14 Write briefly about visual acuity.

15 What are the advantages of contact lens?

16. Write about ophthalmoscope
17. Explain briefly Trial Set?
18. Why do we use keretometer?
19. Explain briefly squint?
20. Name some surgical Instruments?

VOCATIONAL PRACTICALS QUESTION BANK

(For the Academic Year 2020-21)

AGRICULTURAL CROP PRODUCTION

(COURSE CODE:109)

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

AGRICULTURAL CROP PRODUCTION
FIRST YEAR

QUESTION BANK

PAPER I: PRINCIPLES OF AGRICULTURAL CROP PRODUCTION

[109/21]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks**

1. ~~Measurement of Rainfall by non-recording type rain guage~~
2. Draw a neat labelled diagram of country plough and explain its working with merits
3. ~~Measurement of relative humidity by wet and dry bulb thermos meter~~
4. Draw a neat labelled diagram of MB plough and explain its working with demerits
5. How do you prepare N.P.V. (Nuclear Poly Virus) Solution and write their function?

SECTION-II **1X10=10 Marks**

6. Explain Crop rotation and its benefits observed in your village
7. Explain cropping systems observed in your village with examples.
8. ~~Explain about the nursery seed bed preparation~~.
9. What are the precautions that you take while spraying the herbicidies
10. What are the methods followed in your village to control weeds in crop field

SECTION-III **1X10=10 Marks**

11. ~~Maximum and minimum thermometer ,wind wave , rain gauge non recording type, wet and dry bulb thermometer, anemometer~~
12. Ridge plough, blade harrow, cultivator, sickles, weedicide
13. Knapsack Sprayer, Duster, seed treating drum, cultivator, Sunshine recorder
14. Wetland puddler, paddy transplantor, mulching, Paddy drum seeder, Organic farming
15. Ope pan evaporimeter, Summer ploughing, Blade harrow, Hand weeding implements, Sunshine Recorder

Record **5 marks**

Viva **5 Marks**

AGRICULTURAL CROP PRODUCTION

FIRST YEAR

MODEL QUESTION PAPER

PAPER I: PRINCIPLES OF AGRICULTURAL CROP PRODUCTION

(109/21)

Time: 3hrs **Max. Marks: 50**

[1,7,13]

Record	**5 marks**
Viva and Herbarium(Weeds)	**5 Marks**

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given for 40 marks.The examiner shall decode it with the question bank and give the questions.

AGRICULTURAL CROP PRODUCTION

FIRST YEAR

QUESTION BANK

PAPER II: SOIL AND WATER MANAGEMENT [109/22]

Time: 3hrs **Max. Marks: 50**

SECTION-I

1X20=20 Marks

1. ~~Determine Nitrogen in a given soil sample.~~
2. ~~Calculate the fertilizer required does for 01 hecter for paddy and cotton crop~~
3. How to collect soil sample and its preparation for analysis?
4. Write the methods of soil and water conservation which you observed in your village
5. Write the installation method of drip irrigation system, write merits and demerits

SECTION-II

1X10=10 Marks

6. Write the components and method of preparation of vermi compost
7. How can you know about different methods of application of fertilizers
8. How to prepare farm yard manure?
9. ~~Explain layout of surface irrigation method~~
10. ~~Determine carbonate and bi-carbonates in soil water~~

SECTION-III

1X10=10 Marks

11. Green Manure, Urea, DAP, Ammonium Sulphate, Bio gas
12. Potash, Super phosphate, Strip Cropping, Black cotton soil, Oil seed cake
13. Zinc deficiency, Red soil, Rhizobium, Nitrogen deficiency, Micro Nutrients
14. ~~Rhizobium, Azolla, Contour bunding, Contour Cultivation, Super phosphate,~~
15. Bio fertilizers, DAP, Mulching, Green Manure, Black cotton Soil

Record	**5 marks**
Viva	**5 Marks**

AGRICULTURAL CROP PRODUCTION

FIRST YEAR

MODEL QUESTION PAPER

PAPER II: SOIL AND WATER MANAGEMENT[109/22]

Time: 3hrs **Max. Marks: 50**

[2,7,12]

Record	**5 marks**
Viva	**5 Marks**

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given for 40 marks.The examiner shall decode it with the question bank and give the questions.

AGRICULTURAL CROP PRODUCTION

FIRST YEAR

QUESTION BANK

PAPER III: FARM MANAGEMENT AND AGRICULTURAL EXTENSION[109/23]

Time: 3hrs **Max. Marks: 50**

SECTION-I

1X20=20 Marks

1. Write the function of NABARD and write the development programmes sponsored by NABARD in your areas
2. Write the aims and functions of KVK.
3. ~~How do you conduct method demonstration.~~
4. Write the maintenance of inventory and cash book
5. What are the Aims and objectives of Raythu bazar

SECTION-II

1X10=10 Marks

6. ~~How do you conduct result demonstration~~.
7. ~~Explain structure and functions of RRB (Regional Rural Bank).~~
8. What are the activities done by ARS (Agricultural Research Station).
9. What are the objectives of Farmer training centres.
10. Write the teaching objectives of polam badi

SECTION-III

1X10=10 Marks

11. Pamphlet, Posters, Leaflets, Booklet, Phone call
12. ~~Personnel Letter, farmers day, Study tour, Exhibition, Newspaper~~
13. Maps, Slides, Film strip, Capital, labour
14. Land, Organization, Slides, Leaflets, Posters
15. Phone call, New paper, Study tour, Film Strip, Exhibition

Record	**5 marks**
Viva, Charts Preparation	**5 Marks**

AGRICULTURAL CROP PRODUCTION
FIRST YEAR
MODEL QUESTION PAPER
PAPER III: FARM MANAGEMENT AND AGRICULTURAL EXTENSION[109/23]

Time: 3hrs **Max. Marks: 50**

[4,9,15]

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given for 40marksThe examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva	**5 Marks**

AGRICULTURAL CROP PRODUCTION

SECOND YEAR

QUESTION BANK

Paper I: Management of Field and Commercial Crops[109/71]

Time: 3hrs **Max. Marks: 50**

SECTION-I (Major Experiment)

1X20=20 Marks

1. ~~Write about the observed varietal characters of rice~~
2. What are the major pests and diseases observed in cotton write with control mesures.
3. Identify the pests and diseases of ground nut and write the control measures.
4. Write the methods of jaggary preparation.
5. Identify the pests and diseases of rice and write the control measures.

SECTION-II

1X10=10 Marks

6. Prepare different nurseries in rice.
7. Write the fertilizer management practiced in maize crops
8. Write the using methods of tobacco followed at farmer level
9. ~~How to apply the Atrazine and pendimethalin herbicides in cereals and oil seed crops~~
10. How can you use the imidacloprid treatment for sucking pest

SECTION-III

1X10=10 Marks

11. Sorgum, Maize, Red gram, bajara, rice
12. Bengal Gram, Groundnut, Cotton, Ragi, Bajara
13. ~~Black Gram, Sugar Cane, Mesta, Cluster bean, Jute~~
14. ~~Sesa num, Sugarcane, Tobacco, Maize, Oats~~
15. Ground nut, Sunflower, Saff Flower, Soya bean, Cowpea

Record	**5 marks**
Viva- Voice	**5 Marks**

AGRICULTURAL CROP PRODUCTION
SECOND YEAR
MODEL QUESTION PAPER

Paper I: Management of Field and Commercial Crops[109/71]

Time: 3hrs **Max. Marks: 50**

[1,9,13]

Record	**5 marks**
Viva- Voice	**5 Marks**

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given for 40 marks.The examiner shall decode it with the question bank and give the questions.

AGRICULTURAL CROP PRODUCTION

SECOND YEAR

QUESTION BANK

Paper II: Management of Horticultural Crops[109/72]

Time: 3hrs **Max. Marks: 50**

SECTION-I (Major Experiment)

1X20=20 Marks

1. Write the planting methods and pest and dieses control in mango crop
2. Write various methods of irrigation to fruit crops in your area
3. Identify the pests and diseases of chilli and give their control methods
4. ~~Identify the different pests of banana with their control methods~~
5. Prepare different types of seed bed for nursery raising.

SECTION-II

1X10=10 Marks

6. Write the propagation techniques of asexual method.
7. ~~Write the plant protection in coconut~~
8. Identify the disease of brinjal and give their control methods
9. What is the importance of medical and Aromatic plants
10. Write the package of practice of tomato crop

SECTION-III

1X10=10 Marks

11. Pruning Cutter, Spade, Mango, banana, Citrus
12. ~~Leaf minor, Fruit borer, Bhendi, guava, Apple ber~~
13. Amaranthus, Turmeric, Onion, Brinjal, rose
14. Jasmine, Custard Apple, Citrus, Leafspot, papaya
15. ~~Turmeric, Sapota, Manga, Onion, Cocoanut~~

Record	**5 marks**
Viva- Voice	**5 Marks**

AGRICULTURAL CROP PRODUCTION
SECOND YEAR
MODEL QUESTION PAPER
Paper II: Management of Horticultural Crops[109/72]

Time: 3hrs **Max. Marks: 50**

[4,7,12]

Record	**5 marks**
Viva- Voice	**5 Marks**

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given for 40 marks.The examiner shall decode it with the question bank and give the questions.

AGRICULTURAL CROP PRODUCTION
SECOND YEAR
QUESTION BANK

Paper III: Seed Production and Processing[109/73]

Time: 3hrs **Max. Marks: 50**

SECTION-I

1X20=20 Marks

1. Write the characteristics of quality seed and classes of seed.
2. Write procedure in detail about seed sample collection
3. Write in detail about seed germination test
4. ~~Write the different tests of seed viability and seed vigour~~.
5. Write the different methods of seed drying and cleaning of seed.

SECTION-II

1X10=10 Marks

6. Write the procedure of seed certification
7. List out the duties of seed inspector
8. Write in detail seed treatment procedure
9. Write in detail about seed packing and storage
10. ~~Write different methods in seed dormancy breaking~~

SECTION-III

1X10=10 Marks

11. Seed Treatment Drum, Seed Treatment Chemicals, Ground nut, Sun flower, Hybrid maize seed
12. Hybrid Cotton Seed, Isolation distance, Types of seed tags, Mechanical mixture, Sunflower seed
13. Ground nut, Red Gram, Cotton, Black Gram, Sunflower
14. Green Gram, Blue tag, Pollination bag, Forceps, Seed treatment Drum
15. ~~Rice, Types of seed tags, Mechanical mixture, Emasculation, Green Gram~~

Record	**5 marks**
Viva- Voice	**5 Marks**

AGRICULTURAL CROP PRODUCTION

SECOND YEAR
MODEL QUESTION PAPER

Paper III: Seed Production and Processing[109/73]

Time: 3hrs **Max. Marks: 50**

[4,9,14]

Record	**5 marks**
Viva- Voice	**5 Marks**

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given for 40 marks.The examiner shall decode it with the question bank and give the questions.

30% DELETED CONTENT (PRACTICALS)
AGRICULTURAL CROP PRODUCTION

PRACTICAL CODE	SUBJECT NAME	DELETED QUESTION NUMBER FROM THE QUESTION BANK
21	Principles of Agricultural crop production	1,3,8,11
22	Solt and water management	1,2,9,10,14
23	Form Management and Agricultural extension	3,6,7,12
71	Maragement of Field and Commerical crops	1,9,13,14
72	Management of Horticultural Crops	4,7,12,15
73	Seed Production and Processing	4,10,15

VOCATIONAL PRACTICALS QUESTION BANK

(With Effect from the Academic year 2018-19)

LIVE STOCK MANAGEMENT & DAIRY TECHNOLOGY

(COURSE CODE: 110)

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

LIVESTOCK MANAGEMENT & DAIRY TECHNOLOGY(110)
FIRST YEAR
QUESTION BANK
Paper I: Ruminant Animal Production and Management (21)

Time: 3hrs **Max.Marks: 50**

SECTION-I **1X20=20 Marks**

1. Draw sketch diagram of cow and label all conformation points
2. Prepare floor plan for single row, double row, face to face and tail to tail housing system
3. Give score card for judging cow and explain about them
4. Draw artificial vagina, label the parts and prepare AV by assembling different parts
5. ~~Explain various sheep and goat farm records~~

SECTION-II **1X10=10 Marks**

6. Identify the ongole breed cattle and briefly explain their characteristics
7. ~~Explain biogas plant with the help of sketch diagram~~
8. Briefly write about clipping and shearing operations
9. Mention steps in clean milk production
10. Briefly write about management of heifer

SECTION-III (Identification/ Spotting) **1X10=10 Marks**

11. Burdizzo castrator, Milking can, Tattooing forceps Insemination gun, Ear tag
12. Iron branding, Liner for artificial vagina, Milk feeding cup Cotton rope, Liquid nitrogen can
13. Conventional housing, bio-gas, Drencher, Semen straw, Jersey cow,
14. Murrah buffalo, Deccan sheep, Jamanapari Goat, Milking machine, Calf.
15. Ewe, Ram, Bull, Lamb, Colostrum.

Record	**5 marks**
Viva- Voice	**5 Marks**

LIVESTOCK MANAGEMENT & DAIRY TECHNOLOGY(110)
FIRST YEAR
MODEL QUESTION PAPER
Paper I: Ruminant Animal Production and Management (21)

Time: 3hrs **Max.Marks: 50**

4, 7, 13

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

LIVESTOCK MANAGEMENT & DAIRY TECHNOLOGY(110)
FIRST YEAR
QUESTION BANK
Paper III: Feeds and Feeding of Livestock (22)

Time: 3hrs **Max.Marks: 50**

SECTION-I **1X20=20 Marks**

1. Explain in detail about grinding and mixing of feed ingredients
2. Briefly write about vermi culture preparation
3. Explain digestive system of cattle with the help of sketch diagram
4. ~~Formulate ration for adult dog~~
5. Explain in detail about feeding of new born calf

SECTION-II **1X10=10 Marks**

6. What are the thumb rules of feeding of cattle and buffalos
7. ~~Briefly write about creep feeding~~
8. Explain about preparation of silage
9. ~~Briefly write about detection of adulterants in feed ingredients~~
10. How do prepare urea molasses bricks

SECTION-III (Identification/ Spotting) **1X10=10 Marks**

11. Maize, Rice bran, Red gram husk, Mineral mixture, Hay
12. Feed grinder, Fodder chopper, Para grass, Ground nut cake Subabul leaves
13. Starter feed, Layer feed, grower feed, weeder, silage.
14. Feed pellets, concentrate feed, Roughages, Puppy feed, gilt feed.
15. Piglet feed, Unconventional feed, salt bricks, Harvester, Vermi Culture.

Record **5 marks**

Viva- Voice **5 Marks**

LIVESTOCK MANAGEMENT & DAIRY TECHNOLOGY(110)

FIRST YEAR
MODEL QUESTION PAPER
Paper III: Feeds and Feeding of Livestock (22)

Time: 3hrs **Max.Marks: 50**

5, 8, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

LIVESTOCK MANAGEMENT & DAIRY TECHNOLOGY(110)

FIRST YEAR

QUESTION BANK

Paper II: Non-Ruminant Animal Production and Management (23)

Time: 3hrs **Max.Marks: 50**

SECTION-I **1X20=20 Marks**

1. Draw sketch diagram of fowl and label conformation points
2. Explain in detail about layout of swine shed with help of sketch diagram
3. Explain about candling of eggs
4. ~~Briefly write about summer management of rabbits~~
5. ~~Write about vaccination schedule in dogs and briefly write about nail trimming~~

SECTION-II **1X10=10 Marks**

6. Write about handling and restraining of dogs
7. Draw and label external body parts of rabbit
8. Briefly explain care of pigs during transport
9. Briefly explain about layout of hatchery
10. ~~Briefly write about deeplitter system~~

SECTION-III (Identification/ Spotting) **1X10=10 Marks**

11 .Cage, Aseel breed of fowl picture, Picture of large white yarkshire Eggcandler, Chick feeder

12. Debeaker, Nail trimmer, Picture of German sheapard breed, Dog collar, Feeder for adult bird

13. Soap, Ear notching in pigs, kennel, Bathing tub, Neck tags.

14. Layer, farrowing crate, Artificial brooding, kit, Grooming of cat.

15. Litter, Rabbit Hutches, Pig catcher, Brooder, Leg bands,

Record **5 marks**

Viva- Voice **5 Marks**

LIVESTOCK MANAGEMENT & DAIRY TECHNOLOGY(110)

SECOND YEAR

QUESTION BANK

Paper I: Livestock Health Management (71)

Time: 3hrs **Max.Marks: 50**

SECTION-I **1X20=20 Marks**

1. Prepare vaccination programme for dairy animal
2. How you will attend fracture case
3. Briefly write about preparation of ointment
4. Explain about first aid kit
5. ~~How do you examine milk for mastitis~~

SECTION-II **1X10=10 Marks**

6. How do you collect dung and milk samples
7. Briefly write about traumatic condition of cattle.
8. Briefly write about wound dressing
9. ~~List out various diseases occurring before and after rains in cattle~~
10. How do you identify sick animal

SECTION-III (Identification/ Spotting) **1X10=10 Marks**

11. Sterilizer, Irrigator, Trevis, Probang tube, Strip cup,
12. Drenching Bamboo, Enamel tray, Trochar and canula, Forceps, Ice packs.
13. Vaccine, sick animal, Boric powder, syringe, $kmno_4$ (potassium Permanganate).
14. First aid kit, wound, Fracture, Tonic, Ointment.
15. Traumatic condition, Intravenous injection, Roundworms, Poisoning cases, Calcium Boro gluconate

Record **5 marks**

Viva- Voice **5 Marks**

LIVESTOCK MANAGEMENT & DAIRY TECHNOLOGY(71)
SECOND YEAR
MODEL QUESTION PAPER
Paper I: Livestock Health Management

Time: 3hrs **Max.Marks: 50**

1, 9, 15

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

LIVESTOCK MANAGEMENT & DAIRY TECHNOLOGY(110)
SECOND YEAR
QUESTION BANK
Paper II: Milk Processing and Milk Products (72)

Time: 3hrs **Max.Marks: 50**

SECTION-I **1X20=20 Marks**

1. Explain briefly about khoa preparation
2. With the help of sketch diagram explain Dahi preparation
3. How do you clean and sanitize dairy equipment
4. Write about preparation of pasteurized flavoured milk
5. ~~Briefly write about prepack packing of liquid milk~~

SECTION-II **1X10=10 Marks**

6. ~~Briefly write about separation of cream~~
7. Explan about boiler
8. How do you figure icecream mix
9. ~~How do you prepare kulfi~~
10. Briefly write about bulk milk cooler

SECTION-III (Identification/ Spotting) **5X2=10 Marks**

11. Karahi, Muslin cloth, Khunti, kulfi mould, Gulabjamun.
12. Cream, Kalakhand, Milk powder, Butter, Tetra pack
13. Ghee, Toned Milk, Cream separator, H.T.S.T.pasteurizer, Flow Diversion valve.
14. Chiller, kheer, paneer, Dump tank, softy ice cream,
15. Dahi, yoghurt, cheese, Drum dryer, Butter milk.

Record **5 marks**

Viva- Voice **5 Marks**

LIVESTOCK MANAGEMENT & DAIRY TECHNOLOGY(110)

SECOND YEAR

MODEL QUESTION PAPER

Paper II: Milk Processing and Milk Products(72)

Time: 3hrs **Max.Marks: 50**

2, 8, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

LIVESTOCK MANAGEMENT & DAIRY TECHNOLOGY(110)
SECOND YEAR
QUESTION BANK

Paper III: Milk Quality, Extension & Entrepreneurship (73)

Time: 3hrs **Max.Marks: 50**

SECTION-I **1X20=20 Marks**

1. ~~How do you determine specific gravity of milk by lactometer method~~
2. ~~Give procedure and test for detection of adulterants in milk~~
3. ~~Prepare project report for handling fifty thousand litre milk per day chilling centre~~
4. How do you plan for milk transportation from different routes
5. Give the procedure and do methelene blue reduction test

SECTION-II **1X10=10 Marks**

6. Briefly write about clot on boiling test and do the experiment
7. Give Principle and do the experiment of resazurin test
8. How do you take sample of milk for microbiological examination
9. How do you plan for marketing of liquid milk
10. ~~Briefly write about two axis system of milk pricing~~

SECTION-III (Identification/ Spotting) **1X10=10 Marks**

11. Butrometer, Lactometer, Milk pipette (10.75ml), Automatic tilt measure for acid, Plunger.
12. Dipper, Sediment tester, Slide projector, Cattle show, Petri dish.
13. Tape recorder, Slide projector, Film projector, Dairy Register, Cash Book.
14. Ledger, Balance sheet, Surplus milk, Salesmen, Milk shed area.
15. 40 Litres can, H_2O_2, Adulterants, H_2SO_4, skim milk.

Record **5 marks**

Viva- Voice **5 Marks**

LIVESTOCK MANAGEMENT & DAIRY TECHNOLOGY (110)
SECOND YEAR
MODEL QUESTION PAPER

Paper III: Milk Quality, Extension & Entrepreneurship (73)

Time: 3hrs **Max.Marks: 50**

3, 6, 11

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

30% DELETED CONTENT (PRACTICALS)
LIVESTOCK MANAGEMENT & DAIRY TECHNOLOGY(110)

PRACTICAL CODE	SUBJECT NAME	DELETED QUESTION NUMBER FROM THE QUESTION BANK
21	Runinant Animal Production and Management	5,7
22	Feeds and Feeding of Live Stock	4,7,9
23	Non-Runinant Animal Production and Management	4,5,10
71	Live Stock Health Management	5,9
72	Milk Processing and Milk Products	5,6,9
73	Milk Quality, Extension & Entrepreneurship	1,2,3,10

VOCATIONAL PRACTICALS QUESTION BANK

(With Effect from the Academic year 2018-19)

FISHERIES

(COURSE CODE: 111)

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

FISHERIES
FIRST YEAR
QUESTION BANK
Paper I: Biology of Fishes and Limnology
N.R. Course code: 111 / 21

Time: 3hrs **Max. Marks: 50**

SECTION-I

1X20=20 Marks

1) Estimate the D.O of the given water sample
2) Estimate the total Alkalinity of the given water sample
3) ~~Estimate the total hardness of the given water sample~~
4) Determine the salinity of the given water sample
5) Determine the PH value of the given water sample

SECTION-II

1X10=10 Marks

6. Dissect and display the Digestive system of the given Fish. Draw the neat labelled diagram.
7. Dissect and display the digestive system of the given prawn. Draw the neat labelled diagram.
8. ~~Dissect and display the cranial nerves of the given fish. Draw the neat labelled diagram.~~
9. Dissect and display the Nervous system of given prawn. Draw neat labelled diagram.
10. Dissect and display the Reproductive system of given prawn. Draw the neat labelled diagram.

SECTION-III (Identification/ Spotting)

1X10=10 Marks

11. Hippocampus, Pristis, Sphyrna, Anabus, Euglena
12. Macrobrachium rosenbergii, Etroplus, Notopterus, Mystus, Paramecium
13. ~~Tarpedo, Clarius, Anguilla, Arius, Volvox~~
14. Wallago attu, Scoliodon, Penaeus indicus, Exocoetus, Pleopods
15. Chanos, Penaeus monodon, Homocercal tail, Placoid scale, Cycloid scale

Record	**5 marks**
Viva- Voice	**5 Marks**

FISHERIES
FIRST YEAR
MODEL QUESTION PAPER
Paper I: Biology of Fishes and Limnology 111 / 21

Time: 3hrs **Max. Marks: 50**

2,8,13

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

FISHERIES

FIRST YEAR
QUESTION BANK
Paper II: Principles of Fisheries and Aquaculture
N.R. Course code: 111 / 22

Time: 3hrs **Max. Marks: 50**

SECTION-I

1X20=20 Marks

1. Preparation of Aquarium with a well labelled diagram.
2. Write a procedure about breeding of Egg Layers Aquarium fishes.
3. Write a procedure about the maintenance of Aquarium.
4. Write a procedure about Breeding of live bearers.
5. ~~Write a procedure about preservation of Aquarium fishes.~~

SECTION-II

1X10=10 Marks

6. Determination of Aquarium plants through charts.
7. Visiting reports of ornamental fish breeding unit.
8. Determine the Aquarium live fishes.
9. Visiting report and main characters of Indian major carps.
10. ~~Write a report of eradication of Aquatic plants.~~

SECTION-III (Identification/ Spotting)

1X10=10 Marks

11. Wallago attu, Azolla plant, Macrobrachium rosenbergii, Clarius, Gold fish
12. ~~Labeo rohita, typha plant, catla, Common Carp, Mystus~~
13. Macrobracchium mancolmsoni, Pistia plant, Labeo fish, Grass carp, Silver carp
14. Silvercarp, Hydrilla plant, Cyprinus carpio, Labeo fish, Wallago
15. Hydrilla plant, Nympia plant, Silver carp, Catla fish, Cyprinus

Record **5 marks**

Viva- Voice **5 Marks**

FISHERIES

FIRST YEAR

MODEL QUESTION PAPER

Paper II: Principles of Fisheries and Aquaculture

N.R. Course code: 111 / 22

Time: 3hrs **Max.Marks: 50**

1, 9 12

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

FISHERIES
FIRST YEAR
QUESTION BANK
Paper III: Seed Production Technology
N.R. Course code: 111 / 23

Time: 3hrs **Max. Marks: 50**

SECTION-I

1X20=20 Marks

1. ~~Demonstrate the seed collection methods of murrel from natural resources.~~
2. Preparation methods of fish developmental stages.
3. Visiting report of fish hatcheries.
4. Preparation methods of prawn developmental stages.
5. Write procedure about Acclimatization of seed before stocking.

SECTION-II

1X10=10 Marks

6. Demonstration methods of Induced breeding in fishes with pituitary extract.
7. Demonstrate the Induced breeding in fish with ovatide, ovaprim
8. Write about the packaging methods of fish seed.
9. Write field report of prawn seed farms.
10. ~~Write about the counting methods of fish seed.~~

SECTION-III (Identification/ Spotting)

1X10=10 Marks

11. ~~Fingerlings, Drag net, Mysis, P.L. Larva, Hatchery~~
12. Nauplius, Gravid female prawn, Brooder male fish, labeo, Common carp
13. Fertilized egg of fish, Gill net, Brooder male prawn, Catla, Cirrhinus mrighala
14. Cast net, Fry stage, Brooder female fish, Cirrhinus, Grass carp
15. Spawn, Mysis larva, Brooder female prawn, Zoea larva, Murrel fish

Record	**5 marks**
Viva- Voice	**5 Marks**

FISHERIES

FIRST YEAR

MODEL QUESTION PAPER

Paper III: Seed Production Technology

N.R. Course code: 111 / 23

Time: 3hrs **Max. Marks: 50**

3, 6, 11

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

FISHERIES
SECOND YEAR
QUESTION BANK
Paper I: Fish Farms & Pond Management
N.R. Course code: 111 / 71

Time: 3hrs **Max. Marks: 50**

SECTION-I

1X20=20 Marks

1. Estimate the PH values of the given sample
2. Estimate the dissolved oxygen of the given sample.
3. Estimate the chlorides of the given sample
4. Estimate the nitrates of the sample
5. ~~Estimate the sulphates of the sample~~

SECTION-II

1X10=10 Marks

6. Estimate the sediment analysis of soil alkalinity
7. Estimate the sediment analysis of organic matter
8. ~~Estimate the sediment analysis of electric conductivity~~
9. Determination of the qualitative analysis of plankton
10. Demonstration of liming and manuring in a fish pond

SECTION-III (Identification/ Spotting)

1X10=10 Marks

11. Vallisneria, Costia, Labeo, Vibriosis, Notonecta
12. Hydrilla, Nostoc, Catla, Cotton moth disease, Predatory fish
13. Clarias, Artemia, Cirrhinus, Dropsy, Hatcheries
14. Ranatra, Ground nut cake, Cyprinus, Furunculosis, Pistia plant
15. ~~Tail rot disease of prawn, Vibryosis, Grass carp, Tail rot disease of prawn, Nymphea plant.~~

Record **5 marks**

Viva- Voice **5 Marks**

FISHERIES

SECOND YEAR

MODEL QUESTION PAPER

Paper I: Fish Farms & Pond Management

N.R. Course code: 111 / 71

Time: 3hrs **Max. Marks: 50**

3, 9, 12

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

FISHERIES
SECOND YEAR
QUESTION BANK

Paper II: Aquaculture

N.R. Course code: 111 / 72

Time: 3hrs **Max. Marks: 50**

SECTION-I

1X20=20 Marks

1. Estimate the total alkalinity of the given sample
2. Estimate the nitrates of the given sample
3. Estimate the temperature of the given sample
4. Estimate the PH value of the given sample
5. ~~Estimate the chlorides of the given sample~~

SECTION-II

1X10=10 Marks

6. Field visiting report of fish seed production farm
7. Preparation method of integrated fish culture farm
8. Demonstrate the fabrication of cages
9. Demonstrate the preparation of artificial feed
10. ~~Demonstrate the use of soil testing kit~~

SECTION-III

1X10=10 Marks

11. Dropsy, Spawn, Crab, Labeo, Costia disease

~~12. Fry, Microbrachiun rosenbergii, Cotton moth disease, Catla, Ichthyophthiriasis disease~~

13. Aerator, Gold fish, Tail rot disease of prawn, Cirrhinus mrighal, Leech

14. Yellow head and virus disease, Hatchiling, Shrimp, Common carp, Channa fish

15. Trail netting, Argulus, Pearl, scampi, Furunculosis

Record	**5 marks**
Viva- Voice	**5 Marks**

FISHERIES

SECOND YEAR

MODEL QUESTION PAPER

Paper II: Aquaculture

N.R. Course code: 111 / 72

Time: 3hrs **Max. Marks: 50**

2, 8, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

FISHERIES
SECOND YEAR
QUESTION BANK
Paper III: Reservoir Fisheries & Post Harvest Technology
N.R. Course code: 111 / 73

Time: 3hrs **Max. Marks: 50**

SECTION-I

1X20=20 Marks

1. Demonstrate the processing techniques of fish through charts.
2. Demonstrate the stages of packing methods through charts.
3. Analysis of profitability in different marketing in intermediaries.
4. Demonstrate the preservation methods of local fishes
5. ~~Demonstrate the types of marketing channels through charts~~

SECTION-II

1X10=10 Marks

6. Field visit report of the cold storage units
7. Visiting report of local reservoirs in Telangana
8. Demonstration methods of processing plants
9. Field report of district fisheries office
10. ~~Submit the field report of National fisheries development board (NFDB) Hyderabad~~

SECTION-III

1X10=10 Marks

11. Catla catla, Isin glass, Channa marulius, Clarius, Refrigeration

12. ~~Penaeus monodon, Pomfret, Labeo, Grass carp, Salting~~

13. Oil sardine, Fishmeal, cirrhinus, Cyprinus Carpio, Drying

14. Machrobrachium malcomsonii, Indian Mackeral, Channa striatus, Silver carp, Canning

15. Common carp, Shagreen, Machrobrachium rosenbergii, Murrel fish, Smoking

Record **5 marks**

Viva- Voice **5 Marks**

FISHERIES
SECOND YEAR
MODEL QUESTION PAPER
Paper III: Reservoir Fisheries & Post Harvest Technology
N.R. Course code: 111 / 73

Time: 3hrs **Max. Marks: 50**

2, 8, 11

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

30% DELETED CONTENT (PRACTICALS)
FISHERIES

PRACTICAL CODE	SUBJECT NAME	DELETED QUESTION NUMBER FROM THE QUESTION BANK
21	Biology of Fishes, Limnology	3,8,13
22	Principles of Fisheries, Aquaculture	5,10,12
23	Seed Production Technology	1,10,11
71	Fishfarms & Pond Management	5,8,15
72	Auaculture	5,10,12
73	Reservoir Fisheries & post Harvest Technology	5,10,12

VOCATIONAL PRACTICALS QUESTION BANK

(For the Academic Year 2020-21)

SERICULTURE

(COURSE CODE:112)

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

SERICULTURE
FIRST YEAR
QUESTION BANK
Paper I: Moriculture
N.R. Course code: 112 / 21

Time: 3hrs **Max. Marks: 50**

SECTION-I

1X20=20 Marks

1. Describe the morphology of mulberry plant
2. Prepare nursery bed and plant the given cuttings and write the procedure
3. Write procedure for sexual propagation of mulberry
4. ~~Prepare the land and plant cuttings in irrigated row and pit system~~
5. Write procedure pruning and types of pruning.

SECTION-II

1X10=10 Marks

6. Prepare simple layering with given material and write procedure
7. ~~Test the soil PH for the given samples and advise the suitable reclamation.~~
8. Write the procedure for vermicompost preparation and record your observations
9. Suggest the control methods of weeds to the farmer.
10. Write procedure methods of mulberry leaf harvesting.

SECTION-III (Identification/ Spotting)

1X10=10 Marks

11. a) M_5 leaf b) V_1 leaf c) Mysore local d) S_{13} e)S_{36}
12. a) Pickaxe b) Sceateur c) Rose can d) pruning saw e) Spade
13. ~~a)Tridox Procumbense b) Parthenium hyst eroform c) Phyllanthus niruri d) Legaseia molis e)Cynodon doctylon~~
14. a) FYM b) Vermicompost c) Urea d) DAP e) Zinc
15. a)Red soil b) Black soil c) Mulberry cutting d)Mulberry fruit e)Sapling

Record **5 marks**

Viva- Voice **5 Marks**

SERICULTURE

FIRST YEAR

MODEL QUESTION PAPER

Paper I: Moriculture

N.R. Course code: 112 / 21

Time: 3hrs **Max. Marks: 50**

3, 8, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

SERICULTURE

FIRST YEAR
QUESTION BANK
Paper II: Mulberry Farm Management
N.R. Course code: 112 / 22

Time: 3hrs **Max. Marks: 50**

SECTION-I

1X20=20 Marks

1. Identify the given leaf disease and write the characteristic features and suggest control measures-Leaf spot disease.
2. Identify given root disease and write characteristic features and suggest control measures-Root-Rot disease .
3. Identify the given pest and their damage on mulberry and suggest control measures- Bihary hairy caterpillar.
4. Estimate the leaf yield in the given mulberry plot by harvesting the leaf from three plants.
5. ~~Preparation of land and plant cuttings row system and paired row system~~

SECTION-II

1X10=10 Marks

6. Demonstration of spraying and precautions to be taken while spraying
7. Write about chemical application devices and application Techniques.
8. Preparation of compost by utilize the waste mulberry leaf.
9. Identify the given leaf disease and write the characteristic features and suggest control measures- Tukra disease .

~~10. Write the Nitrozen deficiency disease and suggest control measures~~

SECTION-III (Identification/ Spotting)

1X10=10 Marks

11.a) Leaf rust, b) Powdery mildew c) Leaf spot d) Leaf blight e) Twig blight

12.a) Bihar hairy caterpillar b) Jassids c) Mealy bug d) Mites e) Grass hopper

13. a) Hand duster b) Sprayer c)Work register d) Attendance Register e) Aspee Napsak sprayer

14.a) Digging fork b) Crow bar c) Iron pan d) Bill hook e) Sickle

~~15.a) Hand fork b) Root knot c) Stem girdler d) Budding Knif e) Garden shear~~

Record **5 marks**

Viva- Voice **5 Marks**

SERICULTURE
FIRST YEAR
MODEL QUESTION PAPER
Paper II: Mulberry Farm Management
N.R. Course code: 112 / 22

Time: 3hrs **Max.Marks: 50**

2,9,12

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

SERICULTURE
FIRST YEAR
QUESTION BANK
Paper III: Silkworm seed Technology
N.R. Course code: 112 / 23

Time: 3hrs **Max. Marks: 50**

SECTION-I

1X20=20 Marks

1. Write the morphological characters with diagrammatic label representation of egg larva, pupa and moth
2. Write procedure of disinfection methods
3. Prepare the loose eggs with the given material and record your observations
4. ~~Conduct Hot and cold acid treatment from the given eggs and write procedure~~
5. Draw the neat labelled diagram of ground plan of the grainage building.

SECTION-II

1X10=10 Marks

6. Write the parental races of silkworms
7. Preparation of disinfectants by the given material.
8. Demonstration coupling, de-coupling by given moths and write the procedure with diagram.
9. Demonstrate the process of moth examination individual and mass samples .
10. ~~Process of selection of seed cocoons.~~

SECTION-III (Identification/ Spotting)

1X10=10 Marks

11. a) egg b) Larva c) Pupa d) Moth e) Cocoon
12. a) Cellule b) Ant well c) Wooden tray d) Moth crushing set e) Basin stand
13. a) Bivoltine seed cocoon b) Multi voltine cocoon c) Female moth d) Male Pupa e) Good cocoon
14. ~~a) Bleaching powder b) Formaline c) Sodium hypo chloride d) KOH e) Egg sheet~~
15. a) Sanitech solution b) Dry and wet buld thermometer c) Dial Hydgrometer d) wooden stand e) Bamboo tray

Record **5 marks**

Viva- Voice **5 Marks**

SERICULTURE
FIRST YEAR
MODEL QUESTION PAPER
Paper III: Silkworm seed Technology
N.R. Course code: 112 / 23

Time: 3hrs **Max. Marks: 50**

4, 10, 13

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

SERICULTURE
SECOND YEAR
QUESTION BANK

Paper I: Sericulture Extension & Silkworm Pathology

N.R. Course code: 112 / 71

Time: 3hrs **Max. Marks: 50**

SECTION-I

1X20=20 Marks

1. Demonstrate the life cycle of Tasar silk worm and write procedure with diagram.
2. ~~Identify the given disease and mention its symptoms, control measures. (Pebrine)~~
3. Identify the given pest and mention its control measures. (Uzifly)
4. Write activities of women involvement in sericulture industry.
5. Identify various by-products in silk reeling industry.

SECTION-II

1X10=10 Marks

6. Demonstrate the life cycle of Eri silk worm and write procedure with diagram
7. Demonstrate raising of Kissan nursery and write procedure.
8. ~~Demonstrate establishment of chawki rearing centre and write procedure.~~
9. Write procedure selection of farmer for sericulture (Grama sabha)
10. Identify various by-products in rearing centre.

SECTION-III (Identification/ Spotting)

1X10=10 Marks

11. a) Eri cocoon b) Tasar cocoon c) Muga cocoon d) non mulberry host plants e) Eri moth
12. a) Uzi infested cocoon b) Pebrinized eggs c) Sotto disease d) symptoms of grasserie disease e) Pebrine spore
13. a) Uzicide b) Birds c) Ants d) Beetles e) Nematodes
14. a) Waste moth b) Litter c) pierced cocoon d) Waste larva e) use of silk gland
15. ~~a) Telephone b) Poster c) Tape recorder d) Photograph e) slides~~

Record **5 marks**

Viva- Voice **5 Marks**

SERICULTURE

SECOND YEAR

MODEL QUESTION PAPER

Paper I: Sericulture Extension & Silkworm Pathology

N.R. Course code: 112 / 71

Time: 3hrs **Max.Marks: 50**

3, 6, 11

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

SERICULTURE
SECOND YEAR
QUESTION BANK
Paper II: Silkworm Rearing Technology
N.R. Course code: 112 / 72

Time: 3hrs **Max. Marks: 50**

SECTION-I

1X20=20 Marks

1. Draw the ground plan of CSB model rearing house.
2. Demonstrate disinfection of rearing house and rearing equipment's.
3. ~~Calculate the hatching percentage from the given DFL~~.
4. Demonstrate late age rearing methods and write procedure.
5. Identify the given fungal disease, write its symptoms and suggest control measures.

SECTION-II

1X10=10 Marks

6. Demonstrate the brushing methods and write procedure
7. Demonstrate chawki rearing methods and write procedure.
8. ~~Calculate the ERR by number, by weight from the given material~~
9. Identify the given pest write its symptoms and control measures-Uzifly.
10. Identify the given viral disease, write its symptoms and suggest control measures – grasserie disease.

SECTION-III (Identification/ Spotting)

1X10=10 Marks

11. a) Rearing tray b) Chop sticks c) Cleaning nets d) Feeding stand e) Paraffin paper
12. a) Formalin b) Bleaching powder c) Slacked lime d) Chlorine dioxide e) Sanitech solution
13. a) Glassy leaf b) Rearing stand c) Chopping knife d) Ant well e) Feather
14. a) Chandrika b) Ripen worm c) Rotary mountage d) Spinning e) moulting
15. ~~a) Bivoltine cocoon b) Black boxing c) ERR d) Hatching percentage e) Late age worms~~

Record 5 marks

Viva- Voice 5 Marks

SERICULTURE
SECOND YEAR
QUESTION BANK
Paper II: Silkworm Rearing Technology
N.R. Course code: 112 / 72

Time: 3hrs **Max. Marks: 50**

5, 10, 15

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

SERICULTURE

SECOND YEAR

QUESTION BANK

Paper III: Post Cocoon Technology

N.R. Course code: 112 / 73

Time: 3hrs **Max. Marks: 50**

SECTION-I

1X20=20 Marks

1. ~~Calculate the good cocoon and defective cocoon percentage on the basis number and weight from the given cocoons.~~
2. Conduct basket steaming from the given cocoons and record your observations.
3. Conduct three pan cooking with given material and write the procedure.
4. Conduct process of reeling on cottage basin machine and draw the diagram of thread formation and record observations.
5. Conduct the process of brushing and write procedure of brushing methods

SECTION-II

1X10=10 Marks

6. Write by-products of reeling and their uses
7. Calculate the shell ratio from the given cocoons.
8. Calculate the filament length from the given cocoons.
9. ~~Perform degumming with given material and write the procedure~~
10. Perform lacing and skeining for given silk hank and write the procedure

SECTION-III (Identification/ Spotting)

1X10=10 Marks

11. a) Good cocoon b) Double cocoon c) Rusted cocoon d) Mutes e) thinned cocoon
12. a) Denier scale b) Epprouvette c) Skein d) Jettebout e) small reel
13. a)block stained cocoons b) Lacing c)Cocoon d) Floss e) Immature cocoon
14. a) Dupion silk b) Palade layer c) Spun silk d) Seriplane e) Porcelin button
15. ~~a) Croissure b) Mutka silk c) Stick brushing d) Bale e) Skein~~

Record **5 marks**

Viva- Voice **5 Marks**

SERICULTURE

SECOND YEAR

QUESTION BANK

Paper III: Post Cocoon Technology

N.R. Course code: 112 / 73

Time: 3hrs **Max. Marks: 50**

4, 8, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

30% DELETED CONTENT (PRACTICALS)
SERICULTURE

PRACTICAL CODE	SUBJECT NAME	DELETED QUESTION NUMBER FROM THE QUESTION BANK
21	Moriculture	4,7,13
22	Mulberry Farum Management	5,10,15
23	Silkworm Seed Technology	4,10.14
71	Sericulture Extension and Silkworm	2,8,15
72	Silworm Rearing	3,8,15
73	Post Cocoon	1,9,15

VOCATIONAL PRACTICALS QUESTION BANK

(For the Academic Year 2020-21)

ACCOUNTING & TAXATION

(COURSE CODE: 212)

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

ACCOUNTING & TAXATION
FIRST YEAR
QUESTION BANK
PAPER I: BUSINESS ORGANIZATION[212/21]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks.**

1. ~~What are the main objectives of Partnership deed? And fill the application for partnership firm.~~
2. Fill the forms relating to registration of co – operative societies.
3. Explain various types of the Industries and Explain them
4. Fill the application form to open a Bank Account.
5. Fill the application form to fixed deposit in to the Bank.

SECTION-II **1X10=10 Marks**

6. What are the items included in Article of Association?
7. ~~What are the items include in Prospectus.~~
8. Narrate the advantages of Print Media.
9. Explain types of insurance
10. Fill the proforma of Demand Draft.

SECTION-III **1X10=10 Marks**

11. Fill the proforma of the Withdrawal form.
12. Explain the importance of Advertising
13. ~~Advantages of Insurance~~
14. Explain the merits of Sole Trading
15. Draw the proforma of payin slip (depositing).

Record **5 marks**

Viva- Voice **5 Marks**

ACCOUNTING & TAXATION
FIRST YEAR
MODEL QUESTION PAPER

PAPER I: BUSINESS ORGANIZATION[212/21]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

ACCOUNTING & TAXATION
FIRST YEAR
QUESTION BANK
PAPER II: ACCOUNTANCY & COMPUTERS[212/22]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks.**

1. Write and Demonstrate the steps to crate file in Ms-Word, type some text and save the file.

2. Identify any 8 tools in MS Excel Screen.

3. Insert 5 Shapes in MS Word and Fill colours within it.

~~4. Prepare the Three column cash book from the following particulars.~~

~~Particulars~~	~~Amount~~	~~Particulars~~	~~Amount~~
~~Cash Balance~~	~~25,000~~	~~Bank Balance~~	~~15000~~
~~Sales~~	~~50,000~~	~~Purchases~~	~~25,000~~
~~Cash deposited in Bank~~	~~10,000~~	~~salaries~~	~~10,000~~
~~Withdrawn from Bank~~	~~---~~	~~Purchased Machinery~~	~~----~~
~~For office use~~	~~5000~~	~~Paid by check~~	~~3000~~

5. Prepare the Trading and Profit & Loss Account.

Particulars	Amount	Particulars	Amount
Opening stock	10,000	Sales	80,000
Purchases	50,000	Wages	4,000
Carriage inward	2,000	Factory expenses	2000
Depreciation	2000	Salaries	6000
Received Commission	4000	Rent	2500
Interest	1500	Closing Stock	20000

SECTION-II **1X10=10 Marks**

6. Create text file using in MS- word pad

~~7. Write and Demonstrate the Procedure for changing the width of row and column in Excel.~~

8. Identify any 8 Tools in MS-Word Screen

9. Enter the following transactions in the purchase Book, and Sales Book.

Date	Particulars	Amount	Date	Particulars	Amount
Jan1	Purchases from Raj	3000	Jan5	Sales to Karthik	5000
8	Purchases from Giri	8000	10	Sales to Rahu for cash	2000
12	Purchases from Naveen	2500	20	Sales to Nikhil	2800
25	Purchases from Santu	3200	30	Sales to Shailaja	1400

10. Prepare the Single column Cash Book.

Particulars	Amount	Particulars	Amount
Balances B/d	10,000	Paid to Anil	2500
Received from Roopa	300	Received Interest	1000
Paid rent	600	Paid into Bank	1500
Sales	1500	Advertisements	1200
Wages Paid	1000	Purchased furniture	1200

SECTION-III **1X10=10 Marks**

11. Explain types of accounts with principles

12. Write about types of subsidiary books

13. List our any five input and output devices

~~14. Insert an Image from Clipart and Rotate it~~

15. Give any five examples of trial balance debit side and credit side items.

ACCOUNTING & TAXATION
FIRST YEAR
MODEL QUESTION PAPER
PAPER II: ACCOUNTANCY & COMPUTERS[212/22]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

ACCOUNTING & TAXATION
FIRST YEAR
QUESTION BANK
PAPER III: TAXATION-I [212/23]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks.**

1. Sri. Shivananda working as a lecturer in Government Degree College at Hyderabad. His salary Particulars are as given below

   Basic Pay Rs.20,000 P.M.

   D.A Rs. 8,000 P.M.

   C.C.A Rs. 1,000 P.M.

   H.R.A Rs. 6,000 P.M.(Rent paid by him Rs 8,000 P.M.)

   During the year he paid Professional tax Rs 3000 P.A.

   Calculate the Income from salary of Sri Shivananda

2. Sri Ramana owner of a house he let out a monthly rent of Rs.8,000 pm

   Municipal Rental Value Rs. 12,000 pm

   Fair Rental Value Rs.10,000 pm

   He paid expenses: Municipal taxes Rs.15,000 p.a and Rs.20,000 interest on house loan.

   Calculate income from House property.

3. Janaki citizen of India she went to America on Dated: 17th June 2017 and she come back to India on 11.11.2017.compute her residential status

4. ~~Mr.Siddan working in a Privet Ltd Company. His salary Particulars are given below~~

   ~~Basic Pay Rs.30,000 P.M~~

   ~~D.A - Rs.15,000 P.M~~

   ~~C.C.A - Rs.3,000 P.M~~

   ~~H.R.A Rs.10,000 P.M (Rent paid by him Rs 15000 P.M)~~

   ~~Entertainment allowance Rs.2,000 P.M~~

~~He paid Professional tax Rs 5,000 P.A~~

~~Compute the income from salary of Mr.Siddan~~.

5. Explain the differences between Capital & Revenue Expenditures

SECTION-II **1X10=10 Marks**

6. Application for PAN form 49(A) For individual
7. Application Form For Hindu Undivided Family
8. ~~Fill the PAN Application for Firm~~
9. Fill the PAN Application for Company
10. Fill the PAN Application for Co-operative Society.

SECTION-III **1X10=10 Marks**

11. ~~Identifying the following person~~

    ~~a. Aneesh~~

    ~~b. Ram and brothers~~

    ~~c. Kakatiya University~~

    ~~d. KUDA (Kakatiya Urban Development Authority)~~

12. Define Revenue Incomes and give two examples
13. Tax rates of an Individual, below age of 60 years
14. Calculate the Gross Annual Value from the following particulars

    a. Actual rental value Rs.75000 P.A

    b. Municipal rental value Rs 60000 P.A

    c. Fair rental value Rs.65000 P.A.

15. How to calculate the Entertainment Allowance with imaginary figures for Govt. Employee.

Record	**5 marks**
Viva- Voice	**5 Marks**

ACCOUNTING & TAXATION
FIRST YEAR
MODEL QUESTION PAPER
PAPER III: TAXATION-I [212/23]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

ACCOUNTING & TAXATION
SECOND YEAR
QUESTION BANK
PAPER I: AUDITING [212/71]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks.**

1. What is statutory audit and prepare audit programme
2. ~~What is periodical audit and prepare audit programme~~
3. Define continuous audit and prepare audit programme
4. What are the advantages of interim audit and prepare audit programme.
5. Explain the advantages of audit programme.

SECTION-II **1X10=10 Marks**

6. ~~Explain the importance of auditing~~
7. Explain the advantages of auditing
8. Explain the objectives of an auditing
9. What are the measures to be taken for vouching?
10. Explain difference between auditing and Investigation

SECTION-III **1X10=10 Marks**

11 Draw the proforma of Receipt voucher.

12. ~~Draw the proforma of invoice for purchases.~~

13. Draw the proforma of debit Note
14. Explain the Audit Note Book.
15. Explain the Duties of an Auditor

Record **5 marks**

Viva- Voice **5 Marks**

ACCOUNTING & TAXATION
SECOND YEAR
MODEL QUESTION PAPER
PAPER I: AUDITING [212/71]

Time: 3hrs **Max.Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

ACCOUNTING & TAXATION
SECOND YEAR
QUESTION BANK
PAPER II: ACCOUNTANCY & TALLY[212/72]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks.**

1. Write and demonstrate the procedure of creating a company and creating a ledger under the group of direct expenses.
2. ~~Write and demonstrate the procedure of displaying the cash flow report in Tally.~~
3. Write and demonstrate the procedure of displaying the Funds flow statement in Tally.
4. Shravya and Sahasra are carrying on business in a partnership sharing profit &losses in the ratio of 2:3. Their Balance Sheet as at 31-3-2017 was under

Balance Sheet

Liabilities		Amount	Assets	Amount
Sundry Creditors		50,000	Cash in hand	30,000
Capital Accounts:			Cash at Bank	20,000
Shravya	2,80,000		Sundry Debtors	1,00,000
Sahasra	4,20,000	7,00,000	Stock	2,00,000
			Furniture	50,000
			Building	3,50,000
		7,50,000		7,50,000

On that date they admit Shrestha in to partnership and given him 1/4th share in the future profit on the following terms.

(a) Shresta is to bring in Rs.3,00,000 as his Capital and Rs.1,00,000 as good will, which sum is to remain in the business.

(b) Stock and Furniture are to be reduced in value by 10%

(c) Buildings are to be appreciated by Rs. 50,000

(d) A provision of 5% to be created on sundry Debtors for doubtful debts.

Pass General Entries and prepare Revaluation Account.

5. The Vignesh manufacturing company ltd. was registered with a nominal capital if Rs. 6,00,000 in equity shares of Rs. 10 each. The following is the list of balances extracted from its books on 31st December 2016.

Subscribed and fully called-up-capital	4,00,000
Calls in Arrears	7,500
Premises	3,00,000
Plant and Mechinery	3,30,000
Fixtures and Fittings	7,200
Sundry Debtors	87,000
Goodwill	25,000
Cash in Hand	750
Cash at Bank	39,900
Priliminary expenses	5,000
6%debentures	3,00,000
Bills payable	38,000
Sundry Creditors	50,000
General Reserves	45,000
Investment	20,000
P&L Appropriation A/c (Credit balance)	37,500

Prepare a P&L account and Balance Sheet and in proper form after making the following adjustments.

1. Depreciation on Plant and Machinery 10%
2. Provision for doubtful debt 5% on debtors.

3. Stock on 31st December 2016 Rs. 95,000

SECTION-II **1X10=10 Marks**

6. ~~Write and demonstrate the procedure of displaying the Accounting Reports in Tally.~~
7. Write and demonstrate the procedure of creating a purchase voucher in Tally.
8. Write financial function of Tally and write the F11 features.
9. Machinery bought on 1st Jan 2014 for Rs. 40,000 has become obsolete and sold on 31st Dec. 2017 for Rs. 26,000. Calculate the Profit and Loss assuming depreciation is charged @ 15% p.a. on straight line method.
10. Draw the proforma of Balance sheet

SECTION-III **1X10=10 Marks**

11. Draw the proforma of Receipts & payment Account
12. ~~Write the F1 to F10 function keys of Tally~~
13. Write causes of Depreciation.
14. What is Revenue Receipts and Payment and give five examples each.
15. Define types of share capital.

Record	**5 marks**
Viva- Voice	**5 Marks**

ACCOUNTING & TAXATION
SECOND YEAR
MODEL QUESTION PAPER

PAPER II: ACCOUNTANCY & TALLY[212/72]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

ACCOUNTING & TAXATION
SECOND YEAR
QUESTION BANK
PAPER III: TAXATION-II [212/73]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks.**

1) Mr.Maindeep is a medical practitioner. The following is the receipt and payments A/C for the year ending 31-3-2016. Computer his profession Income and fill the relevant form.

Receipts and Payments

Receipts	Rs.	Payments	Rs.
To, opening balance	82000	by, Dispensary	42000
To, consultancy fee	88000	By, staff salaries	40000
To, Visiting fee	42000	By,Cost of medicines	20000
To,Interest on bank	28000	By,Surgical equipment	30000
To dividents	20000	By,Share purchase	60000
To examiner fee	40000	By.Printing & stationary	6000
To,Gifts from patient	30000	By.Life insurance	4000
To,Race winnings	12000	By.Telephone exp	2000
		By,Income tax	6000
		By,Motorcar exp	12000
		By,Car driver salary	10000
		By,Balance C/D	110000
	342000		342000

2. Mr.Ramakrishna has the following in investment as on 1st April 2016

Rs.10000-10% municipal bonds

Rs.20000-10% National defence certificate

Rs.30000-15% Gujarat. Government loan

Rs.40000-13.5% Tax free Government securities

Rs.56492-12% Tax free debentures of reliance energy ltd

Rs.60000-10% Tax free debentures Nagarjuna ltd (listed)

Rs.70000-15% panyam cement ltd. Debentures listed tax

3. Mr.Anurag sells agricultural land situated within municipal limits for Rs.30,00000 on 1st may 2012, which was purchased by him on 1st Oct 1987 for Rs.300000 on 15th Aug 2012, he deposits Rs.1000000 in bank under

Capital gains accounts scheme 1988. He purchases another agricultural land on 31st Mar 2005 doe Rs.700000 by withdrawing from the deposit account of capital gain (CII for 1987-88,150, 2011-12-852)

4. Compute income from business of Mr.sri Naesh for the assessment year 2013-14 and fill the relevant form.

a. Profit as per P&L A/c	240000
b. Salary to proprietor	60000
c. Advertisement expenses	16000
d. Households expenses	16000
e. Donation to an approved institution	20000
f. Life insurance premium (on proprietors)	8000
g. Provisional for bad debts	12000
h. Interest on loan	14000
i. General expenses	18000
j. Depreciation (allowable 42000)	38000
k. Staff welfare fund	12000

5.Write about registration procedure of GST.

SECTION-II **1X10=10 Marks**

6. Fill up form-ITR-I.
7. Write the Benefits of GST.
8. Fill the Proforma of GSTR-I.
9. ~~Fill the Proforma of GST-II~~.
10. Fill the Certificate of Form 16 (TDS) .

SECTION-III **1X10=10 Marks**

11. ~~Explain the Sailent features of GST~~.
12. Explain regarding returns under GST.
13. Write disallowed expenses while computing income from business.
14. Write any ten allowed expenses while computing income from business.
15. Write any eight Securities fully exempted from tax.

Record	**5 marks**
Viva- Voice	**5 Marks**

ACCOUNTING & TAXATION
SECOND YEAR
MODEL QUESTION PAPER
PAPER III: TAXATION-II [212/73]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

30% DELETED CONTENT (PRACTICALS)
ACCOUNTING & TAXATION

PRACTICAL CODE	SUBJECT NAME	DELETED QUESTION NUMBER FROM THE QUESTION BANK
21	Business Organisation	1,7,13
22	Accounting & Computers	4,7,14
23	Taxation-I	1,10,15
71	Auditing	4,8,11
72	Accountancy-II	2,6,12
73	Taxation-II	1,9,11

VOCATIONAL PRACTICALS QUESTION BANK

(For the Academic Year 2020-21)

INSURANCE & MARKETING

(COURSE CODE: 214)

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

INSURANCE AND MARKETING
FIRST YEAR
QUESTION BANK
PAPER I: BUSINESS ORGANIZATION[214/21]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks.**

1. ~~What are the main objectives of Partnership deed? And fill the application for partnership firm.~~
2. Fill the forms relating to registration of co – operative societies.
3. Explain various types of the Industries and Explain them
4. Fill the application form to open a Bank Account.
5. Fill the application form to fixed deposit in to the Bank.

SECTION-II **1X10=10 Marks**

6. What are the items included in Article of Association?
7. ~~What are the items include in Prospectus.~~
8. Narrate the advantages of Print Media.
9. Explain types of insurance
10. Fill the proforma of Demand Draft.

SECTION-III **1X10=10 Marks**

11. Fill the proforma of the Withdrawal form.
12. Explain the importance of Advertising
13. ~~Advantages of Insurance~~
14. Explain the merits of Sole Trading
15. Draw the proforma of payin slip (depositing).

Record **5 marks**

Viva- Voice **5 Marks**

INSURANCE AND MARKETING

MODEL QUESTION PAPER

PAPER I: BUSINESS ORGANIZATION[214/21]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

INSURANCE AND MARKETING
FIRST YEAR
QUESTION BANK
PAPER II: ACCOUNTANCY & COMPUTERS[214/22]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks.**

1. Write and Demonstrate the steps to crate file in Ms-Word, type some text and save the file.

2. Identify any 8 tools in MS Excel Screen.

3. Insert 5 Shapes in MS Word and Fill colours within it.

~~4. Prepare the Three column cash book from the following particulars.~~

~~Particulars~~	~~Amount~~	~~Particulars~~	~~Amount~~
~~Cash Balance~~	~~25,000~~	~~Bank Balance~~	~~15000~~
~~Sales~~	~~50,000~~	~~Purchases~~	~~25,000~~
~~Cash deposited in Bank~~	~~10,000~~	~~salaries~~	~~10,000~~
~~Withdrawn from Bank~~	~~---~~	~~Purchased Machinery~~	~~---~~
~~For office use~~	~~5000~~	~~Paid by check~~	~~3000~~

5. Prepare the Trading and Profit & Loss Account.

Particulars	Amount	Particulars	Amount
Opening stock	10,000	Sales	80,000
Purchases	50,000	Wages	4,000
Carriage inward	2,000	Factory expenses	2000
Depreciation	2000	Salaries	6000
Received Commission	4000	Rent	2500
Interest	1500	Closing Stock	20000

SECTION-II **1X10=10 Marks**

6. Create text file using in MS- word pad

~~7. Write and Demonstrate the Procedure for changing the width of row and column in Excel.~~

8. Identify any 8 Tools in MS-Word Screen

9. Enter the following transactions in the purchase Book, and Sales Book.

Date	Particulars	Amount	Date	Particulars	Amount
Jan1	Purchases from Raj	3000	Jan5	Sales to Karthik	5000
8	Purchases from Giri	8000	10	Sales to Rahu for cash	2000
12	Purchases from Naveen	2500	20	Sales to Nikhil	2800
25	Purchases from Santu	3200	30	Sales to Shailaja	1400

10. Prepare the Single column Cash Book.

Particulars	Amount	Particulars	Amount
Balances B/d	10,000	Paid to Anil	2500
Received from Roopa	300	Received Interest	1000
Paid rent	600	Paid into Bank	1500
Sales	1500	Advertisements	1200
Wages Paid	1000	Purchased furniture	1200

SECTION-III **1X10=10 Marks**

11. Explain types of accounts with principles

12. Write about types of subsidiary books

13. List our any five input and output devices

~~14. Insert an Image from Clipart and Rotate it~~

15. Give any five examples of trial balance debit side and credit side items.

INSURANCE AND MARKETING

MODEL QUESTION PAPER

PAPER II: ACCOUNTANCY & COMPUTERS[214/22]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

INSURANCE AND MARKETING
FIRST YEAR
QUESTION BANK
PAPER III: PRINCIPLES OF INSURANCE[214/23]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks.**

1. A) Calculate age nearer birthday and last birthday and age next birthday based on following data

   Date of Proposal: 1st November 2018

   Date of Birth: 19-10-1984

   b) And calculate the Paid up value:

   Sum Assured: 1, 00,000/-

   Plan and Term: Endowment – 20 years

   Date of Commencement: 1st April 2017

   Date of Last Unpaid Premium: 1st April 2018

   Mode of Payment: Yearly

2. A) Calculate age nearer birthday and last birthday and age next birthday based on following data

   Date of Proposal: 1st October 2018

   Date of Birth: 15-11-1974

   b) And calculate the Paid up value:

   Sum Assured: 2, 00,000/-

   Plan and Term: Endowment – 20 years

   Date of Commencement: 1st January 1995

   Date of Last Unpaid Premium: 1st April 2018

   Mode of Payment: Half Yearly

3. A) Calculate age nearer birthday and last birthday and age next birthday based on following data

   Date of Proposal: 1st January 2018

Date of Birth: 27-01-1988

b) And calculate the Paid up value:

Sum Assured: 5, 00,000/-

Plan and Term: Endowment – 10 years

Date of Commencement: 1st April 2001

Date of Last Unpaid Premium: 1st April 2013

Mode of Payment: Quarterly

4. ~~A) Calculate age nearer birthday and last birthday and age next birthday based on following data~~

   ~~Date of Proposal: 1st August 2017~~

   ~~Date of Birth: 15-05-1979~~

   ~~b) And calculate the Premium Income for the 2016-2017:~~

   ~~Premium received on life policies during the year 50, 00,000/-~~

   ~~Reinsurance premium (paid) 2, 00,000/-~~

   ~~Bonus in reduction of premium 40, 000/-~~

   ~~Premium outstanding on 01-04-2017 - 1, 92,000/-~~

   ~~Premium outstanding on 01-04-2018 - 2, 00,000/-~~

5. A) Calculate age nearer birthday and last birthday and age next birthday based on following data

   Date of Proposal: 1st February 2018

   Date of Birth: 24-02-1984

   b) And calculate the Premium Income for the 2017-2018:

   Premium received on life policies during the year 25, 00,000/-

   Reinsurance premium (paid) 1, 00,000/-

   Bonus in reduction of premium 40, 000/-

   Premium outstanding on 01-04-2017 - 92,000/-

   Premium outstanding on 01-04-2018 - 1, 00,000/

SECTION-II 1X10=10 Marks

6. Give the following data what would be the amount of surrender value?

   Available on 5th April 2018

   Plan and term Endowment: 31 Years

   Sum assured Rs. 4, 00,000/-

   Date of commencement 25th September 1986

   Premium Position half yearly premium due September

   2016 paid on 22-11-2016

   Bonus vested after valuation on 31 march 2016 Rs. 3, 40, 000/-

   Surrender Value factor Duration 14 years 22% - 15 years 25% - 16 years – 30%

7. Give the following data what would be the amount of surrender value?

   Available on 5th April 2017

   Plan and term Endowment: 31 Years

   Sum assured Rs. 3, 00,000/-

   Date of commencement 25th September 1995

   Premium Position half yearly premium due September

   2015 paid on 22-11-2015

   Bonus vested after valuation on 31 march 2015 Rs. 2, 50, 000/-

   Surrender Value factor Duration 14 years 22% - 15 years 25% - 16 years – 30%.

8. ~~Give the following data what would be the amount of surrender value?~~

   ~~Available on 5th April 2017~~

   ~~Plan and term Endowment: 31 Years~~

   ~~Sum assured Rs. 6, 00,000/-~~

   ~~Date of commencement 25th September 1996~~

   ~~Premium Position half yearly premium due September~~

~~2016 paid on 22-11-2016~~

~~Bonus vested after valuation on 31 march 2016 Rs. 5, 10, 000/-~~

~~Surrender Value factor Duration 14 years 22% - 15 years 25% - 16 years – 30%~~

9. Calculate the claims expenditure for the 2016-17

   Claims paid on life policies during the year 15, 00, 000/-

   Reinsurance claims (Received) 10,000/-

   Claims outstanding on 01-04-2015 - 90, 000/-

   Claims outstanding on 01-04-2016 - 1, 00, 000/-.

10. Calculate the claims expenditure for the 2017-18

    Claims paid on life policies during the year 25, 00, 000/-

    Reinsurance claims (Received) 1, 00,000/-

    Claims outstanding on 01-04-2016 - 92, 000/-

    Claims outstanding on 01-04-2017 - 1, 00, 000/.

SECTION-III **1X10=10 Marks**

11. Proposal Form, IRDA, Pension Plans, Accidental Benefits
12. Maturity Claims, Riders, Postal Life Insurance, Death Claim
13. Agent Role, Warranties, Annuities, Medical Report
14. ~~Married women's property act policies, Non linked policies, District Forums, Insurance Ombudsman~~
15. ~~Primary Risk, Secondary Risk, Risk retention, Consumer Services~~

Record	**5 marks**
Viva- Voice	**5 Marks**

INSURANCE AND MARKETING
FIRST YEAR
MODEL QUESTION PAPER
PAPER III: PRINCIPLES OF INSURANCE[214/23]

Time: 3hrs **Max. Marks: 50**

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

INSURANCE AND MARKETING
SECOND YEAR
QUESTION BANK
PAPER I: RETAIL MANAGEMENT[214/71]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks**

1. Explain the types of stores and their location.

2. Various ways of stores lay out location of department etc..

3. Fill the transfer out form.

4. Explain the Arrangement of Product in racks.

5. Exterior and interior designing of the store.

SECTION-II **1X10=10 Marks**

6. Holding discussion with the owner's management of retail stores.

7. Exercise in assessing the demand for selected product in given area.

8. Exercise in preparation of stock register, bin card, etc…

9. A visit to a few retail stores to find out sales promotion.

10. The student should be a ware of handling event management. Independently.

SECTION-III (Characters/ Definitions) **1X10=10 Marks**

11. Retailor- Supermarket

12. Malls - Layout

13. Brokers - Godowns

14. Delivery note – Inventory Control

15. Discounts – Perishable Goods

Record **5 marks**

Viva- Voice **5 Marks**

INSURANCE AND MARKETING
SECOND YEAR
MODEL QUESTION PAPER
PAPER I: RETAIL MANAGEMENT[214/71]

Time: 3hrs **Max.Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

INSURANCE AND MARKETING
SECOND YEAR
QUESTION BANK
PAPER II: ACCOUNTANCY & TALLY[214/72]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks.**

1. Write and demonstrate the procedure of creating a company and creating a ledger under the group of direct expenses.
2. ~~Write and demonstrate the procedure of displaying the cash flow report in Tally~~.
3. Write and demonstrate the procedure of displaying the Funds flow statement in Tally.
4. Shravya and Sahasra are carrying on business in a partnership sharing profit &losses in the ratio of 2:3. Their Balance Sheet as at 31-3-2017 was under

Balance Sheet

Liabilities		Amount	Assets	Amount
Sundry Creditors		50,000	Cash in hand	30,000
Capital Accounts:			Cash at Bank	20,000
Shravya	2,80,000		Sundry Debtors	1,00,000
Sahasra	4,20,000	7,00,000	Stock	2,00,000
			Furniture	50,000
			Building	3,50,000
		7,50,000		7,50,000

On that date they admit Shrestha in to partnership and given him 1/4th share in the future profit on the following terms.

(a) Shresta is to bring in Rs.3,00,000 as his Capital and Rs.1,00,000 as good will, which sum is to remain in the business.

(b) Stock and Furniture are to be reduced in value by 10%

(c) Buildings are to be appreciated by Rs. 50,000

(d) A provision of 5% to be created on sundry Debtors for doubtful debts.

Pass General Entries and prepare Revaluation Account.

5. The Vignesh manufacturing company ltd. was registered with a nominal capital if Rs. 6,00,000 in equity shares of Rs. 10 each. The following is the list of balances extracted from its books on 31st December 2016.

Subscribed and fully called-up-capital	4,00,000
Calls in Arrears	7,500
Premises	3,00,000
Plant and Mechinery	3,30,000
Fixtures and Fittings	7,200
Sundry Debtors	87,000
Goodwill	25,000
Cash in Hand	750
Cash at Bank	39,900
Priliminary expenses	5,000
6%debentures	3,00,000
Bills payable	38,000
Sundry Creditors	50,000
General Reserves	45,000
Investment	20,000
P&L Appropriation A/c (Credit balance)	37,500

Prepare a P&L account and Balance Sheet and in proper form after making the following adjustments.

1. Depreciation on Plant and Machinery 10%
2. Provision for doubtful debt 5% on debtors.

3. Stock on 31st December 2016 Rs. 95,000

SECTION-II **1X10=10 Marks**

6. ~~Write and demonstrate the procedure of displaying the Accounting Reports in Tally.~~
7. Write and demonstrate the procedure of creating a purchase voucher in Tally.
8. Write financial function of Tally and write the F11 features.
9. Machinery bought on 1st Jan 2014 for Rs. 40,000 has become obsolete and sold on 31st Dec. 2017 for Rs. 26,000. Calculate the Profit and Loss assuming depreciation is charged @ 15% p.a. on straight line method.
10. Draw the proforma of Balance sheet

SECTION-III **1X10=10 Marks**

11. Draw the proforma of Receipts & payment Account
12. ~~Write the F1 to F10 function keys of Tally~~
13. Write causes of Depreciation.
14. What is Revenue Receipts and Payment and give five examples each.
15. Define types of share capital.

Record	**5 marks**
Viva- Voice	**5 Marks**

RETAIL MANAGEMENT
MODEL QUESTION PAPER

PAPER II: ACCOUNTANCY & TALLY[214/72]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

INSURANCE AND MARKETING
SECOND YEAR
QUESTION BANK
PAPER III: PRINCIPLES OF GENERAL INSURANCE [214/73]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks**

1. What is the procedure to take fire insurance policy, and marine insurance policy?
2. Draw the diagram for various classes of insurance?
3. ~~Draw the diagram of types of hazards and explain briefly.~~
4. Discuss the legalities involved in case of accident under motor insurance?
5. List out of the benefits and difficulties associated with crop insurance and cattle insurance?

SECTION-II **1X10=10 Marks**

6. ~~Write the factors of Determining Pricing~~.
7. Write any application to insurance company to become on agent.
8. If you lost motor cycle, what is the procedure to receive insurance claim?
9. Write the procedure to medi-claim of an individual plans.
10. What is the procedure claim for industrial building?

SECTION-III **1X10=10 Marks**

11. Proposal Form – Insurable Properties
12. Rating - Recoveries
13. ~~House holder policy – New policy Schemes~~
14. Claim - TPA's Roles
15. ~~Sickness – Value Added Services~~

Record	**5 marks**
Viva- Voice	**5 Marks**

INSURANCE AND MARKETING
SECOND YEAR
MODEL QUESTION PAPER
PAPER III: PRINCIPLES OF GENERAL INSURANCE [214/73]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

30% DELETED CONTENT (PRACTICALS)
INSURANCE AND MARKETING

PRACTICAL CODE	SUBJECT NAME	DELETED QUESTION NUMBER FROM THE QUESTION BANK
21	Business Organisation	1,7,13
22	Accounting & Computers	4,7,14
23	Principles of Insurance	4,8,14,15
71	Retail Marketing	2,9,12,14
72	Accountancy-II	2,6,12
73	Principles of General Insurance	3,6,13,15

VOCATIONAL PRACTICALS QUESTION BANK

(For the Academic Year 2020-21)

OFFICE ASSISTANTSHIP

(COURSE CODE:213)

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

OFFICE ASSISTANTSHIP
FIRST YEAR
QUESTION BANK
PAPER I: BUSINESS ORGANIZATION[213/21]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks.**

1. ~~What are the main objectives of Partnership deed? And fill the application for partnership~~ firm.
2. Fill the forms relating to registration of co – operative societies.
3. Explain various types of the Industries and Explain them
4. Fill the application form to open a Bank Account.
5. Fill the application form to fixed deposit in to the Bank.

SECTION-II **1X10=10 Marks**

6. What are the items included in Article of Association?
7. ~~What are the items include in Prospectus.~~
8. Narrate the advantages of Print Media.
9. Explain types of insurance
10. Fill the proforma of Demand Draft.

SECTION-III **1X10=10 Marks**

11. Fill the proforma of the Withdrawal form.
12. Explain the importance of Advertising
13. ~~Advantages of Insurance~~
14. Explain the merits of Sole Trading
15. Draw the proforma of payin slip (depositing).

Record **5 marks**

Viva- Voice **5 Marks**

OFFICE ASSISTANTSHIP
FIRST YEAR
MODEL QUESTION PAPER

PAPER I: BUSINESS ORGANIZATION[213/21]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

OFFICE ASSISTANTSHIP
FIRST YEAR
QUESTION BANK
PAPER II: ACCOUNTANCY & COMPUTERS[213/22]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks.**

1. Write and Demonstrate the steps to crate file in Ms-Word, type some text and save the file.

2. Identify any 8 tools in MS Excel Screen.

3. Insert 5 Shapes in MS Word and Fill colours within it.

~~4. Prepare the Three column cash book from the following particulars.~~

~~Particulars~~	~~Amount~~	~~Particulars~~	~~Amount~~
~~Cash Balance~~	~~25,000~~	~~Bank Balance~~	~~15000~~
~~Sales~~	~~50,000~~	~~Purchases~~	~~25,000~~
~~Cash deposited in Bank~~	~~10,000~~	~~salaries~~	~~10,000~~
~~Withdrawn from Bank~~	~~---~~	~~Purchased Machinery~~	~~----~~
~~For office use~~	~~5000~~	~~Paid by check~~	~~3000~~

5. Prepare the Trading and Profit & Loss Account.

Particulars	Amount	Particulars	Amount
Opening stock	10,000	Sales	80,000
Purchases	50,000	Wages	4,000
Carriage inward	2,000	Factory expenses	2000
Depreciation	2000	Salaries	6000
Received Commission	4000	Rent	2500
Interest	1500	Closing Stock	20000

SECTION-II **1X10=10 Marks**

6. Create text file using in MS- word pad

~~7. Write and Demonstrate the Procedure for changing the width of row and column in Excel.~~

8. Identify any 8 Tools in MS-Word Screen

9. Enter the following transactions in the purchase Book, and Sales Book.

Date	Particulars	Amount	Date	Particulars	Amount
Jan1	Purchases from Raj	3000	Jan5	Sales to Karthik	5000
8	Purchases from Giri	8000	10	Sales to Rahu for cash	2000
12	Purchases from Naveen	2500	20	Sales to Nikhil	2800
25	Purchases from Santu	3200	30	Sales to Shailaja	1400

10. Prepare the Single column Cash Book.

Particulars	Amount	Particulars	Amount
Balances B/d	10,000	Paid to Anil	2500
Received from Roopa	300	Received Interest	1000
Paid rent	600	Paid into Bank	1500
Sales	1500	Advertisements	1200
Wages Paid	1000	Purchased furniture	1200

SECTION-III **1X10=10 Marks**

11. Explain types of accounts with principles

12. Write about types of subsidiary books

13. List our any five input and output devices

~~14. Insert an Image from Clipart and Rotate it~~

15. Give any five examples of trial balance debit side and credit side items.

OFFICE ASSISTANTSHIP
FIRST YEAR
MODEL QUESTION PAPER
PAPER II: ACCOUNTANCY & COMPUTERS[213/22]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

OFFICE ASSISTANTSHIP
FIRST YEAR
QUESTION BANK
Paper III: ENGLISH TYPEWRITING (30 WPM) [213/23]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks**

1. Type the following by taking 2 line spacing.

COMPUTERS

This is the age of computers. Science has given us many wonders. One among them is the Computers. Computers are a gift to the modern civilization. They have entered every walk of life and have become indispensable. Charles Babbage invented Computers. Compute means 'to calculate'. In a crude sense a computer is a device that calculates. The computer was invented in 1880. When it was invented it was big in size. Later the device underwent several changes and finally acquired a smaller size. Information fed to the computer is called 'data'. Arriving at solutions based on this data is called 'processing'. Information provided by the computer is the 'output'. Thus a computer receives data, processes it and gives us the output. The data is received through the input device. There are a variety of devices that are used for the output and the input. Computers can store a lot of information. This is done by the memory unit of the device. If more information has to be stored the auxiliary memory device is put to use. This memory is permanent. We can get back the information as and when required. Chips are being increasingly used in the field of computers. Computers help us a lot in our daily life. They are extensively used in offices, educational institutions, hospitals and business. They can compute anything right from the marks of a student to the data required in space research. For different purposes different

computers languages are used. 'Fortran', 'Basic' and 'Cobal' are some of the important languages.

2. Type the following passage by talking 2 line spacing.

CO-EDUCATION

Co-education means teaching boys and girls together under the same roof. The system has its advantages and disadvantages. The system of co-education is an age old one. It was practised in Greece centuries ago. The Greek philosopher Plato felt that boys and girls should be thought together. This, he said, put enable them to understand each other well. It would help the development of their personalities along the right lines. Co-education gives importance to the idea of equality of sexes. As students both boys and girls have equal chances of success. In India, in the past, education of girls was a rare thing. In the modern age girls have entered all walks of life. They are competing with boys in all fields. In some cases the curve of success is in their favour. So girls have to learn to live with boys at every stage. Co-education gives them an opportunity for this. Girls are naturally shy in the presence of boys. Uneducated girls cannot face the problems of society with courage. Co-education enables boys and girls to understand each other. They no longer treat each other as strange creatures. When they are exposed to each other several inhibitions are removed. A free and healthy atmosphere is created in which they grow to be ideal citizens. Boys learn to behave decently in the presence of girls. Their conduct will be exemplary. Girls lose the fear of the opposite sex. A real sense of co-existence develops in them. There are certain disadvantages in this system.

3. Type the following passage by talking 2 line spacing.

INDIA AND INDUSTRIES

Industries are the strength of any nation's economy. Their growth is the growth of a nation. All the countries in the world are trying hard to develop industrially. India is one among them. India has an agriculture based society over ages. It has been our mainstay. For a long time importance was not given to industries. This is why we are still lagging behind in this field. As such we have failed to eradicate poverty from the nation. It was only after independence that industries have been given a prominent place. Since then we are on the path of an industrial revolution. Today India is among the established industrial nations of the world. Indian industries can be categorised as 1) Heavy or large scale industries 2) Small scale industries and

3) Cottage industries. The differentiation is based on the capital (investment), number of labourers and equipment and production. Of these cottage industries require comparatively less investment. A number of industries are spread all over India. They are providing jobs to lakhs of workers. A variety of goods are being produced in them. Large industries are established with the financial assistance of foreign countries. Many iron and steel factories have come up in this way. Cities like Calcutta, Mumbai, Chennai, Hyderabad and Visakhapatnam are the scenes of a multitude of industries. Industrial Estates are being established in many cities and towns. They attract small and enthusiastic industrialists. Cottage industries have a prominent place in a country with a large population.

~~4. Type the following passage by talking 2 line spacing.~~

OPEN UNIVERSITY

Everyone should have proper education. But opportunities of education cannot be provided to all in a country like India. There are various causes for a person being uneducated. One such is that he does not have the chance of getting a formal education. The Open University is a boon to such people. The aim of the Open University is to bring education to the doorsteps of the needy. In our country such people are in large numbers. For a number of reasons many children are not sent to schools. In some families their earning are necessary for survival. Some give up their studies in the middle of their career. There are others who wish to improve their education qualifications after they get employed. House wives often wish to be educated. For all these people the Open University is of great help. The first Open University was started in Britain in 1971. India wanted to follow suit. A commission was appointed under the chairmanship of Sri. G.Parthasaradhi, Vice Chancellor of Jawaharlal Nehru University to examine the establishment of Open Universities. In 1982 A.P. state government sent Prof. G.Rami Reddy to Britain. The Government approved his recommendations and legislation was made to start an Open University. In 1982 the then President Sri. Jail Singh inaugurated the Open University in Nagarjuna Sagar. But the courses of the University were started in Hyderabad. Thus our state became the first one to start an Open University. In the Open University any one above the age of 20 can have education.

5. Type the following passage by talking 2 line spacing.

SOCIAL WELFARE SCHEMES

In a democratic setup the government's main concern is the welfare of the people. This is much more true in the case of a developing country like India where a large part of the population suffers from poverty. Keeping this in view the government implements many social welfare schemes. It is the government's responsibility to provide for the basic needs of the people. India is a land of many villages. In rural areas agriculture is the main source of people's livelihood. But by and large agriculture is a gamble. As such poverty prevails in many parts of rural India. So government has to come to help these rural masses. The social welfare schemes are intended for them. These schemes are implemented by the central government and the state governments. They are a part of the rural development plans. The social welfare schemes are aimed at providing relief to the poor people. Different schemes are given different names. A mid-day meal scheme was started to help 30 million children in schools in the backward regions of the country. This scheme encourages poor children to receive education. Rural group life insurance scheme provides insurance facility to the villagers. Social security to the poor is provided under the National Social Assistance scheme. Indira Mahila Yojana is a scheme for the benefit of poor women. Indira Mahila Kendras are started for this purpose. Prime Minister's Rojgar Yojna was launched on October 2, 1993. Its objective is to provide sustained employment to about 10 lakh educated unemployed youth.

SECTION-II **1X10=10 Marks**

SECTION - II 1X10 = 10 Marks.

Q.6. Type the following statement on rule up.
Statement showing the budget allocation during 2012-13

S.No.	Particulars	Scheme A	Scheme B	Scheme C
1.	Education	85,431	68,321	72,189
2.	Agriculture	76,306	19,417	~~46,315~~ Stat
3.	Engineering	89,211	92,613	38,621
4.	Transport	92,615	95,105	96,103
5.	Services	15,213	16,715	85,216

Q.7. Type the following statement on rule up.
& Statement showing ~~the budget~~ Adhar card holding 2012-13.

& ~~S.No~~ State	Rural	Urban	Total
A.P	1,18,312	2,13,601	3,31,913
U.P.	9,15,609	11,15,001	20,30,610
West bangal	6,13,512	5,12,112	11,25,624
Stat Tamil Nadu	5,02,612	~~6,13,103~~	11,115,715
Karnataka	4,92,725	5,12,701	10,105,426

Q.8. Type the following statement on rule up.

A comparative annual rainfall in different Districts in mm s.

Name of the Dist.,	2008	2009	2010
Karimnagar	209	312	475
Adilabad	512	~~603~~	576
Nellore	615	709	809
Medak	406	506	626
Cuddapah	205	302	198

Stat

Q.9. Type the following statement on rule up.

Statement four wheelers sold during years in varies states.

State	2008	2009	2010
A.P	1,10,213	1,16,425	~~1,55,013~~
U.P	4,13,109	5,13,014	6,12,112
Tamilnadu	3,12,115	4,12,116	5,03,075
Karnataka	87,102	89,920	92,678
Kurnool	68,369	72,102	91,305

Stat

Q.10. Type the following statement on rule up.
Production of Price on A.P in 2010, 2011 & 2012.

District	2010	2011	2012.
Adilabad	75,110	88,620	95,010
Karimnagar	85,210	89,110	96,410
Medak	69,260	71,010	85,620
Khammam	87,102	89,920	92,678
Kurnool	68,369	72,102	91,305.

SECTION - III

1×10 = 10 Marks.

Q. 11. Type the following business letter in Proper format.

Telegrams: "RAMCO" Telephone : 57145.

Rama Eng., Co., Ltd., u/p

Abids Rd.,

Hyd - 500021

Dt. 3-5-2009.

Ref. No. 149/09,

M/S Karmal Enterprises,

Vidyanagar,

Karimnagar.

D/S.

We have received your letter for the supply of Engineering spare parts. We are having lot of stock of spare parts in our godowns. Due to increase in price of raw materials several firms have raise their prices. But with a firm determination to stand out. We decided to adhere to the same prices.

We hope you will co-operate with us in future also.

Thanking you,

for Rama Eng., Co., Ltd.,

Partner.

Q.12. Type the following Government order in Proper form.

Govt. of AP

Abstract.

Allowance – House rent allowance – Admissibility in the revised pay scales 1993 – Recommendation of ~~on~~ of the Pay Revision Committee – Accepted – Orders – issued.

- -

Finance & Planning (Fin – wing) Dept.,

G.O. (P) No. 225. Date 29-5-1993.

Read the following.

1. GO. MS. No. To Edn. Dep. dt 25-2-1989.
2. G.O MS No. 162 Fin & Plg Dep dt. 20-5-93

ORDER:

In the orders read above, orders, were issued, based on the recommendations of the Commissioner Revision Pay, 1993, (3 2 1) implementation of the Revised Pay scale 1993 w.e.f 1-1-1993 with monetary benefit from 1-4-93.

(By order ..... etc)

T. Satyanarayana.
Spl. Sec to Govt.

To
All Concerned.

Q.13. Type the following business letter in proper form.

From Aruna Book Depot, Doctors Street, Karimnagar, 505001. To M/S. National Shorthand School (Books), Visakhapatnam Ref. MCS/13 dt. 15-6-13.

D/S.

We would like to know the latest Price list & Catalogue of Typewriting & Shorthand Books which are to be useful to Intermediate students vocational two years Courses) After receipt of your ~~Price list~~. We will plan to order for the purchase of library Books from the SRL, fee funds, we shall be obliged if U send the Catalogue & Price list at an early date.

Y/f.,

for Aruna Book Depot,

Manager.

Q. 14. Type the following Government order Proper form.

Govt. of A.P

Abstract.

Allowances – City Compensatory Allowance Revision of Rates – orders Issued.

Fin & Planning (Fin. wing) Dept.,

G.O. MS. No: 840. Dt: 17-8-1979.

Read the following.

G.O. MS. No. 285, Fin & Plg (Fin wing) Dept. dt. 15th Sept., 1979.

ORDER:

In Continuation of the orders issued in the Govt. order read above, Govt have decided and hereby accordingly orders that the rate of City Compensatory Allowance be revised to 6% of Pay subject to a minimum of Rs 75/- P.M. for all the employees working in the twin cities of Hyd., & Secunderabad.

(By order ....., etc)

BPR Vithal

Sect. to Govt.

Q.15. Type the following business letter in Proper form

Gopal Steel Private Ltd.,

Lr. No. 309/SH/09 Kukatpally,

Hyd.,

Dt: 5-1-2009.

To

M/S. Sravani Furnitures,

MG Rd, Warangal.

Dear Sirs,

We are happy to receive your letter wherein you have expressed your interest in the latest steel furniture. As your br. very rightly mentioned in your letter, the mordeler steel Furniture designed by us is unique matter our sales executive to visiting your place during the last week of the month. In addition to displaying to catalogue he will discuss the formalities to be completed before you take no the dealership.

Y/f,

For Gopal Steel Pvt Ltd.

Manager.

Record	**5 marks**
Viva- Voice	**5 Marks**

OFFICE ASSISTANTSHIP
FIRST YEAR
MODEL QUESTION PAPER
Paper III: ENGLISH TYPEWRITING (30 WPM) [213/23]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

OFFICE ASSISTANTSHIP

SECOND YEAR PRACTICALS
QUESTION BANK
PAPER I: ENGLISH TYPEWRITING (45 WPM) [213/61]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks.**

1. EDUCATIONAL REFORMS

I strongly feel, sir, that the eleven States mentioned by you must be considered for special attention if our march towards the goal of Education for all by 2000 A.D is to succeed. May I venture to suggest that we require not only to monitor the progress but also maintain a sustained dialogue among these states every six months at the highest level. I would like to take this opportunity to invite you sir, as also the Minister of Human Resource Development and the Chief Ministers of the ten states to Hyderabad in July, 1994 for the first of such deliberations. I would also suggest that we set up an Education for All secretariat for these eleven states so as to serve as a forum for a constant exchange of information on the strategies and initiatives, as well as to develop appropriate methodologies.

The picture of literacy in India, is a cause for concern and, at the same time, a great hope. It is a matter of concern that notwithstanding the phenomenal growth in literacy percentage between the years 1951 and 1991, the number of illiterates has actually grown. At the same time, we are all enthused by the dedicated effort with which millions of our young men and women, and at times even boys and girls are fighting this problem particularly though the Total Literacy Campaign, a significant feature of which is the around support that the programmer enjoys. It is essential that the fruit of this campaign are sustained through adequate investments in Elementary Education, both through internal effort and though external assistance. It is against the backdrop of such a need and the National Development Council had endorsed the report of the Sub Committee on Literacy, containing various recommendations regarding both Elementary and Adult Education.

I am happy to inform this august gathering that the various steps recently being taken by us in Andhra Pradesh are such as to give shape to National Development Council's recommendations. We are on the verge of covering the entire State under Total Literacy Campaign. It is indeed gratifying to note from the agenda notes for this conference that Andhra Pradesh is doing well in this sector. There is no room, for complacence in a n empowering programme of this nature. We have resolved to redouble all our efforts.

2. SECRET OF SUCCESS

To get ahead in life, to get the better of the competition, to reach and stay at the top and to realise one's cherished ambitions you have to begin with a determined resolve and put in ceaseless, sustained efforts. You must press on boldly and courageously despite the setbacks and obstacles. We are in a competitive world and a rat race is on. There is room for only one at the top. The higher the summit, the harder to climb. Never be afraid of making mistakes but make sure you draw full benefit from them. You can learn not only from your mistakes but also from the mistakes but also from the mistakes of others.

The secret of success, the secrets of beating the competition and the secret of getting to the top lies in doing a little more and little better, not only than your competition, but also what you are paid for. Just enough to get by is not adequate to get ahead and win the race. By putting in a little extra effort on your own and unasked for, will make all others indebted to you instead of you being obligated to them. When you give a little more than what is expected of you and when you give a little more than what is expected of you and when you give affection, love, sympathy, respect, regard and friendship in abundance and unasked for you will find others spontaneously helping you and lifting you to top.

Competition is tough, has been tough always and will remain so as well in the future. You have to accept this fact and meet the challenge squarely. If you are physically and mentally fit, show grit and prove tough, you will not only survive but overcome all obstacles and competition. It is truly the survival of the fittest, but fitness of the mind is as important as fitness of the body.

Opportunities keep knocking on the doors of every one. The one who is alert and ready grabs it and puts it to best use. The world of success is always open to the dynamic, keen, confident, courageous youth. All we need is the positive attitude and the forceful personality to break the myth of unemployment and the voodoo of competition. With the spirit and determination, you display, you can make people take notice of you and count you in. With indomitable will power and vigorous effort you can win your way to victory. Hence, be bold met the challenge, seize the opportunity, work hard, persevere till the end and embrace success.

3. MOTIVATION

Motivation is an important function which every manager performs for actuating people to work for the accomplishment of objectives of the Organization. Issuing well-conceived instructions and orders does not mean that they will be followed. A manager has to make appropriate use of motivation techniques to enthuse employees follow them. Effective motivation succeeds not only in having an order accepted but also in gaining determination to see that it is executed efficiently and effectively.

Motivation is an effective instrument in the hands of a manager in inspiring the work force and creating confidence in it. By motivating the workforce management creates "will to work" which is necessary for the achievement of organizational goals. Motivation involves getting the members of the team to pull weight effectively, to give their loyalty to the group, to carry out properly the task assigned and to play an effective role in contributing towards the purpose the organization has undertaken.

Motivation has come from the word motives which means expressions of needs by human being. If fact, all the activities of human beings are caused, and behind every action there is a particular motive or need. Thus human behaviour is caused by motives and motivation is the process of inducing persons to experience needs for certain desired behaviour so that organizational efficiency is achieved.

Motivation can also be defined as the complex of forces starting and keeping a person at work in an organization. In other words, motivation starts and maintains and activity along a prescribed line. Motivation refers to the way a person is enthused at work to intensify his desire and willingness to use his potentialities for achievement of organizational objectives. The role of motivation is to develop and intensify desire in every member of the organization to work effectively and efficiently in his position. March and Simon have defined motivation as the process or the reaction which takes place in the memory of individuals. It may be viewed as the combination of forces or motives maintaining human activity. According to Stanley Vance motivation implies any emotion or desire which so conditions one's will that the individual is propelled into action.

4. POWER OF COMMUMNIATION

Communication is elementary in a civilised society, Unlike royal couriers, agents and servants who used to carry the message engraved on leaves or metal sheet, modern network of communication media is astonishing and super. Increase in the volume and extent of business is because of fast development in the field of communication. Clear and accurate communication is always fruitful to merchant's producers, advocates, bankers and others. Every letter has a purpose behind it. Receiver of letter reacts soon when there is clear presentation of ideas in it. Carefully chosen words will always be appreciated. Simple and appropriate words used in communication will fetch the writer, the expected fruit. Proper arrangement of words, clarity in though, frank and factual information will pave the way for clear writing. Failure or success in business may be, often due to careless or effective communication with the outside world. Indecency may ruin the business itself. Carrying out the business transactions, settlement of dealings and provision of dependable documents for subsequent reference etc. Will be the outcome of communication channel to be determined. Competitive market expects a clear-cut communication. A badly worded letter will baffle the business. Unduly long letter will not attract the attention of potential customers. Effective correspondence will add to the beauty of business entity. A timely response with a sense of perfection may bring in large sales to the organisation concerned. (LOWER) A letter with a good beginning will certainly press the reader to full, go through the correspondence. Clear business, prompt settlement of customer's account and earning as well as retaining a band of loyal customers may be entirely due to a series of well worded letters. Success of every human venture is based on the ability to communicate effectively. Every manager of business is compelled to motivate and communicate with mass. Communication is the life line of business, thought is to be communicated clearly. Every piece of work in an office calls for some sort of communication of thought. The communication process is consistent in achieving a perfect identify of mind with any other person.

5. EDUCATIONAL PROGRAMMES

The National System of Education will be based on a national curricular framework which contains a common core along with other components that are flexible. The common core will include the history of India's freedom movement the constitutional obligations and other content essential to nurture national identity. These elements will cut across subject areas and will be designed to promote values such as India's common cultural heritage egalitarianism, democracy and secularism, equality of the sexes, protection of the environment, Removal of social barriers, Observance of the small family norm and inculcation of the scientific temper. All educational programmes will be carried on in strict conformity with secular values.

India has always worked for peace and understanding between nations, treating the whole world as on family. True to this hoary tradition, Education has to strengthen this world view and motivate the younger generations for international co-operation and peaceful co-existence. This aspect cannot be neglected. To promote equality, it will be necessary to provide for equal opportunity to all not only in access, but also in the conditions for success.

Besides, awareness of the inherent equality of all will be created through the core curriculum. The purpose is to remove prejudices and complexes transmitted through the social environment and the accident of birth.

Minimum levels of learning will be laid down for each stage of education .Steps will also be taken to foster among students an understanding of the diverse cultural and social systems of the people living in different parts of the country. Besides the promotion of the link language, programmers will also be launched to increase substantially the translation of books from one language to another and to publish multi-lingual dictionaries and glossaries. The young will be encouraged to undertake the rediscovery of India, each in his own image and perception.

In higher education in general, and technical education in particular steps will be taken to facilitate inter-regional mobility by providing equal access to every Indian of requisite merit, regardless of his origins. The universal character of universities and other institutions of higher education is to be underscored.

SECTION-II **1X10=10 Marks**

Q.6

Government of Telangana.
Law Department

NOTIFICATION.

(Appointment of Sri. V. Jagannadha Rao, Advocate as Special public prosecutor to conduct the prosecution in. S.C. No. 140 of 1985 arising out of C.A. No. 166/82 of Narayanaguda police Station, Hyderabad pending before the 1st Additional Metropolitan Sessions Court).

(G.O.Ms.No. 27, Law, dated the 2nd Sept., 1986)

Under Sub-section (8) of Section 24 of the code of Criminal procedure, 1973 read with Rule 8-B of the Telangana Law Officers Rules, 2016, the Governor of Telangana hereby appoints. Sri. V. Jagannadha Rao, Advocate as Special public prosecutor to conduct the prosecution of S.C. No. 140. of 1985 arising out of C.A. No. 166/82 of Narayanaguda police station, Hyderabad pending before the 1st Additional Metropolitan Sessions Judge, Hyderabad.

2. The special public prosecutor shall be paid remuneration of Rs. 1000/- per day on the dates he attends the Sessions Court and Rs. ~~250~~ 500/- for briefing the witnesses.

T. HB. CHALAPATHI,
Secretary to Government (Law courts)

Q.7 In the High Court of Judicature at A.P.
W.P. NO. 496 of 2001

Tuesday, the 15th April, 2003

Present: Hon'ble mr. Justice M. VENKAT RAO

Between:- V. Sarina - Petitioner
and
The Secy. Genl. Admn. Dept. - Respondent.

—

Petition praying that Respondent may be restrained by an order from filling up of Posts the Vacant Assistants in Sectt. by promoting the typists before finalising the seniority bet. the Typists & Junior Asstts.

ORDER

The petition sh. be posted for admission on 22nd May, 2003 and in the meanwhile all further proceedings shall be stayed and the respondent shall file the counter affidavit and also consider the claim of petitioner if her contention is correct.

B. Sitaram,
Registrar.

Q.8

GOVERNMENT OF TELANGANA.
ABSTRACT

Public Services – Non-Gazetted officers posting to native Revenue Division – further instructions – Issued.

GENERAL ADMINISTRATION [Ser. A] DEPT.,

G.O.Ms.No.24. Dated 16th January, 2015.
Read the following.

G.O.Ms.No.224, General Administration (Ser.A), Dept., Dt. 25.5.2014.

ORDER:

Orders have been issued in the G.O. read above that no Non-Gazetted officer other than employees of Last Grade Service (Class IV) and Drivers should be posted in his native Revenue Division except in case of those working in Twin Cities of Hyderabad and Secunderabad. In para 2 of the said order it has also been ordered that steps should be taken by the competent authorities to transfer those Non-Gazetted officers who may be working within their native Revenue Division gradually as and when convenient but in any case before completion of the maximum period of two years from the date of issue of orders.

2. The Government hereby directed, in partial modification of the orders contained in para 2 of the G.O. read above, that the transfer of the Non-Gazetted officers who may at present be working within their native Revenue Division should be staggered over a period of 3 years as against the present 2 years.

3. The Depts., of Secretariat are requested to bring these orders to the notice of all the concerned officers.

(By ORDER AND IN THE NAME OF THE GOVERNOR OF TELANGANA)

Shravan Kumar,
Chief Secretary to Government

To
All Depts. of Secretariat

all caps // Govt. of Telangana

Abstract

Q.9 Estt. - Deputation of officers - Refresher Courses by Labour Ministry, G.O.I for two months - Permission - Accorded - Orders - issued.

Genl. Admn.. Dept.

G.O.Rt No. 482 dt. 2-9-~~1996~~ 2015

Read the following: Proposals from the Secretary Labour & Employment, dt. 19-8-~~1996~~ 2015 del

ORDER

After examining carefully the Proposals of the Secy. Labour & Employment, the Govt. is pleased to accord Permission for deputing two Senior Asst. Labour Commissioners to undergo Refresher Trg. Course for two months at New Delhi, to be conducted by the ministry of Labour, Sanctioning them four thousand Rupees each for their Pre-arrangements - vide Concurrence note of finance Dept. dt. 30-8-2015

(By order etc.,)

V.S. Murthy
Spl. Secretary

To
All concerned.

Shravan Kumar,
Chief Secretary to Government

To
All Depts. of Secretariat

Q.10

Govt. of Telangana
School Education Dept.

Memo No. 18136/SE/2004, Date 30/12/2016

Sub: Special Vidya Volunteers - Entitlement of leave to S.V.V on par with regular Teachers - Reg.

Ref: G.O. Ms. No. 748, School Education (S.E (State Plan (R&B)) -2, Dept. Dt. 27/8/2016

—x—

The attention of the Director of School Education, Telangana, Hyderabad is invited to the reference cited. // He is requested to implement the orders issued in the reference cited as they are very clear in regard to entitlement of leave to selected candidates of DSC-2015 engaged as special Vidya Volunteers.

Dr. S. CHELLAPPA
Secy to Govt.

To
The Director of School Edn.,
Hyderabad.

SECTION-III **1X10=10 Marks**

Q.11

MODERN STEEL INDUSTRIES.
MAIN ROAD, MAHABUBNAGAR.
BALANCE SHEET AS ON 31st MARCH, 2014.

Liabilities	Rs.	Assets	Rs.
40,000 equity shares of Rs-10/- each	40,00,000.	Cash on hand and at Bank.	14,18,625
		Advances secured	15,00,000.
Profit and Loss Account	10,00,000.	Machinery and Equipment	22,50,000.
Reserve fund from Banks	8,15,000.	Buildings	16,20,000.
Deposits	15,00,000.	Furniture and fittings	4,02,205
Fixed Deposits	3,00,000.	Investments Stock in trade.	3,00,000
Current Liabilities	6,75,830		
	82,90,830		82,90,830

AUDITOR'S REPORT

We have examined the above ~~Balance~~ Balance sheet with relevant material. The Balance sheet reflects the true and correct state of affairs of the company.

MAHABUBNAGAR,
31st MARCH-2014.

RAJU AND COMPANY,
CHARTERED ACCOUNTANTS.

Q.12

Hindustan Plantinum Industries (Pvt) Limited,
Balanagar, Hyderabad.

Balance Sheet as at 31st August 1999

Liabilities		Assets	
Share Capital	4,75,04,000	Fixed Assets	1,01,09,000
Share capital money	20,14,750	Investments	1,86,15,500
Reserves & Surplus	2,65,22,600	Share Application money	30,09,300
Loans secured	43,79,000	Current Assets	5,60,200
Unsecured Loans	8,42,500	Current Liabilities	4,85,68,650
Other Loans	1,99,800		
Total	8,08,62,650	Total	8,08,62,650

Auditors Report.

We have audited the accounts for the year 1998-99 with the material place before us and we hereby certify that the Balance Sheet reflects a true and correct state of affairs of the company.

Hyderabad
Dt. 10th Sept 1999

RAO and REDDY
Chartered Accountants

Q.13

all caps. // Kamal Private Limited
B/S as on 31st December 2007

Liabilities		Assets	
Share capital	55,000	Buildings	65,000
Reserves and Surplus	9,500	Plant & Machinery	12,000
Secured loans	15,000	Investments	6,000
Sundry Creditors	5,600	Sundry Debtors.	2,000
Bills Payable	1,500	Bills Receivable	2,500
Other liabilities	5,000	Cash at Bank	4,100
Total	91,600	Total	91,600

all caps. // Auditors Report

we hv. carefully examined the above B/s duly verified the books of accounts. In our considered opinion, the balance sheet has been drawn in conformity with the Company law and it reflects the true and correct state of affairs of the Company.

Hyderabad
3rd March 2018

Anand and Praveen
Chartered Accountants.

Q.14

RAJA RAJA NARENDRA LITERARY SOCIETY, WARANGAL.

Receipts and payments account for the year ending 31.12.2014.

RECEIPTS	Rs.	PAYMENTS	Rs.
To Balance b/d.	7,600	By Salaries	4 880
" Entrance fee.	5,200	" Insurance	1000
" Subscriptions	17,000	" Rates and Taxes	1400
" proceeds on sale of Newspapers	120	" Addition to Library	2500
" Rent of Library Hall	2080	" payments to Creditors	1300.
" proceeds from Lecture Hall	6000	" postage	100
" Sale of old furniture	300	" Repairs	500
		" printing and stationery	800.
		" Electrical installations	9000.
		" Sundry expenses	4300.
		" Balance c/d.	12,600.
	38,300		38,300

As per our report of even date this forms an integral part of Balance sheet.

Warangal,
Dated 31st December, 2017.

RAJA AND COMPANY
CHARTERED ACCOUNTANTS.

Q.15

KOMAL AND COMPANY LIMITED, VIJAYAWADA

Receipts & Payments a/c for 1 Yr. ending 31/3/1990

Receipts	Rs.	Payments	
To Balance b/d	6,700	By Salaries	4,800
" Entrance fee	5,200	" Insurance	1,000
" Subscription	17,000	" Rates & Taxes	1,400
" Proceeds on Sale of News Papers	1,020	" Additions to library	2,500
" Recpt. of Library	2,080	" Payment to Creditors of last year	1,300
" Proceeds from Lecture Hall	6,000	" Postage	600
		" Postage & stationery	800
" Sale of old furniture	300	" Electricity installation expenses	9,000
		" Sundry expenses	4,300
		" Balance c/d	12,600
Total	38,300	Total	38,300

Auditor's Report

As per our report of expenditure st. this forms an integral part of B/S.

Vijayawada
10-10-1990

Vyas and Company
Auditors.

OFFICE ASSISTANTSHIP

SECOND YEAR PRACTICALS
QUESTION BANK
PAPER I: ENGLISH TYPEWRITING (45 WPM) [213/71]

Time: 3hrs **Max. Marks: 50**

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

OFFICE ASSISTANTSHIP
SECOND YEAR
QUESTION BANK
PAPER II: ACCOUNTANCY & TALLY[213/72]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks.**

1. Write and demonstrate the procedure of creating a company and creating a ledger under the group of direct expenses.
2. ~~Write and demonstrate the procedure of displaying the cash flow report in Tally.~~
3. Write and demonstrate the procedure of displaying the Funds flow statement in Tally.
4. Shravya and Sahasra are carrying on business in a partnership sharing profit &losses in the ratio of 2:3. Their Balance Sheet as at 31-3-2017 was under

Balance Sheet

Liabilities		Amount	Assets	Amount
Sundry Creditors		50,000	Cash in hand	30,000
Capital Accounts:			Cash at Bank	20,000
Shravya	2,80,000		Sundry Debtors	1,00,000
Sahasra	4,20,000	7,00,000	Stock	2,00,000
			Furniture	50,000
			Building	3,50,000
		7,50,000		7,50,000

On that date they admit Shrestha in to partnership and given him 1/4th share in the future profit on the following terms.

(a) Shresta is to bring in Rs.3,00,000 as his Capital and Rs.1,00,000 as good will, which sum is to remain in the business.

(b) Stock and Furniture are to be reduced in value by 10%

(c) Buildings are to be appreciated by Rs. 50,000

(d) A provision of 5% to be created on sundry Debtors for doubtful debts.

Pass General Entries and prepare Revaluation Account.

5. The Vignesh manufacturing company ltd. was registered with a nominal capital if Rs. 6,00,000 in equity shares of Rs. 10 each. The following is the list of balances extracted from its books on 31st December 2016.

Subscribed and fully called-up-capital	4,00,000
Calls in Arrears	7,500
Premises	3,00,000
Plant and Mechinery	3,30,000
Fixtures and Fittings	7,200
Sundry Debtors	87,000
Goodwill	25,000
Cash in Hand	750
Cash at Bank	39,900
Priliminary expenses	5,000
6%debentures	3,00,000
Bills payable	38,000
Sundry Creditors	50,000
General Reserves	45,000
Investment	20,000
P&L Appropriation A/c (Credit balance)	37,500

Prepare a P&L account and Balance Sheet and in proper form after making the following adjustments.

1. Depreciation on Plant and Machinery 10%
2. Provision for doubtful debt 5% on debtors.

3. Stock on 31st December 2016 Rs. 95,000

SECTION-II **1X10=10 Marks**

6. ~~Write and demonstrate the procedure of displaying the Accounting Reports in Tally.~~
7. Write and demonstrate the procedure of creating a purchase voucher in Tally.
8. Write financial function of Tally and write the F11 features.
9. Machinery bought on 1st Jan 2014 for Rs. 40,000 has become obsolete and sold on 31st Dec. 2017 for Rs. 26,000. Calculate the Profit and Loss assuming depreciation is charged @ 15% p.a. on straight line method.
10. Draw the proforma of Balance sheet

SECTION-III **1X10=10 Marks**

11. Draw the proforma of Receipts & payment Account
12. ~~Write the F1 to F10 function keys of Tally~~
13. Write causes of Depreciation.
14. What is Revenue Receipts and Payment and give five examples each.
15. Define types of share capital.

Record	**5 marks**
Viva- Voice	**5 Marks**

OFFICE ASSISTANTSHIP
SECOND YEAR
MODEL QUESTION PAPER

PAPER II: ACCOUNTANCY & TALLY[213/72]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

OFFICE ASSISTANTSHIP
SECOND YEAR
QUESTION BANK
PAPER III: OFFICE MANAGEMENT & SECRETARIAL DUTIES
[213/73]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks.**

1. Explain the functions of Management.
2. What is Mail Services? Explain the efficiency of Mail Service.
3. ~~What are the types of lighting systems used in an organisation?~~
4. What is meant by Communication? Explain the types of Communications.
5. How to and conduct a Company meeting.

SECTION-II **1X10=10 Marks**

6. ~~Explain the activities of Modern Office.~~ 1X10=10 Marks
7. State the principles of good Office Accommodation.
8. Name the different types of Furniture used in office.
9. Draft a letter to your Principal for issue of Bonafide certificate stating reasons.
10. What is Indexing? State the different methods of Indexing.

SECTION-III **1X10=10 Marks**

11. Draw a diagram of Horizontal filing.
12. Write any four stationary items.
13. ~~Draw a diagram of vertical filing~~.
14. Mention the Office Machines generally used.
15. ~~Format of an Inward Register~~.

Record **5 marks**

Viva- Voice **5 Marks**

OFFICE ASSISTANTSHIP
SECOND YEAR
QUESTION BANK
PAPER III: OFFICE MANAGEMENT & SECRETARIAL DUTIES
[213/73]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

30% DELETED CONTENT (PRACTICALS)

OFFICE ASSISTANTSHIP

PRACTICAL CODE	SUBJECT NAME	DELETED QUESTION NUMBER FROM THE QUESTION BANK
21	Business Organisation	1,7,13
22	Accounting & Computers	4,7,14
23	Shorthand correspondence & data entry on computers	4,5,10,14,15
71	Shorthand speed drills & transcriptions	4,5,6,8,11
72	Accountancy-II	2,6,12
73	Office Management & Secretariall duties	4,5,8,10,13

VOCATIONAL PRACTICALS QUESTION BANK

(For the Academic Year 2020-21)

RETAIL MANAGEMENT

(COURSE CODE: 215)

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

RETAIL MANAGEMENT
FIRST YEAR
QUESTION BANK
PAPER I: BUSINESS ORGANIZATION[215/21]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks.**

1. ~~What are the main objectives of Partnership deed? And fill the application for partnership firm.~~
2. Fill the forms relating to registration of co – operative societies.
3. Explain various types of the Industries and Explain them
4. Fill the application form to open a Bank Account.
5. Fill the application form to fixed deposit in to the Bank.

SECTION-II **1X10=10 Marks**

6. What are the items included in Article of Association?
7. ~~What are the items include in Prospectus~~.
8. Narrate the advantages of Print Media.
9. Explain types of insurance
10. Fill the proforma of Demand Draft.

SECTION-III **1X10=10 Marks**

11. Fill the proforma of the Withdrawal form.
12. Explain the importance of Advertising
13. ~~Advantages of Insurance~~
14. Explain the merits of Sole Trading
15. Draw the proforma of payin slip (depositing).

Record **5 marks**

Viva- Voice **5 Marks**

RETAIL MANAGEMENT
MODEL QUESTION PAPER

PAPER I: BUSINESS ORGANIZATION[215/21]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

RETAIL MANAGEMENT
FIRST YEAR
QUESTION BANK
PAPER II: ACCOUNTANCY & COMPUTERS[215/22]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks.**

1. Write and Demonstrate the steps to crate file in Ms-Word, type some text and save the file.

2. Identify any 8 tools in MS Excel Screen.

3. Insert 5 Shapes in MS Word and Fill colours within it.

~~4. Prepare the Three column cash book from the following particulars.~~

~~Particulars~~	~~Amount~~	~~Particulars~~	~~Amount~~
~~Cash Balance~~	~~25,000~~	~~Bank Balance~~	~~15000~~
~~Sales~~	~~50,000~~	~~Purchases~~	~~25,000~~
~~Cash deposited in Bank~~	~~10,000~~	~~salaries~~	~~10,000~~
~~Withdrawn from Bank~~	~~---~~	~~Purchased Machinery~~	~~----~~
~~For office use~~	~~5000~~	~~Paid by check~~	~~3000~~

5. Prepare the Trading and Profit & Loss Account.

Particulars	Amount	Particulars	Amount
Opening stock	10,000	Sales	80,000
Purchases	50,000	Wages	4,000
Carriage inward	2,000	Factory expenses	2000
Depreciation	2000	Salaries	6000
Received Commission	4000	Rent	2500
Interest	1500	Closing Stock	20000

SECTION-II **1X10=10 Marks**

6. Create text file using in MS- word pad

~~7. Write and Demonstrate the Procedure for changing the width of row and column in Excel.~~

8. Identify any 8 Tools in MS-Word Screen

9. Enter the following transactions in the purchase Book, and Sales Book.

Date	Particulars	Amount	Date	Particulars	Amount
Jan1	Purchases from Raj	3000	Jan5	Sales to Karthik	5000
8	Purchases from Giri	8000	10	Sales to Rahu for cash	2000
12	Purchases from Naveen	2500	20	Sales to Nikhil	2800
25	Purchases from Santu	3200	30	Sales to Shailaja	1400

10. Prepare the Single column Cash Book.

Particulars	Amount	Particulars	Amount
Balances B/d	10,000	Paid to Anil	2500
Received from Roopa	300	Received Interest	1000
Paid rent	600	Paid into Bank	1500
Sales	1500	Advertisements	1200
Wages Paid	1000	Purchased furniture	1200

SECTION-III **1X10=10 Marks**

11. Explain types of accounts with principles

12. Write about types of subsidiary books

13. List our any five input and output devices

~~14. Insert an Image from Clipart and Rotate it~~

15. Give any five examples of trial balance debit side and credit side items.

RETAIL MANAGEMENT
MODEL QUESTION PAPER

PAPER II: ACCOUNTANCY & COMPUTERS[215/22]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

RETAIL MANAGEMENT
FIRST YEAR
QUESTION BANK
PAPER III: RETAIL MARKETING [215/23]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks.**

1. What are the different categories of Consumable products and Non – Consumable products are available in Big Bazaar?
2. Explain the sales process of FMCG (Fast Moving Consumer Goods) business
3. Explain the types of Distribution Channels & It's Functions
4. ~~Explain the Important Features & Benefits of Sales Promotional Schemes~~
5. Explain the Sales Promotion Schemes of Laptop.

SECTION-II **1X10=10 Marks**

6. List out the Different Brands of TV's that are available in Reliance Electronics.
7. What are the different types of Mobiles that are available in big C?
8. ~~List out the electronic items available in Bajaj Electricals.~~
9. List out the Consumable products available in Stationery Stores.
10. Explain the different types of packaging methods.

SECTION-III **1X10=10 Marks**

11. What are the features of Redmi Mobile Phone?
12. What are the packaging Features of LED TV's?
13. What are the different equipment's used in Shopping Malls?
14. ~~How to display Bata Products in Bata Showroom?~~
15. ~~How the Prodcuts are arranged in the Supermarkets?~~

Record **5 marks**

Viva- Voice **5 Marks**

RETAIL MANAGEMENT
MODEL QUESTION PAPER

PAPER III: RETAIL MARKETING [215/23]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

RETAIL MANAGEMENT
SECOND YEAR
QUESTION BANK
PAPER I: RETAIL MANAGEMENT[215/71]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks.**

1. If you visit a CMR Shopping mall, List out the various products and explain the functions of supervisors.
2. ~~If you a visit a Kalamandir show room, how do they display and explain the products~~
3. If you are cashier in a super market how do you handle the cash and payment modes?
4. If you visit a big bazar list out consumable goods and non-consumable goods. How they display price on goods
5. What are the different types of products available in Amazon online shopping and in Naptol Telemart?

SECTION-II **1X10=10 Marks**

6. Draw the proforma of Trading Account.
7. Draw the proforma of profit and loss Account.
8. Draw the proforma of Balance sheet.
9. ~~If you are an Event manager how to conduct the college day.~~
10. If you are an event manager how to conduct the farewell day.

SECTION-III **1X10=10 Marks**

11. What are the different types of packaging methods?
12. ~~What are the sales promotion schemes?~~
13. What are the different types of safety equipments are used in Big Bazaar?
14. ~~What are the factors influencing Consumer Behaviour?~~
15. What is clearance sale and Name few online shopping sites?

Record **5 marks**

Viva- Voice **5 Marks**

RETAIL MANAGEMENT
MODEL QUESTION PAPER

PAPER I: RETAIL MANAGEMENT[215/71]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

RETAIL MANAGEMENT
SECOND YEAR
QUESTION BANK
PAPER II: ACCOUNTANCY & TALLY[215/72]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks.**

1. Write and demonstrate the procedure of creating a company and creating a ledger under the group of direct expenses.
2. ~~Write and demonstrate the procedure of displaying the cash flow report in Tally.~~
3. Write and demonstrate the procedure of displaying the Funds flow statement in Tally.
4. Shravya and Sahasra are carrying on business in a partnership sharing profit &losses in the ratio of 2:3. Their Balance Sheet as at 31-3-2017 was under

Balance Sheet

Liabilities		Amount	Assets	Amount
Sundry Creditors		50,000	Cash in hand	30,000
Capital Accounts:			Cash at Bank	20,000
Shravya	2,80,000		Sundry Debtors	1,00,000
Sahasra	4,20,000	7,00,000	Stock	2,00,000
			Furniture	50,000
			Building	3,50,000
		7,50,000		7,50,000

On that date they admit Shrestha in to partnership and given him 1/4th share in the future profit on the following terms.

(a) Shresta is to bring in Rs.3,00,000 as his Capital and Rs.1,00,000 as good will, which sum is to remain in the business.

(b) Stock and Furniture are to be reduced in value by 10%

(c) Buildings are to be appreciated by Rs. 50,000

(d) A provision of 5% to be created on sundry Debtors for doubtful debts.

Pass General Entries and prepare Revaluation Account.

5. The Vignesh manufacturing company ltd. was registered with a nominal capital if Rs. 6,00,000 in equity shares of Rs. 10 each. The following is the list of balances extracted from its books on 31st December 2016.

Subscribed and fully called-up-capital	4,00,000
Calls in Arrears	7,500
Premises	3,00,000
Plant and Mechinery	3,30,000
Fixtures and Fittings	7,200
Sundry Debtors	87,000
Goodwill	25,000
Cash in Hand	750
Cash at Bank	39,900
Priliminary expenses	5,000
6%debentures	3,00,000
Bills payable	38,000
Sundry Creditors	50,000
General Reserves	45,000
Investment	20,000
P&L Appropriation A/c (Credit balance)	37,500

Prepare a P&L account and Balance Sheet and in proper form after making the following adjustments.

1. Depreciation on Plant and Machinery 10%
2. Provision for doubtful debt 5% on debtors.

3. Stock on 31st December 2016 Rs. 95,000

SECTION-II **1X10=10 Marks**

6. ~~Write and demonstrate the procedure of displaying the Accounting Reports in Tally~~.
7. Write and demonstrate the procedure of creating a purchase voucher in Tally.
8. Write financial function of Tally and write the F11 features.
9. Machinery bought on 1st Jan 2014 for Rs. 40,000 has become obsolete and sold on 31st Dec. 2017 for Rs. 26,000. Calculate the Profit and Loss assuming depreciation is charged @ 15% p.a. on straight line method.
10. Draw the proforma of Balance sheet

SECTION-III **1X10=10 Marks**

11. Draw the proforma of Receipts & payment Account
12. ~~Write the F1 to F10 function keys of Tally~~
13. Write causes of Depreciation.
14. What is Revenue Receipts and Payment and give five examples each.
15. Define types of share capital.

Record	**5 marks**
Viva- Voice	**5 Marks**

RETAIL MANAGEMENT
MODEL QUESTION PAPER

PAPER II: ACCOUNTANCY & TALLY[215/72]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

RETAIL MANAGEMENT
SECOND YEAR
QUESTION BANK
PAPER III: ELEMENTS OF SALESMANSHIP [215/73]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks.**

1. If you are a Newspaper salesman, what are your duties and responsibilities as a salesman?
2. If you are a salesman in Maruthi Showroom, what are your duties and responsibilities as a salesman?
3. ~~If you are a salesman in Hero showroom, how do you convince customer to purchase a Motor cycle~~.
4. How do you feel your career as a Salesman?
5. If you are a salesman how to handle an objection & Explain its types.

SECTION-II **1X10=10 Marks**

6. ~~What Personal qualities do you observe in a salesman of Namaste Telangana Newspaper?~~
7. Explain the process of sales Recruitment.
8. If you are a salesman how to make an effective Audio Visual sales presentation.
9. Mention the promotional schemes of Bajaj Electronics.
10. Mention the Promotional schemes of Kalamandir.

SECTION-III **1X10=10 Marks**

11. How to demonstrate to the customers about Split A.C?
12. What are the Features of DELL Laptop?
13. ~~How to display of Bata products in Bata show room~~.
14. What are the different types of Packaging methods
15. ~~Mention the Features of Samsung Galaxy Mobile~~.

Record **5 marks**

Viva- Voice **5 Marks**

RETAIL MANAGEMENT
MODEL QUESTION PAPER

PAPER III: ELEMENTS OF SALESMANSHIP [215/73]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

30% DELETED CONTENT (PRACTICALS)
RETAIL MANAGEMENT

PRACTICAL CODE	SUBJECT NAME	DELETED QUESTION NUMBER FROM THE QUESTION BANK
21	Business Organisation	1,7,13
22	Accounting & Computers	4,7,14
23	Retail Marketing	5,10,14
71	Retail Marketing	5,15
72	Accountancy-II	2,6,12
73	Elements of Sales Manship	5,10

VOCATIONAL PRACTICALS QUESTION BANK

(For the Academic Year 2020-21)

AUTOMOBILE ENGINEERING TECHNICIAN

(COURSE CODE:317)

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

AUTOMOBILE ENGINEERING TECHNICIAN (317)
FIRST YEAR

QUESTION BANK

Paper I: Workshop Practice (21)

Time: 3hrs **Max.Marks: 50**

SECTION-I **1X20=20 Marks**

1. Prepare rectangular shape from a given 5mm thick M.S. flat of size 90mmX45mm.
2. Prepare T shape from a given 5 mm thick M.S. for given sizes.
3. Prepare L shape from given 5 mm thick M.S. For given sizes.
4. Make two drill holes of given material.
5. ~~Make a rectangular tray of size 10mm x 6mm x 3mm with G.I sheet.~~

SECTION-II 1 x 10 =10 Marks

6. Make a funnel with given G.I. sheet.
7. Prepare a plain Tenon joint with given wood.
8. prepare a ring of given round M.S. rod.
9. Prepare a square butt joint with ARC welding.
10. ~~Prepare a corner joint with Arc welding.~~

SECTION-III (Identification/ Spotting) **1x10=10 Marks**

11.	a) Hacksaw frame.	b) Soldering iron.	c) Triangular File
	d) Twist Drile	e) Ball Peen Hammer	
~~12.~~	~~a) Anvil.~~	~~b) Jack plane.~~	~~C) Angle Plate~~
	~~d) Try square~~	~~e) Folding Rule~~	
13.	a) Dot punch.	b) Divider.	C) C-Clamp
	d) Vernier Calliper	e) Arc Welding Electrode	
14.	a) Scriber.	b) Mallet.	C) Gas welding torch
	d) Claw Hammer	e) Drill check	
15.	a) Steel rule.	b) Try square.	C) Mortise Chisel
	d) Inside Calliper	e) Grinding Wheel	

Record **5 marks**

Viva- Voice **5 Marks**

AUTOMOBILE ENGINEERING TECHNICIAN (317)
FIRST YEAR
MODEL QUESTION PAPER
Paper I: Workshop Practice (21)

Time: 3hrs **Max.Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

AUTOMOBILE ENGINEERING TECHNICIAN (317)

FIRST YEAR
QUESTION BANK
Paper II: Engineering Drawing and AUTO CAD (22)

Time: 3hrs **Max.Marks: 50**

SECTION-I **1X20=20 Marks**

1. Draw the front view, top view and side view of given object in third angle projection.
2. ~~Draw the front view, top view and side view of given object in first angle projection.~~
3. ~~Draw the front view, top view and side view of given object in third angle projection.~~
4. Draw the front view, top view and side view of given object in first angle projection.
5. Draw the front view, top view and side view of given object in third angle projection.

SECTION-II **1X10=10 Marks**

6. Write the following letters in single stroke vertical capital letters of 10 mm size,

   "VOCATIONAL EDUCATION"

7. Write the following letters in single stroke vertical capital letters of 10 mm size,

   "INTERMEDIATE EDUCATION"

8. Write the following letters in single stroke vertical capital letters of 10 mm size,

   "TELANGANA STATE"

9. Bisect the straight line of size 100 mm.
10. ~~Draw the line, polyline, polygon, rectangular and circle commands in AUTO CAD.~~

SECTION-III (Identification/ Spotting) **1 x 10=10 Marks**

11. a) Drawing Board clips. b) Drawing Board c) Divider
    d) Ellipse e) Compass
12. a) Protracter. b) Hyperbola. C) Hexagon
    d) T-square e) Set Square
13. a) Symbol for 3rd angle projection b) Size of the title box C) Octagon
    d) parabola e) Border line
14. ~~a) Dimension line b) Heptagon C) A-4 size sheet~~
    ~~d) Tangent line e) Double stroke letters~~
15. a) Centre line b) Pentagon C) Mini Drafter
    d) Symbol for 1st angle projection e) 2 H, HB Pencil

Record **5 marks**

Viva- Voice **5 Marks**

AUTOMOBILE ENGINEERING TECHNICIAN (317)
FIRST YEAR
MODEL QUESTION PAPER
Paper II: Engineering Drawing and AUTO CAD (22)

Time: 3hrs **Max.Marks: 50**

3, 7, 12

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

AUTOMOBILE ENGINEERING TECHNICIAN (317)

FIRST YEAR

QUESTION BANK

Paper III:Automobile Engine Lab (23)

Time: 3hrs **Max.Marks: 50**

SECTION-I **1X20=20 Marks**

1. Overhauling the 2 stroke petrol engine.
2. Overhauling the mechanical fuel pump.
3. ~~Overhauling the petrol fuel injection system.~~
4. Overhauling the carburettor.
5. Overhauling the water cooling system.

SECTION-II **1X10=10 Marks**

6. ~~Inspect the components for wear and tear of overhead valve operating mechanism~~.
7. Inspect the fuel components of fuel tank and fuel lines.
8. Inspect and cleaning of combustion chamber.
9. Inspect and testing of fuel injector.
10. Inspect and clean the spark plug.

SECTION-III (Identification/ Spotting) **1X10=10 Marks**

11. a) D.E.spanner b) Carburettor c) Fuel pump
    d) Injector e) Ring Spanner
12. a) Valve b) Spark plug C)Fuel Injector pump
    d) Air filter e) Piston
13. a) Radiator b) Crank shaft C) Fins
    d) Combustion chamber e) Connecting rod
14. a) Inlet manifold b) Cylinder head C) Water pump
    d) Tubular spanner e) silencer
15. ~~a) Radiator fan belt~~ ~~b) Gudgeoned pin~~ ~~C) Piston ring~~
    ~~d) Fuel filter~~ ~~e) Electrical fuel pump~~

Record **5 marks**

Viva- Voice **5 Marks**

AUTOMOBILE ENGINEERING TECHNICIAN (317)

FIRST YEAR

MODEL QUESTION PAPER

Paper III:Automobile Engine Lab (23)

Time: 3hrs **Max.Marks: 50**

2, 6, 12

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

AUTOMOBILE ENGINEERING TECHNICIAN (317)

SECOND YEAR

QUESTION BANK

Paper I: Auto Transmission & Electrical System Lab(71)

Time: 3hrs **Max.Marks: 50**

SECTION-I **1X20=20 Marks**

1. Overhauling of single plate clutch.
2. Overhauling of constant mesh gear box.
3. Overhauling of differential unit.
4. ~~Overhauling of alternator.~~
5. Check horn circuit and repair.

SECTION-II **1 x 10 = 10 marks**

6. Inspect and report given front axle.
7. Inspect the working and adjustment of wiper.
8. ~~To check out the adjustment and wiring circuit of the head lights.~~
9. To check out the wiring diagram of battery coil Ignition system.
10. ~~To check out speedometer and odometer.~~

SECTION-III (Identification/ Spotting) **1X10=10 Marks**

11.a) Clutch plate. b) self starter. c) Solinoid switch
d) Clutch springs. e) Shackles.

12) ~~a) Crown wheel.~~ ~~b) Spoke wheel.~~ ~~c) Spline shaft.~~
~~d) Planet pinions.~~ ~~e) Tyre tread pattern.~~

13) a) Bendex drive. b) Pressure plate. c) Live axle.
d) head light. e) Clutch pedal.

14 a) Dead axle. b) Horn. c) Wiper motor.
d) Battery. e) Cut out.

15) a) P & N type diode b) Pressure gauge c) Circuit breaker points
d) Cam shaft e) Wiper blades

Record **5 marks**

Viva- Voice **5 Marks**

AUTOMOBILE ENGINEERING TECHNICIAN (317)

SECOND YEAR

MODEL QUESTION PAPER

Paper I: Auto Transmission & Electrical System Lab(71)

Time: 3hrs **Max.Marks: 50**

1, 7, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

AUTOMOBILE ENGINEERING TECHNICIAN (317)

SECOND YEAR

QUESTION BANK

Paper II: Auto Chassis and Body Engineering Lab (72)

Time: 3hrs **Max.Marks: 50**

SECTION-I **1X20=20 Marks**

1. Overhauling of steering system.
2. Overhauling of hydraulic shock absorber.
3. To check car air conditioning system.
4. Overhauling of mechanical brakes.
5. ~~Measurement of air pollution with help of exhaust gas analyser.~~

SECTION-II **1X10=10 Marks**

6. Adjustment of steering geometry.
7. Bleeding of brakes.
8. Gas filling of car air conditioning.
9. ~~To check up steering defects.~~
10. ~~Practicing of manual painting procedure.~~

SECTION-III (Identification/ Spotting) **1X10=10 Marks**

11. a) Double ended spanner. b) Compressor. C) Disc in brakes.
    d) AC inline filter. e) Window screen.
12) a) Leaf spring. b) Brake liner. c) Evaporator in car AC.
    d) Rear axle. e) Adjustable spanner.
13) ~~a) coil springs. b) Brake shoe. c) AC compressor.~~
    ~~d) Front axle. e) Helical springs.~~
14) a Chassis. b) Disc brake liners. c) U bolt.
    d) Shackle. e) Wheel cylinder.
15) a) Shock absorber b) Master cylinderc) Stud extractor
    d) Vehicle seat belt e) Anti lock breaking system

Record **5 marks**

Viva- Voice **5 Marks**

AUTOMOBILE ENGINEERING TECHNICIAN (317)

SECOND YEAR

MODEL QUESTION PAPER

Paper II: Auto Chassis and Body Engineering Lab (72)

Time: 3hrs **Max.Marks: 50**

1, 6, 15

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

AUTOMOBILE ENGINEERING TECHNICIAN (317)
SECOND YEAR
QUESTION BANK
Paper III: Auto Servicing and Maintenance Lab (73)

Time: 3hrs **Max.Marks: 50**

SECTION-I **1X20=20 Marks**

1. Perform the Decarburisation processes.
2. Perform cylinder reboring method.
3. Perform brake drum turning process.
4. Perform phasing and calibration test on fuel injection test bench.
5. ~~Servicing of four wheeler brakes.~~

SECTION-II **1X10=10 Marks**

6. Perform the valve seat grinding process.
7. Perform brake shoe riveting process.
8. ~~Perform brake bleeding process.~~
9. Perform fuel Injector pressure test, spray test and leak of test.
10. Servicing and checking of four wheeler cooling system

SECTION-III (Identification/ Spotting) **1X10=10 Marks**

11. a) Cutting plier b) Ring spanner c) steering wheel
    d) air compressor e) Tyre
12. a) Wheel hub b) FIP c) Oil can
    d) Brake pedal e) Clutch plate
13. ~~a) crank shaft b) Brake shoe rivet c) Adjustable spanner~~
    ~~d) Master cylinder e) Battery charger~~
14. a) Battery tester b) Bonnet c) Cut out
    d) Dynamo e) Radiator
15. a) Bucket grease gun b) Tacho meter c) Feeler Gauge
    d) Bearing puller e) Piston ring compressor

Record **5 marks**

Viva- Voice **5 Marks**

30% DELETED CONTENT (PRACTICALS)
RETAIL MANAGEMENT

PRACTICAL CODE	SUBJECT NAME	DELETED QUESTION NUMBER FROM THE QUESTION BANK
21	Business Organisation	1,7,13
22	Accounting & Computers	4,7,14
23	Retail Marketing	5,10,14
71	Retail Marketing	5,15
72	Accountancy-II	2,6,12
73	Elements of Sales Manship	5,10

AUTOMOBILE ENGINEERING TECHNICIAN (317)

SECOND YEAR

MODEL QUESTION PAPER

Paper III: Auto Servicing and Maintenance Lab (73)

Time: 3hrs **Max.Marks: 50**

2, 8, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

30% DELETED CONTENT (PRACTICALS)

AUTOMOBILE ENGINEERING TECHNICIAN

PRACTICAL CODE	SUBJECT NAME	DELETED QUESTION NUMBER FROM THE QUESTION BANK
21	Workship Practice	5,10,12
22	Engineering Drawing and Auto Card	2,3,10,14
23	Automobile Engine Lab	3,6,15
71	Automobile Transmission and Electrical System Lab	4,8,10,12
72	Auto Chassis and body Engineering Lab	5,9,10,13
73	Auto Servicing and Maintenance Lab	5,8,13

VOCATIONAL PRACTICALS QUESTION BANK

(For the Academic Year 2020-21)

CONSTRUCTION TECHNOLOGY
(COURSE CODE: 318)

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

CONSTRUCTION TECHNOLOGY

FIRST YEAR

QUESTION BANK

Paper I: Testing Materials Lab
(N.R Code: 21)

Time: 3hrs **Max.Marks: 50**

SECTION-I

1X20=20 Marks

1. ~~Conduct water absorption test on given set of bricks and determine the quality of bricks.~~
2. Determine the Initial setting time of given sample of cement.
3. Determine the bulking of sand of the given sample of sand
4. Determine the compressive strength of given set of concrete cubes
5. ~~Determine the workability of concrete by slump cone test~~

SECTION-II

1X10=10 Marks

6. ~~Conduct field tests on given bricks and write the observations.~~
7. Determine the normal consistency of cement sample
8. Determine the percentage of voids in fine aggregate
9. Prepare the cement mortar in 1:6 with given materials.
10. Prepare the cement concrete in 1:2:4. with given materials

SECTION-III

1X10=10 Marks

11 (a) Granite (b) Sand stone (c) Marble (d) Limestone (e) Slate

~~12 (a) Country bricks (b) Stone ware (c) Earthen ware (d) Cement bricks (e) Tiles~~

13 (a) Cast Iron (b) Steel (c) Aluminium (d) Copper (e) Lead

14 (a) Teak (b) Sal wood (c) Neem (d) Veneers (e) Plywood

15 (a) Glass (b) Bitumen (c) Asbestos (d) Plastic (e) Thermocol

Record	**5 marks**
Viva- Voice	**5 Marks**

CONSTRUCTION TECHNOLOGY

FIRST YEAR

MODEL QUESTION PAPER

Paper I: Testing Materials Lab

(N.R Code: 21)

Time: 3hrs **Max.Marks: 50**

5, 6, 13

Record	**5 marks**
Viva- Voice	**5 Marks**

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given and for forty (40) marks. The examiner shall decode it with the question bank and give the questions.

CONSTRUCTION TECHNOLOGY

FIRST YEAR

QUESTION BANK

Paper II: Survey Lab

(N.R Code: 22)

Time: 3hrs **Max.Marks: 50**

SECTION-I

1X20=20 Marks

1. Determine the area of the given field by conducting cross staff survey.
2. Find the bearings of given station points with prismatic compass and calculate their included angles.
3. Find the reduced levels of the given points using the levelling instrument take the bench mark as 100.000 M.
4. ~~Determine the horizontal angle between the given points by repetition method using theodolite.~~
5. ~~Measure the area of a closed traverse using total station.~~

SECTION-II

1X10=10 Marks

6. Ranging and chaining of 200 metres line with offsets, to objects and recording in the field book.
7. Draw the prismatic compass and label the parts
8. Set up the dumpy level on the ground and explain the procedure.
9. ~~Centering the given theodolite on the ground and write the procedure.~~
10. ~~Identification of total station parts and their functions.~~

SECTION-III

1X10=10 Marks

11 (a) Chain (b) Tape (c) Ranging rod (d) Arrow (e) Cross staff

12 (a) Prismatic compass (b) Pivot (c) Object vane (d) Compass ring (e) Brake pin

13 (a) Dumpy Level (b) Telescope (c) Foot Screws (d) Bubble Tube (e) Eye piece

14 (a) Theodolite (b) Telescope (c) Lower circular plate (d) Vertical circle (e) Plumb bob

~~15 (a) Total station (b) Bottom plate (c) Tangent screw (d) Keyboard (e) Levelling screw~~

Record	**5 marks**
Viva- Voice	**5 Marks**

CONSTRUCTION TECHNOLOGY

FIRST YEAR

MODEL QUESTION PAPER

Paper II: Survey Lab

(N.R Code: 22)

Time: 3hrs **Max.Marks: 50**

2, 8, 12

Record	**5 marks**
Viva- Voice	**5 Marks**

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given and for forty (40) marks. The examiner shall decode it with the question bank and give the questions.

CONSTRUCTION TECHNOLOGY

FIRST YEAR

QUESTION BANK

Paper III: Basic Engineering Drawing & AutoCAD
(N.R Code: 23)

Time: 3hrs **MaxMarks: 50**

SECTION-I

1X20=20 Marks

1. Construct an ellipse by concentric circles method with major axis as 80 mm and minor axis as 60 mm
2. Construct a parabola by rectangular method with base 100 mm and axis height 80 mm
3. Draw the plan, elevation and side view of the following figure. In first angle projection

4. Construct isometric view of rectangle 60 mm x 40 mm
5. Draw line sketch of the plan and elevation of two Room building by using AutoCAD commands

SECTION-II

1X10=10 Marks

6. Draw the tangent to the circles of different radii which are away from each other
7. Construct a regular hexagon with a given radius of 60 mm

8. Draw a rectangular hyperbola through a point 'P' which is at a distance of 30 mm from OY and 50 mm from OX

9. Explain any four methods to access AutoCAD commands

10. Draw any two Geometrical figures by using AutoCAD commands

SECTION-III

1X10=10 Marks

11 (a) Write any five drawing instruments and their uses

(b) Print the word "CIVIL ENGINEERING" in single stroke lettering of size 10mm

12 (a) Trisect the angle 90 degrees and explain the procedure

(b) Bisect the angle 45 degrees and explain the procedure

13 (a) Draw a projection of a point "A is 40 mm below the HP and 25 mm behind the VP".

(b) A line P Q 80 mm long in the HP and make an angle 45 degrees with VP. Its end 25 mm behind VP. Draw projections

14 (a) Draw a rectangle of size 10 cm X 6 cm using line command with Cartesian Co-ordinates

(b) Draw a plan of single room building of size 6m X 4m and show the details of doors and windows by using AutoCAD commands

15 (a) Write any five AutoCAD commands and their uses.

(b) Draw any four conventional Signs used in Civil Engineering drawing by using CAD software

Record	**5 marks**
Viva- Voice	**5 Marks**

CONSTRUCTION TECHNOLOGY

FIRST YEAR

MODEL QUESTION PAPER

Paper III: Basic Engineering Drawing & AutoCAD

(N.R Code: 23)

Time: 3hrs **Max.Marks: 50**

5, 10, 11

Record	**5 marks**
Viva- Voice	**5 Marks**

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given and for forty (40) marks. The examiner shall decode it with the question bank and give the questions.

CONSTRUCTION TECHNOLOGY

SECOND YEAR

QUESTION BANK

Paper I: Construction Practice Lab-I
(N.R Code: 71)

Time: 3hrs **Max.Marks: 50**

SECTION-I

1X20=20 Marks

1. Mark the layout for excavation for single Room building of load bearing structure.
2. Arrange bricks for 1 ½ thick wall in English bond up to 1.0 Mt height with dry bricks.
3. Place the reinforcement in a RCC lintel of span 1.5 Mt
4. Mixing and laying of concrete in 1:4: 8 for concrete floor
5. Erect double scaffolding and write the procedure

SECTION-II

1X10=10 Marks

6. ~~Arrange bricks for one brick thick wall in Flemish bond up to 1 Mt height with dry bricks.~~
7. ~~Construct a CRS stone masonry of 450 mm thick wall.~~
8. Erect and fix the given glazed window.
9. Place the reinforcement in a RCC Roof for a single Room Building
10. Arrange the form work for columns and write the procedure.

SECTION-III

1X10=10 Marks

11 (a) Trowel (b) Spirit Level (c) Plumb Bob (d) Mason-Square (e) Hammer

12 (a) Brick bat (b) Stretcher (c) Header (d) Queen Closer (e) Frog

13 (a) Door frame (b) Shutter (c) Door fixtures (d) Style (e) Top rail

14 (a) Roof (b) Common rafter (c) Battens (d) Cleat (e) Purlin

15 (a) Hand rail (b) Step (c) Landing (d) Newel post (e) Nosing

Record	**5 marks**
Viva- Voice	**5 Marks**

CONSTRUCTION TECHNOLOGY

SECOND YEAR

MODEL QUESTION PAPER

Paper I: Construction Practice Lab-I

(N.R Code: 71)

Time: 3hrs **Max.Marks: 50**

2, 8, 15

Record	**5 marks**
Viva- Voice	**5 Marks**

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given and for forty (40) marks. The examiner shall decode it with the question bank and give the questions.

CONSTRUCTION TECHNOLOGY
SECOND YEAR
QUESTION BANK
Paper II: Construction Practice Lab-II
(N.R Code: 72)

Time: 3hrs **Max.Marks: 50**

SECTION-I

1X20=20 Marks

1. Connecting the given length of Pipe line using coupling, T-ee and Union.
2. Perform the cutting and threading of a given GI Pipe with Die set
3. Prepare plan and section of rain water harvesting structure.
4. Prepare earthing in house wiring and write the procedure.
5. Perform the connections of one lamp controlled by single switch

SECTION-II

1X10=10 Marks

6. Prepare Pipeline in a bathroom with Joints and turns.
7. Find out Leakages in water supply connections.
8. Prepare Tenon joint of the given wooden piece.
9. Explain the surface finishing procedure of given material.
10. Fit the switches in the given switch board

SECTION-III

1X10=10 Marks

11 (a) Cast iron pipe (b) Steel pipe (c) Pre-stressed concrete pipe (d) RCC pipe (e) PVC pipe

12 (a) Reducer (b) T-ee (c) Union (d) Elbow (e) Stop cock

13 (a) Die set (b) Hacksaw (c) Hammer (d) Wrench (e) Driller

14 (a) Handsaw (b) Chisel (c) Cutting plier (d) Tester (e) Screw driver

~~15 (a) Water closet (b) Manhole (c) Flushing tank (d) Valve (e) Fire hydrant~~

Record **5 marks**

Viva- Voice **5 Marks**

CONSTRUCTION TECHNOLOGY

SECOND YEAR

MODEL QUESTION PAPER

Paper II: Construction Practice Lab-II
(N.R Code: 72)

Time: 3hrs **Max.Marks: 50**

SECTION-I

1X20=20 Marks

4, 8, 14

Record	**5 marks**
Viva- Voice	**5 Marks**

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given and for forty (40) marks. The examiner shall decode it with the question bank and give the questions.

CONSTRUCTION TECHNOLOGY

SECOND YEAR

QUESTION BANK

Paper III: Building Drawing
(N.R Code: 73)

Time: 3hrs **Max.Marks: 50**

SECTION-I

1X20=20 Marks

1. Draw plan, section and elevation of a single room building (specify sizes).
2. Draw plan, section and elevation of two bed roomed residential building (specify sizes).
3. Draw the layout of electrical lines of two bed roomed residential building (specify sizes).
4. Draw the layout of water supply lines and sanitary lines for two bed roomed residential building (specify sizes).
5. Draw the municipal approval plan for Residential building (specify sizes).

SECTION-II

1X10=10 Marks

6. Draw the cross section of wall
7. Draw the line diagram of two roomed building.
8. ~~Draw the elevation of multi-storeyed Residential building.~~
9. Draw the section of P-trap, Q-trap and S-trap.
10. ~~Draw a neat sketch of septic tank with pipe connections (specify sizes).~~

SECTION-III

1X10=10 Marks

Draw the conventional signs for the following:

11 (a) Concrete (b) Brick masonry (c) R.R Masonry (d) Glass (e) Wood

12 (a) Wash basin (b) Water closet (c) Kitchen sink (d) Shower head (e) Bath tub

13 (a) Ceiling fan (b) Door bell push button (c) One way switch (d) Main switch board (e) Exhaust fan

14 (a) Railway line (b) Road bridge (c) Canal (d) Building (e) Wall & gate

15 (a) Earth point (b) Telephone instrument point (c) Water meter (d) Loud speaker (e) Fire alarm push

Record	**5 marks**
Viva- Voice	**5 Marks**

CONSTRUCTION TECHNOLOGY

SECOND YEAR

MODEL QUESTION PAPER

Paper III: Building Drawing
(N.R Code: 73)

Time: 3hrs **Max.Marks: 50**

2, 7, 14

Record	**5 marks**
Viva- Voice	**5 Marks**

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given and for forty (40) marks. The examiner shall decode it with the question bank and give the questions.

30% DELETED CONTENT (PRACTICALS)
CONSTRUCTION TECHNOLOGY

PRACTICAL CODE	SUBJECT NAME	DELETED QUESTION NUMBER FROM THE QUESTION BANK
21	Construction material & construction practice	1,5,6,12
22	Surveying Theory	4,5,9,10,15
23	Engineering Mechanics	Nil
71	Estimating & costing	6,7
72	Highway Engineering & construction Management	15
73	Water Supply and Sanitary Engineering	8,10

VOCATIONAL PRACTICALS QUESTION BANK

(For the Academic Year 2020-21)

COMPUTER SCIENCE

(COURSE CODE: 319)

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

COMPUTER SCIENCE
FIRST YEAR
QUESTION BANK
Paper I: Windows & MS-Office (319/21)

Time: 3hrs **Max. Marks: 50**

SECTION-I

1X20=20 Marks

1. Write and execute any 10 LINUX commands with syntax and example.
2. Explain and demonstrate the Mail merge procedure in MS-Word with suitable example
3. Write procedure and demonstrate the following functions in MS-Excel with suitable example
   (a) Date and Time Functions
   (b) Mathematical Functions
   (c) Statistical functions
4. Write procedure for creating of slides in power point and set up the slide show with specified slide timing and custom animation.
5. ~~(a)Write the procedure and Demonstrate for creation of a table in MS-Access using the following data items~~

~~EMP NO~~	~~E.NAME~~	~~SALARY~~
~~1001~~	~~Sateesh~~	~~50000~~
~~1002~~	~~Manohar~~	~~80000~~
~~1003~~	~~Khasim~~	~~120000~~
~~1004~~	~~Ramarao~~	~~75000~~

~~(b) Run a report and display Empno, Salary using above data.~~

SECTION-II

1X10=10 Marks

06. Write and demonstrate the following.
(a) Create a folder named CS on desktop
(b) Create a word pad text file, enter the text and save the file in above folder.
(c) Rename the folder CS with CSE I Year
(d) Delete the folder CS I Year
(e) Copy the folder CS I year to D:\

07. Write and demonstrate the following
(a) Open MS-Word, enter two lines of text
(b) Demonstrate the cut, copy, paste and paste special commands
(c) Change the line spacing to 3 points
(d) Demonstrate the use of bullet in Word.
(e) Change the text colour to Blue

~~08. Write the procedure to create and run a MACRO with your own example~~

09. Write and demonstrate any 5 options in Control panel

10. Write the procedure to create and demonstrate a power point presentation using the different design layouts and animate with the text and images.

SECTION-III

1X10=10 Marks

11. Write and demonstrate the following tools in MS-Word.

a)

(b)

(c)

(d)

~~12.Explain and demonstrate format menu options with your own paragraph~~.

13. Write about FIND & REPLACE option

14. Write a short note and shortcut keys for New, open, Cut, Copy, Paste and save.

15.write the procedure to create a Student table with column names as Roll number, name, marks in English, gfc, sub1, sub2, sub3 and calculate total, percentage in MS-Excel 2016.

Record	**5 marks**
Viva- Voice	**5 Marks**

COMPUTER SCIENCE
FIRST YEAR
MODEL QUESTION PAPER
Paper I: Windows & MS-Office (319/21)

Time: 3hrs **Max Marks: 50**

[02,08, 14]

Record	**5 Marks**
Viva	**5 Marks**

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination the serial number of the questions only will be given for 40 marks. The examiner shall decode it with the question bank and give the questions.

COMPUTER SCIENCE

FIRST YEAR
QUESTION BANK
Paper II: Programming in C (319/22)

Time: 3hrs **Max.Marks: 50**

SECTION-I

1X20=20 Marks

1. (a)Write an Algorithm and draw the flow chart to find Largest of three given numbers
   (b) write a c program to print the biggest of three number.

2. Write a C program to Calculate of Factorial to given number using Recursion

3. write a C program for Addition of two dimensional matrices.

4. Write a C program to Create a single dimensional array of numbers and display the contents and Arrange this single dimensional array of numbers into descending order.

5. ~~Write a C program for Multiplication of Two matrices~~

SECTION-II

1X10=10 Marks

6. Write a C program to Generate a multiplication Table of given number and given limit using for loop
7. write a C program to generate Fibonacci series using Recursion for given limit.
8. Write a C program for the following
   (a) Calculate simple and compound interest.
   (b) Convert temperature in Celsius to Fahrenheit
9. ~~Write a C program to~~
   ~~(a) Write a C program to find whether given number is Prime number or not~~
   ~~(b). Write a function and call a function to perform add, subtract and multiply two numbers.~~
10. write a C program to check given year is Leap year or not

SECTION-III

1X10=10 Marks

11. Write the structure of C program.
12. Write about SWICH statement with syntax
13. ~~Write a C program to perform string handling functions~~
14. ~~What are the File operations in C.~~
15. What is structure and Union? Write its syntax with example.

Record	**5 marks**
Viva- Voice	**5 Marks**

COMPUTER SCIENCE
FIRST YEAR
MODEL QUESTION PAPER
Paper II: Programming in C (319/22)

Time: 3hrs **Max. Marks: 50**

[2, 7, 11]

Record	**5 Marks**
Viva	**5 Marks**

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination the serial number of the questions only will be given for 40 marks. The examiner shall decode it with the question bank and give the questions.

COMPUTER SCIENCE
FIRST YEAR
QUESTION BANK
Paper III: Engineering Drawing (319/23)

Time: 3hrs **Max .Marks: 50**

SECTION-I

1X20=20 Marks

1. Draw the front view , top view and side view of the given object in third angle projection
2. Draw the front view , top view and side view of the given object in third angle projection
3. ~~Construction of ellipse by concentric circles method~~.
4. A line PQ , 90mm long is in the H.P and makes an angle of 30 degrees with V.P it's end point P is 25mm in front of the V.P its projections.
5. ~~A square ABCD of 50 mm has its corner A in the H.P , it's diagonal AC inclined at 30 degrees to H.P and the diagonal BD inclined at 45degrees to V.P and parallel to H.P . Draw its projections.~~

SECTION-II

1X10=10 Marks

6. Write the following letters in single stroke vertical capital letters of 10mm size "VOCATIONAL EDUCATION"
7. Write the following letters in single stroke vertical capital letters of 10mm size "TELANGANA STATE "
8. Bisect the straight line of size 100mm
9. Trisect the angle of 90 degrees
10. ~~Construct the regular Hexagon with side 30 mm~~

SECTION-III

1X10=10 Marks

11. To divide a given straight line into any number of equal parts
12. ~~Bisect the angle of 75degrees~~
13. Draw the isometric view of the cylinder
14. To draw a tangent to a given circle at point on it.
15. ~~Draw the isometric view of cone~~.

Record **5 marks**
Viva- Voice **5 Marks**

COMPUTER SCIENCE
FIRST YEAR
MODEL QUESTION PAPER
Paper III: Engineering Drawing (319/23)

Time: 3hrs **Max. Marks: 50**

[02,08,14]

Record	**5 Marks**
Viva	**5 Marks**

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination the serial number of the questions only will be given for 40 marks. The examiner shall decode it with the question bank and give the questions.

COMPUTER SCIENCE
SECOND YEAR
QUESTION BANK
Paper I: Java Programming (319/71)

Time: 3hrs **Max. Marks: 50**

SECTION-I

1X20=20 Marks

1. (a)Write a simple Java Program to Add, Subtract, Multiply and divide two integers.
   (b) Write a Java program to convert the temperature from the command line In Celsius to Fahrenheit

2. (a)Write a Java program to print numbers from 1 to n using the do.. While structure.
   (b)Write a java program to find a given number is "prime" or not using for statement.

3. Write a JAVA program that prints Fibonacci numbers for given limit
4. ~~Write a Java program to find a maximum value from given array of numbers~~
5. ~~Write a JAVA program for addition of Two Matrices~~.

SECTION-II

1X10=10 Marks

6. Write a Java Program to print biggest number among three integers
7. Write a Java program to find factorial of a given number using recursion
8. ~~Write a JAVA program of exception handling in the case of division by zero~~
9. ~~Write a JAVA program to display text message "WELCOME" when we press a mouse click~~
10. Write a JAVA program to print multiplication table of a given number using any loop.

SECTION-III

1X10=10 Marks

11. ~~Explain about features of OOPS.~~
12. Explain about features of JAVA.
13. Explain the concept of Inheritance with example.
14. Explain types of errors
15. ~~Write the types of containers.~~

Record	**5 marks**
Viva- Voice	**5 Marks**

COMPUTER SCIENCE

FIRST YEAR
MODEL QUESTION PAPER
Paper I: Java Programming (319/71)

Time: 3hrs **Max. Marks: 50**

[04,06,14]

Record	**5 Marks**
Viva	**5 Marks**

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination the serial number of the questions only will be given for 40 marks. The examiner shall decode it with the question bank and give the questions.

COMPUTER SCIENCE
SECOND YEAR
QUESTION BANK
Paper II: SQL,PHOTOSHOP & PAGEMAKER (319/72)

Time: 3hrs **Max. Marks: 50**

SECTION-I

1X20=20 Marks

1. (a) Write the SQL commands for creating a table named CS with the following attributes.
   Stu_Rollno, Student_name, fee_paid, date_of_joining,
   Stu_Rollno should be declared as unique.
   (b) Insert five records in the above table CS.
   (C) Write a query to display the student_ Rollno and date of joining.

2. Write and demonstrate the following queries for the below table.

   i. **Table name: Emp**

ii.	**Empno**	**Ename**	**Salary**	**Department**
iii.	1001	Rahul	6000	Accounts
iv.	1002	manohar	8000	I.T
v.	1003	Aziz	12000	Sales
vi.	1004	Ravi	9000	I.T
vii.	1005	satish	10000	Sales

3. (a)Write PL-SQL program to display the odd numbers from 1 to 100.
   (b)Write PL-SQL program to print sum of 1 to 100 numbers using loop and end loop.
4. ~~Write and demonstrate tools in Pagemaker~~
5. ~~Write and demonstrate tools in Photoshop~~

SECTION-II

1X10=10 Marks

6. Demonstrate DDL commands with your own examples
7. Demonstrate DCL commands with your own examples
8. Write a PL/SQL Program to swap two numbers
9. ~~How to work with master pages in Pagemaker~~
10. ~~Explain how to work with text tool in Photoshop~~

SECTION-III

1X10=10 Marks

11. Demonstrate DML commands with your own examples
12. Demonstrate TCL commands with your own examples
13. Explain the structure of PL/SQl
14. ~~Explain diffrenec between crop and slice tool.~~
15. ~~How to setting up a new document in Adobe Photoshop~~

Record	**5 marks**
Viva- Voice	**5 Marks**

COMPUTER SCIENCE
FIRST YEAR
MODEL QUESTION PAPER
Paper II: SQL,PHOTOSHOP & PAGEMAKER (319/72)

Time: 3hrs **Max. Marks: 50**

[02,08,14]

Record	**5 Marks**
Viva	**5 Marks**

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination the serial number of the questions only will be given for 40 marks. The examiner shall decode it with the question bank and give the questions.

COMPUTER SCIENCE

SECOND YEAR
QUESTION BANK

Paper III: Internet Technologies (319/73)

Time: 3hrs **Max. Marks: 50**

SECTION-I

1X20=20 Marks

1. Write and demonstrate the procedure to compose, send and receive an email with attachments.
2. Write and demonstrate HTML code for creating lists for
   (a) Ordered List
   (b) Unordered List
   (c) Definition list
3. Create a Form using Form tags in HTML
4. Write and demonstrate the HTML code for creating frames and displaying heading "COMPUTER SCIENCE" for the frame and centre it
5. Write and demonstrate DHTML code to change the objects properties on the following events.
   (a) On click
   (b) On double Click
   (c) On Mouse

SECTION-II

1X10=10 Marks

6. Create a HTML table structure for Students list with their marks
7. Write the procedure for creating Email-id.
8. Write and demonstrate HTML code using Paragraph tags and Formatting tags.
9. Write the HTML code for demonstrating the hyperlinks.
10. Create Inline and External Style sheets (CSS).

SECTION-III

1X10=10 Marks

11. Identify LAN components
12. What are the differences between HUB and SWITCH
13. Identify the various types of transmission cables used in networking
14. What is an IP address? Identify your system ip address
15. Write a HTML program to display audio & video file

Record	**5 marks**
Viva- Voice	**5 Marks**

COMPUTER SCIENCE
FIRST YEAR
MODEL QUESTION PAPER
Paper III: INTERNET TECHNOLOGIES (319/73)

Time: 3hrs **Max. Marks: 50**

[03,07,13]

Record	**5 Marks**
Viva	**5 Marks**

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination the serial number of the questions only will be given for 40 marks. The examiner shall decode it with the question bank and give the questions.

30% DELETED CONTENT (PRACTICALS)
COMPUTER SCIENCE

PRACTICAL CODE	SUBJECT NAME	DELETED QUESTION NUMBER FROM THE QUESTION BANK
21	Windows & M.S.Office	5a,5b,8,12
22	Programming IN" C"	5,9A&9b,13,4
23	Engg.Drawing	3,5,10,12,15
71	JAVA PROGRAMMING	4,5,8,9,11,15
72	SQL, photoshop & Page Maker	4,5,9,10,14,15
73	Windows & M.S.Office	5a,5b,8,12

VOCATIONAL PRACTICALS QUESTION BANK

(For the Academic Year 2020-21)

ELECTRICAL TECHNICIAN

(COURSE CODE:321)

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

ELECTRICAL TECHNICIAN
FIRST YEAR
QUESTION BANK
PAPER I: BASIC ELECTRICAL LAB[321/21]

Time: 3hrs **Max.Marks: 50**

SECTION-I **1X20=20 Marks**

1. Verify characteristics of DC series circuit.
2. Measure the power of given load by voltmeter and ammeter.
3. ~~Measure the power factor of given load by voltmeter, ammeter and wattmeter.~~
4. Measure the energy consumed by a load using energy meter.
5. Test the given battery.

SECTION-II **1X10=10 Marks**

6. Draw the circuit diagram to prove Ohms law.
7. Connect two loads in parallel and measure voltage using 220V ac supply (use two 100W bulbs)
8. State the importance of power factor improvement.
9. ~~Draw the internal connections of energy meter~~.
10. Connect the energy meter to a given load.

SECTION-III **1X10=10 Marks**

11. Identify given two electrical measuring instruments and mention its applications.

12 ~~(a) Name the type of connections used in series/decoration bulbs.~~

~~(b) Name the type of resistance used in fan regulator.~~

13 (a) Write the names of instruments used in testing of battery.

(b) Calculate the energy consumed by an electric iron of 1250W, 250V AC Supply when used for TWO hours.

14 (a) Which type of magnet is used in ceiling fan and toys?

(b) Convert 2 HP into watts; 2 KW into watts.

15 (a) What type of batteries is used in two wheelers?

(b) State maintenance methods of battery.

Record	**5 marks**
Viva- Voice	**5 Marks**

ELECTRICAL TECHNICIAN

FIRST YEAR

MODEL QUESTION PAPER

Paper I: Basic Electrical Lab[321/21]

Time: 3hrs **Max.Marks: 50**

2, 8, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given and for forty (40) marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

ELECTRICAL TECHNICIAN

FIRST YEAR

QUESTION BANK

Paper II: Engineering Drawing[321/22]

Time: 3hrs **Max.Marks: 50**

SECTION-I

1X20=20 Marks

1. Draw the connection diagram of 1ph energy meter with 4 way distribution board
2. Draw a parabola of 40mm base, 70mm height by tangent method
3. Draw HYPERBOLA at a given the position of point
4. ~~Draw the projections of a rectangular cube of 70mm x 50mm x 30mm~~
5. Draw an ellipse of 80mm major axis and 40mm minor axis.

SECTION-II

1X10=10 Marks

6. Draw a Hexagon for a circle of 50mm radius
7. Draw a common tangent for two circles of 50mm radius
8. Draw a Pentagon of side 40mm
9. Draw an OCTAGON given a side of 80mm
10. ~~Draw a Heptagon for a circle of 60mm radius~~

SECTION-III

5X2=10 Marks

11 (a) Print the following with normal lettering of size 15mm

VOCATIONAL COURSE

(b) Divide a 8cm line into 10 equal parts

12 (a) Print the following with normal lettering of size 15mm

ELECTRICAL ENGINEERING

(b) Bisect a line of 9cm length

13. Draw a tangent for a circle of 50mm dia.

~~14 (a) Divide a rectangle of 8cm x 4cm in 8 parts.~~

~~(b) Construct a equilateral triangle of 5cm side~~.

15 (a) Draw a perpendicular line to a straight line of 6cm.

(b) State the list of drawing instruments.

Record	**5 marks**
Viva- Voice	**5 Marks**

ELECTRICAL TECHNICIAN

FIRST YEAR

MODEL QUESTION PAPER

Paper II: Engineering Drawing[321/22]

Time: 3hrs **Max.Marks: 50**

1, 6, 11

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given and for forty (40) marks. The examiner shall decode it with the question bank and give the questions

Record	**5 marks**
Viva- Voice	**5 Marks**

.

ELECTRICAL TECHNICIAN

FIRST YEAR

QUESTION BANK

Paper III: Electrical Wiring and Workshop[321/23]

Time: 3hrs **Max.Marks: 50**

SECTION-I

1X20=20 Marks

1. Install a surface conduit wiring for one lamp controlled by one switch.
2. Connect two lamps in series in conduit wiring.
3. Install a stair case wiring in surface conduit wiring.
4. ~~Install a pipe earthing.~~
5. Make connections for a fluorescent lamp.

SECTION-II

1X10=10 Marks

6. Prepare a straight joint by using 1/18 or 3/20 or 7/20 copper cable
7. Prepare a T- joint with 1/18 or 3/20 or 7/20 wire.
8. ~~Fix the three switches and one socket on a given switch board~~.

9 (a) Prepare a pig tail joint by using single strand aluminium cable

(b) Prepare a test lamp.

10. Fix a fan regulator on a switch board and make proper connections.

SECTION-III

5X2=10 Marks

11 (a) Measure the size of given wire by using SWG

(b) Identify the given cables/wires and write their applications.

12 (a) What are the tools used by an electrician?

(b) What is Earthing?

30% DELETED CONTENT (PRACTICALS)
COMPUTER SCIENCE

PRACTICAL CODE	SUBJECT NAME	DELETED QUESTION NUMBER FROM THE QUESTION BANK
21	Windows & M.S.Office	5a,5b,8,12
22	Programming IN" C"	5,9A&9b,13,4
23	Engg.Drawing	3,5,10,12,15
71	JAVA PROGRAMMING	4,5,8,9,11,15
72	SQL, photoshop & Page Maker	4,5,9,10,14,15
73	Intenet Technology	5,10,14

ELECTRICAL TECHNICIAN

FIRST YEAR

MODEL QUESTION PAPER

Paper III:Electrical Wiring and Workshop[321/23]

Time: 3hrs **Max.Marks: 50**

4, 8, 15

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given and for forty (40) marks. The examiner shall decode it with the question bank and give the questions

Record	**5 marks**
Viva- Voice	**5 Marks**

ELECTRICAL TECHNICIAN

SECOND YEAR

QUESTION BANK

Paper I: Electrical Machines Lab[321/71]

Time: 3hrs **Max.Marks: 50**

SECTION-I

1X20=20 Marks

1. Measure the Power by using Two Watt meter method in a 3-Ph circuit or load.
2. Identify the various parts and connect 3-Ph Induction motor by DOL starter.
3. ~~Connect, start, run and reverse the direction of rotation of 1-ph capacitor start motor. And observe the current and speed at different loads.~~
4. Connect, start, run the universal motor (mixer grinder motor). And observe the current and speed at different loads.
5. Measure the power in RLC circuits (Use filament lamp, ceiling fan and capacitor).

SECTION-II

1X10=10 Marks

6. Draw the speed control methods of a DC motor.
7. ~~State the losses in a transformer. Draw the circuit diagram for OC or SC test of a single phase transformer.~~
8. Identify the terminals in 3-phase induction motor.
9. Connect and run the 1-ph permanent capacitor motor (ceiling fan/tablefan).
10. Measure the power consumed by an Universal Motor by using Voltmeter and Ammeter.

SECTION-III

5X2=10 Marks

11. State the applications of DC motors.

12 (a) What is step up and step down transformer.

(b) Mention the 1-phase and 3-phase voltages in India.

13. What are the applications of 3 – phase induction motors?

~~14 a) State the types of starters used in AC motor~~

~~(b) Name the types of power stations~~

15 (a) What is Substation?

(b) Why transformer becomes hot while working?

Record	**5 marks**
Viva- Voice	**5 Marks**

ELECTRICAL TECHNICIAN

SECOND YEAR

MODEL QUESTION PAPER

Paper I: Electrical Machines Lab[321/71]

Time: 3hrs **Max.Marks: 50**

5, 7 ,12

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given and for forty (40) marks. The examiner shall decode it with the question bank and give the questions

Record	**5 marks**
Viva- Voice	**5 Marks**

ELECTRICAL TECHNICIAN

SECOND YEAR

QUESTION BANK

Paper II: Domestic Appliances Lab[321/72]

Time: 3hrs **Max.Marks: 50**

SECTION-I

1X20=20 Marks

1. Dismantling, re-assembling and troubleshooting of electric room heater/Electric stove
2. Dismantling, re-assembling and troubleshooting of ordinary OR automatic electric iron
3. ~~Dismantling, re-assembling and troubleshooting of electric stove~~
4. Dismantling, re-assembling and troubleshooting of Table fan OR Ceiling fan
5. Dismantling, re-assembling and troubleshooting of Florescent Tube

SECTION-II

1X10=10 Marks

6. State general faults and testing methods in domestic appliances.
7. Identify the parts in given electric iron and name possible faults.
8. ~~Identify the parts in given rice cooker and name possible faults~~
9. Dismantle and assemble ceiling fan
10. Collect name plate details of given appliances (any two)

SECTION-III

5X2=10 Marks

11. Identify the ten tools required for repair of domestic appliances.
12. Mention any FIVE domestic appliances and write their applications.
13. State the function of a Thermostat and draw the diagram.

~~14. Write the purpose of series testing board and draw the connection diagram~~

15 (a) Draw the ceiling fan and label the parts.

(b) What is the use of Inverter and UPS?

Record	**5 marks**
Viva- Voice	**5 Marks**

ELECTRICAL TECHNICIAN

SECOND YEAR

MODEL QUESTION PAPER

Paper II: Domestic Appliances Lab[321/72]

Time: 3hrs **Max.Marks: 50**

4, 9, 15

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given and for forty (40) marks. The examiner shall decode it with the question bank and give the questions

Record	**5 marks**
Viva- Voice	**5 Marks**

ELECTRICAL TECHNICIAN

SECOND YEAR

QUESTION BANK

Paper III: Electrical Estimation and Utilization Lab[321/73]

Time: 3hrs **Max.Marks: 50**

SECTION-I

1X20=20 Marks

1. Take the measurements of residential building and prepare wiring layout.
2. Prepare an estimate in standard proforma for installation of 5-HP motor in a small work shop.
3. Prepare a detailed schedule of material, layout to install an OH distribution line about 2 km along with street lights (use nearby street light/distribution line).
4. ~~Prepare detailed list of materials and accessories (schedule) of plinth mounted transformer.~~
5. Prepare detail schedule of material for Plate Earthing?

SECTION-II

1X10=10 Marks

6. Make connections of 1-ph service mains, main board (load 1000W)
7. Prepare of detailed list of materials and accessories (schedule) of pole mounted transformer.
8. ~~List the material required for Pipe earthing.~~
9. Make a neon sign to display ELECTRICAL
10. Draw the layout diagram of (a) Auditorium (b) PA-System

SECTION-III

5X2=10 Marks

11. Identify the wiring accessories and materials in wiring of your examination hall or laboratory.

~~12. Observe the given Main Board and Distribution Board and draw the connections.~~

13 (a) Write the format of estimate?

(b) What is the purpose of earthing?

14 (a) Draw the single line diagram of power wiring

(b) Expand MCB, MCP, MB.

15 (a) Name different lighting methods in auditorium.

(b) Name the parts of a Refrigerator.

Record	**5 marks**
Viva- Voice	**5 Marks**

ELECTRICAL TECHNICIAN

SECOND YEAR

MODEL QUESTION PAPER

Paper III: Electrical Estimation and Utilization Lab[321/73]

Time: 3hrs **Max.Marks: 50**

1, 6, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given and for forty (40) marks. The examiner shall decode it with the question bank and give the questions

Record	**5 marks**
Viva- Voice	**5 Marks**

30% DELETED CONTENT (PRACTICALS)
ELECTRICAL TECHNICIAN

PRACTICAL CODE	SUBJECT NAME	DELETED QUESTION NUMBER FROM THE QUESTION BANK
21	Basic Electrical Lab	3,9,12
22	Engineering Drawing	4,10,14
23	Electrical Wiring and Workshop	4,8,13
71	Electrical Machine Lab	3,7,14
72	Domestic Appliances Lab	3,8,14
73	Electrical Estimation and Utilisation Lab	4,8,12

VOCATIONAL PRACTICALS QUESTION BANK

(For the Academic Year 2020-21)

ELECTRONICS & COMMUNICATION TECHNICIAN

(COURSE CODE: 320)

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

ELECTRONICS AND COMMUNICATION TECHNICIAN
FIRST YEAR
QUESTION BANK
PAPER I: ENGINEERING DRAWING

Time: 3hrs **NR CODE :- 320/21** **Max. Marks: 50**

SECTION-I

1X20=20 Marks

1. Draw the regular Pentagon Pyramid of side 50mm, height 75 mm.
2. Draw the Ellipse of major axis 80 mm and minor axis 50mm.
3. Draw the Cylinder of diameter 50mm axis 90mm.
4. Draw the Parabola with major axis 80 mm minor axis 60mm.
5. Draw the letters A to Z neatly.

SECTION-II

1X10=10 Marks

6. Draw the Circle of 30 mm diameter.
7. Draw the Rectangle of 30 mm x 50 mm sides diameter.
8. Draw the equilateral triangle of side 40 mm.
9. Draw the square of side 40 mm.
10. Draw the regular Octagon of side 25mm.

SECTION-III

1X10=10 Marks

11 Draw the right angle sides 30mm, 40mm.

12. Draw the bisection of angle 45^0 without using Protractor.

13. Bisecta a given 50 mm line without using scale.

14. Draw the Hexagon of diameter 50mm.

Record	**5 marks**
Viva- Voice	**5 Marks**

ELECTRONICS AND COMMUNICATION TECHNICIAN
FIRST YEAR
MODEL QUESTION PAPER
PAPER I: ENGINEERING DRAWING

Time: 3hrs **NR CODE :- 320/21** **Max. Marks: 50**

[2 ,8,12]

Record : 5 marks

Viva- Voice : 5 Marks

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination the serial number of the question will be given. The examiner shall decode it with the question bank and give the questions.

ELECTRONICS AND COMMUNICATION TECHNICIAN
FIRST YEAR
QUESTION BANK
PAPER II: ELECTRONIC DEVICES AND CIRCUITS LAB

Time: 3hrs **NR CODE :- 320/22** **Max. Marks: 50**

SECTION-I **1X20=20 Marks.**

1. Draw PN Junction diode forward, reverse bias VI Characteristics.
2. Study the transistor CB input/output VI Characteristics.
3. Study the SCR VI Characteristics.
4. ~~Calculate ripple factor, Voltage regulation in full wave bridge rectifier~~
5. ~~Measurement of RC Phase shift Oscillator frequency~~.

SECTION-II **1X10=10 Marks**

6. Study of Soldering Material and Soldering Iron.
7. Study of different types of Switches
8. Study of Resistors connected in series and parallel
9. ~~Study of Power Transformer~~
10. ~~Determine RLC series resonance frequency~~

SECTION-III **1 X10=10 Marks**

11. Study of different batteries
12. ~~Study of Class B Push pull amplifier~~
13. Draw the symbol of PN Diode, LED, Photo Diode, Zener Diode, Transistor.
14. Draw the symbol of Resistor, Capacitor, Inductor, Transformer, Earth
15. Draw the symbol of SCR,FET, DIAC , TRAIC, UJT

Record **5 marks**

Viva- Voice **5 Marks**

ELECTRONICS AND COMMUNICATION TECHNICIAN
FIRST YEAR
MODEL QUESTION PAPER
PAPER II: ELECTRONIC DEVICES AND CIRCUITS LAB

Time: 3hrs **NR CODE :- 320/22** **Max. Marks: 50**

[1 ,7,11]

Record : 5 marks

Viva- Voice : 5 Marks

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The examiner shall decode it with the question bank and give the questions.

ELECTRONICS AND COMMUNICATION TECHNICIAN

FIRST YEAR

QUESTION BANK

PAPER III: DIGITAL ELECTRONICS AND COMPUTER FUNDAMENTALS

Time: 3hrs **NR CODE: - 320/23** **Max. Marks: 50**

SECTION-I **1X20=20 Marks**

1. Verify the truth table using Logic Gates - I - AND, OR, NOT (Using IC's)
2. ~~Verify the truth table using Logic Gates Full adder.~~
3. Study the layout of components of Mother Board in Computer.
4. Create a document using MS-word and save it.
5. ~~Create a simple Power point presentation for a small unit.~~

SECTION-II **1X10=10 Marks**

6. Verify NAND, NOR Gates with ICs truth table.
7. Verify Half Adders with Using IC Logic gates.
8. ~~Study A/D Converter~~.
9. Study the Asynchronous Decade counter
10. ~~Verify Ex - OR gate with truth table.~~

SECTION-III **5X2=10 Marks**

11. Draw the symbol of AND, OR, NOT, NAND, NOR Gates.
12. Study of SR Flip Flop using NAND Gates with Clock pulse
13. Study of Memories used in Computers
14. ~~Study of the LAN Networks~~
15. Study the working of 3 X 8 Decoder.

Record	**5 marks**
Viva- Voice	**5 Marks**

ELECTRONICS AND COMMUNICATION TECHNICIAN

FIRST YEAR

MODEL QUESTION PAPER

PAPER III: DIGITAL ELECTRONICS AND COMPUTER FUNDAMENTALS

Time: 3hrs **NR CODE: - 320/23** **Max. Marks: 50**

[3 ,10,12]

Record : 5 marks

Viva- Voice : 5 Marks

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The examiner shall decode it with the question bank and give the questions.

ELECTRONICS AND COMMUNICATION TECHNICIAN
SECOND YEAR
QUESTION BANK
PAPER I: COMMUNICATION ENGINEERING

Time: 3hrs **NR CODE: - 320/71** **Max. Marks: 50**

SECTION-I **1X20=20 Marks**

1. Study of soldering Practice on PCB and wiring practice.
2. Study of power supply stage in Radio Receiver (Full wave Bridge Rectifier with Filter).
3. ~~Study of output stage, voltage measurement of IC version Radio Receiver.~~
4. ~~Study and Rectify the faults in Radio Receiver~~
5. Study of DTH Receiver.

SECTION-II **1X10=10 Marks**

6. Electronic Lab safety precautions (Regarding wiring, Flooring, First Aid Treatment).
7. Study of Servicing tools and instruments (Soldering Iron, Screw Driver Set, Tweezers, Nose Pliers, Cutter, Hammer, File, De-solder pump, Squeezer).
8. ~~Study the Testing of Electronic Components like resistor, capacitor, inductor, transformer, loud speaker, switches, relays, connectors.~~
9. ~~Study the Testing of fuses and cables and semiconductor devices like diode, transistor, IC packages.~~
10. Study of cable TV components

SECTION-III **1X10=10 Marks**

11. Study of AM / FM Radio Receiver
12. Study of Digital Communication System
13. Study the Dish Antenna system and its working
14. ~~Study the working of Transponder~~
15. Study the need for satellites in TV Broadcast

Record **5 marks**

Viva- Voice **5 Marks**

ELECTRONICS AND COMMUNICATION TECHNICIAN
SECOND YEAR
MODEL QUESTION PAPER
PAPER I: COMMUNICATION ENGINEERING

Time: 3hrs **NR CODE: - 320/71** **Max. Marks: 50**

[4 ,11,13]

Record : 5 marks

Viva- Voice : 5 Marks

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The examiner shall decode it with the question bank and give the questions.

ELECTRONICS AND COMMUNICATION TECHNICIAN
SECOND YEAR
QUESTION BANK
PAPER II: TV AND MOBILE PHONE SERVICING LAB

Time: 3hrs **NR CODE: - 320/72** **Max. Marks: 50**

SECTION-I **1X20=20 Marks**

1. ~~Study DC characteristics of LED and PIN photodiode.~~
2. Study Data transmission through fiber optic link.
3. ~~Study the concept of Mobile Communication.~~
4. Study the Working of Telephone.
5. Study of LCD or LED and its working.

SECTION-II **1X10=10 Marks**

6. Study of LDR and its working
7. ~~Study of LASER Diode used in Optical Fibre Communication.~~
8. ~~Servicing of OTDR~~
9. Study the working of Intercom.
10. Study the working of CDMA

SECTION-III **1X10=10 Marks**

11. ~~Service and security aspects of GSM~~
12. Study the working of Photo Transistor
13. Study the working of DWDM
14. Study of Frequency hopped spread Spectrum(FHSS) techniques
15. Explain Radio interface of AMPS.

Record	**5 marks**
Viva- Voice	**5 Marks**

ELECTRONICS AND COMMUNICATION TECHNICIAN
SECOND YEAR
QUESTION BANK
PAPER II: TV AND MOBILE PHONE SERVICING LAB

Time: 3hrs **NR CODE: - 320/72** **Max. Marks: 50**

[3 ,9,15]

Record : 5 marks

Viva- Voice : 5 Marks

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The examiner shall decode it with the question bank and give the questions.

ELECTRONICS AND COMMUNICATION TECHNICIAN
SECOND YEAR
QUESTION BANK
PAPER III: INSTRUMENTATION AND MEASUREMENTS LAB

Time: 3hrs **NR CODE: - 320/73** **Max. Marks: 50**

SECTION-I **1X20=20 Marks**

1. Extend the range of DC Ammeter.
2. Study and use of Analog Multi-meter.
3. Study and use of Audio Frequency Oscillator.
4. Study and know the uses of Cathode Ray Oscilloscope (CRO)
5. Study the Hospital Equipment like ECG Recorders, B.P Equipment's, and Clinical Equipment's etc.

SECTION-II **1X10=10 Marks**

6. Study and use of First Level Maintenance of Hospital Equipment's etc
7. Study and use of Digital Multi-meter .
8. Study of Regulated Power supply
9. Study of RF Signal Generator.
10. Working of Colour TV Receiver

SECTION-III **1X10=10 Marks**

11. Features of Smart TV.
12. Servicing and Operating Controls of TV Receiver.
13. Study of DVD Player.
14. Working of Uninterrupted Power Supply (UPS)
15. Study of Micro Wave Oven.

Record	**5 marks**
Viva- Voice	**5 Marks**

ELECTRONICS AND COMMUNICATION TECHNICIAN
SECOND YEAR
QUESTION BANK
PAPER III: INSTRUMENTATION AND MEASUREMENTS LAB

Time: 3hrs **NR CODE: - 320/73** **Max. Marks: 50**

[3 ,9,15]

Record : 5 marks

Viva- Voice : 5 Marks

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The examiner shall decode it with the question bank and give the questions.

VOCATIONAL PRACTICALS QUESTION BANK

(For the Academic Year 2020-21)

MECHANICAL TECHNICIAN

(COURSE CODE: 322)

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

MECHANICAL TECHNICIAN
FIRST YEAR
QUESTION BANK
PAPER I: WORK SHOP PRACTICE [322/21]

Time: 3hrs **Max. Marks: 50**

SECTION-I

1X20=20 Marks.

1. Prepare "L" section with given plate in fitting shop.
2. Make holes on given plate with given sizes.

   (OR)

   Make a rectangular tray by a given sheet metal.
3. ~~Make step turning on given work piece by lathe.~~
4. ~~Make round bar from a Square bar.~~
5. Make a "T" joint with given two pieces by arc welding

   (OR)

   Make a corner joint with given work pieces by arc welding.

SECTION-II

1X10=10 Marks

6. Identification Gas welding equipment.
7. Making soldering joints procedure.
8. Explain the surface grinding procedure.
9. ~~Make a plain turning on given work piece by lathe machine.~~

   ~~(OR)~~

   ~~Make Knurling on given work piece by lathe~~.
10. Make a rectangular scoop by a given sheet metal.

SECTION-III

1X10=10 Marks

11. Square file, Flat Tong, Twist Drill, Half round File, Ball peen hammer
12. Centre punch, Bench vice, Scriber, Gas welding Cylinders, Snip
13. Micro Meter, Hacksaw, Try square, Electrode, Chisel,
14. ~~Try square, Inside Calliper, Outside Calliper, Mallet, Anvil~~
15. Drill bit, Tap, Die, Pin vice, Stake

Record **5 marks**

Viva- Voice **5 Marks**

MECHANICAL TECHNICIAN

MODEL QUESTION PAPER

PAPER I: WORK SHOP PRACTICE[322/21]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

MECHANICAL TECHNICIAN

FIRST YEAR
QUESTION BANK
PAPER II: ENGINEERING DRAWING[322/22]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks.**

1. Draw the plan elevation and side view of the rectangular prism of base 30x20mm and height 40mm.
2. Draw the plan, elevation and side view of a cylinder of diametric 20mm and length 30mm.
3. Draw the multi views of cone dia 60mm and height 80mm.
4. ~~Draw the three views of the block shown in Ist angle projection.~~

Fig Ist angle projection

5. ~~Draw the isometric view of rectangle of a side 30 mm length 60 mm~~

SECTION-II **1X10=10 Marks**

6. Print the following title in simple vertical single stroke capital by free hand lettering of 10 mm size.
   "MECHANICAL TECHNICIAN"
7. Divide a line of 80 mm into 8 equal parts.
8. Construct a pentagon for the given side of 30 mm.
9. ~~Construct a parabolic curve with base as 80 mm and 30 mm Tangent method~~.
10. Construct a hexagon in a circle of dia 60 mm.

SECTION-III **1X10=10 Marks**

11. Types of lines
12. Protractor, Divider, Compass, Scale, Set Square
13. T- Square, Types of Pencils, Drawing Board, Drafter, Drawing Sheets & Types
14. Symbols of Metals, Symbols of liquids, Symbols of glass, Symbol of Wood, Symbol of Concrete.
15. ~~Symbol of 1st Angle Projection, Symbol of 3rd Angle Projection.~~

Record	**5 marks**
Viva- Voice	**5 Marks**

MECHANICAL TECHNICIAN

MODEL QUESTION PAPER

PAPER II: ENGINEERING DRAWING[322/22]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

MECHANICAL TECHNICIAN

FIRST YEAR
QUESTION BANK
PAPER III: REFRIGERATION[322/23]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks.**

1. Locate and rectify the leaks in the given refrigerator
2. Servicing "The Water Cooler".
3. Identify the parts of Ice plant and draw the line diagram.
4. Identify the parts of Cold Storage plant and draw the line diagram.
5. ~~Servicing the bottle cooler.~~

SECTION-II **1X10=10 Marks**

6. Maintenance of domestic refrigerator
7. Maintenance of Water Cooler
8. Maintenance of Ice Plant
9. Maintenance of Cold Storage
10. ~~Maintenance of Bottle Cooler~~.

SECTION-III **1X10=10 Marks**

11. Condenser, Compressor
12. Expansion Devices, Evaporator
13. Capillary Tube, Thermostat
14. Accumelator, Parts of Ice Plant
15. R- ~~22~~ , R-~~134~~

Record **5 marks**

Viva- Voice **5 Marks**

MECHANICAL TECHNICIAN

MODEL QUESTION PAPER

PAPER III: REFRIGERATION
[322/23]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

MECHANICAL TECHNICIAN
SECOND YEAR
QUESTION BANK
PAPER I: ENERGY SOURCES LAB[322/71]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks.**

1. ~~Study the Solar Radiation by Pyranometer and Tabulate the Data.~~
2. ~~Prepare distilled water with the solar distillation unit and record the data.~~
3. Dismantle the Box type solar cooker and reassemble it.
4. Install a Solar street light and give the connections to glow a bulb.
5. Observe the production of Bio-gas with the KVIC Bio-gas plant and tabulate the data.

SECTION-II **1X10=10 Marks**

6. Observe the Production of Bio-gas with Pragathi Bio-gas plant.
7. Identify the parts of Horizontal Wind mill and explain them.
8. ~~Study the charging of fuel cell.~~
9. Dismantle the solar water heater.
10. Identify the parts of solar distillation.

SECTION-III **1X10=10 Marks**

11. Parts of Solar water heater
12. Parts of Box type – Solar Cooker
13. Mention the materials required for the Bio- gas Plant
14. ~~Components of Tidal Power plant~~
15. Parts of Solar Distillation

Record **5 marks**

Viva- Voice **5 Marks**

30% DELETED CONTENT (PRACTICALS)
ELECTRONICS AND COMMUNICATION TECHNICIAN

PRACTICAL CODE	SUBJECT NAME	DELETED QUESTION NUMBER FROM THE QUESTION BANK
21	Engineering Drawing	1,2,7,10,15
22	EDC-Lab	4,5,9,10,12
23	Digital Ele & Com.Fin.Lab	2,5,8,10,14
71	Communication Engg.Lab	3,4,8,9,14
72	T.V.and Mobile Phone Servicing Lab	1,3,7,8,11
73	Instrumentataion and Measurements Lab	1,5,6,9,10

MECHANICAL TECHNICIAN

MODEL QUESTION PAPER

PAPER I: ENERGY SOURCES LAB[322/71]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

MECHANICAL TECHNICIAN
SECOND YEAR
QUESTION BANK
PAPER II: LIGHT MOTOR VEHICLES LAB[322/72]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks.**

1. Servicing the given vehicle (Washing, Cleaning and Greasing).
2. Removing wheel from vehicle refit the punctured tube and tyre.
3. Overhauling the mechanical Brakes of vehicle.
4. ~~Overhauling the Hydraulic brake system~~.
5. Remove the single plate clutch and overhauling it.

SECTION-II **1X10=10 Marks**

6. Remove the simple carburettor, check, clean and reassemble it.
7. ~~Remove the oil filter, dismantle, clean, replace filter element and reassemble it~~.
8. ~~Dismantling and assemble the in line fuel injection pump~~.
9. Remove the air cleaner from the engine, clean, the filter element and fit the air cleaner on the engine.
10. Remove the Radiator, clean the radiator and fit radiator to vehicle. Overhaul the pump and refit to the vehicle.

SECTION-III **1X10=10 Marks**

11. Types of Clutches
12. Types of Gearboxes
13. Types of Brakes
14. Types of Air-Filters
15. ~~Parts of Radiator~~

Record	**5 marks**
Viva- Voice	**5 Marks**

MECHANICAL TECHNICIAN

MODEL QUESTION PAPER

PAPER II: LIGHT MOTOR VEHICLES LAB[322/72]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

MECHANICAL TECHNICIAN
SECOND YEAR
QUESTION BANK
PAPER III: AIR CONDITIONING LAB[322/73]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks.**

1. Servicing of given Window type Air-Conditioner.
2. Charging the refrigerant into window type Air-Conditioner.
3. Troubleshoot and repair the complaint of "Poor Cooling" of window Air conditioner.
4. Servicing of Fans used in Air conditioning
5. ~~Servicing of ducts used in Air conditioning.~~

SECTION-II **1X10=10 Marks**

6. Write only Procedure and Material & Tools required)
7. ~~Maintenance of Filters.~~
8. Servicing of Air outlets.
9. ~~Study of heating coil.~~
10. ~~Study of cooling coil.~~

SECTION-III **1X10=10 Marks**

11. Types of Condensors
12. Types of Refrigerants
13. ~~Types of Ducts~~
14. Types of Fans
15. Types of Air Conditioners

Record	**5 marks**
Viva- Voice	**5 Marks**

MECHANICAL TECHNICIAN

MODEL QUESTION PAPER

PAPER III: AIR CONDITIONING LAB[322/73]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

30% DELETED CONTENT (PRACTICALS)
MECHANICAL TECHNICIAN

PRACTICAL CODE	SUBJECT NAME	DELETED QUESTION NUMBER FROM THE QUESTION BANK
21	Work Shop Practice	3,4,9,14
22	Engineering Drawing	4,5,9,15 **not striked**
23	Refrigeration	5,10,15
71	Energy Sources Lab	1,2,8,14
72	Light Motor Vehicles Lab	4,7,8,15
73	Air Conditioning Lab	5,7,9,10,13

VOCATIONAL PRACTICALS QUESTION BANK

(For the Academic Year 2020-21)

COMMERCIAL GARMENT TECHNOLOGY

(COURSE CODE: 409)

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

COMMERCIAL GARMENT TECHNOLOGY

FIRST YEAR

QUESTION BANK

Paper I: PRINCIPLES OF GARMENT MAKING (409/21)

Time: 3hrs **Max. Marks: 50**

SECTION-I

1X20=20 Marks

1. Take a Material of length 10cm width 15cm and finish the neck line with bias facing.
2. Take a Material of length 10cm width 15cm and finish the neck line with fitted facing.
3. Take a Material of length 10cm width 20cm and do two-piece placket.
4. ~~Take a Material of length 20cm width 15cm and do a placket of 9cm length and finish the placket with continuous wrap opening.~~
5. Take a Material of length 10cm width 15cm and finish the neck line with double bias binding.

SECTION-II

1X10=10 Marks

6. Do the sample for single dart and knife pleats?
7. Stitch the sample for pin tucks and double dart.
8. Make a sample for gathers and box pleat.
9. ~~Stitch the sample of French seam and double stitch seam finish.~~
10. Stitch the sample for inverted box pleat and plain seam.

SECTION-III

1X10=10 Marks

11.Temporary Stitches: (a)Even basting

(b)diagonal basting

12. Fasteners : (a) Buttons and Button hole

(b) Hook and eye

13 Parts of the sewing Machine: (a) bobbin and bobbin case

(b) Stitch Regulator

14. Tools: (a) Seam Ripper

(b) Measuring Tape

~~15. Fullness in Garments: (a)Knife Pleate and Box Pleat~~

~~(b)Single Dart and Double Dart~~

Record	**5 marks**
Viva- Voice	**5 Marks**

COMMERCIAL GARMENT TECHNOLOGY
FIRST YEAR
MODEL QUESTION PAPER
Paper I: PRINCIPLES OF GARMENT MAKING (409/21)

Time: 3hrs **Max. Marks: 50**

[1,6,11]

Record	**5 marks**
Viva- Voice	**5 Marks**

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question only will be given 40 marks. The examiner shall decode it with the question bank and give the questions.

COMMERCIAL GARMENT TECHNOLOGY

FIRST YEAR

QUESTION BANK

Paper II: Textile Science (409/22)

Time: 3hrs **Max. Marks: 50**

SECTION-I

1X20=20 Marks

1. Write about the plain weave and prepare the sample.
2. Write about the Basket weave and prepare the sample
3. Write about the Rib weave and prepare the sample.
4. Write about the Twill weave and prepare the sample
5. ~~Write about the Satin weave and prepare the sample~~

SECTION-II

1X10=10 Marks

6. ~~How do you remove ball pen – Scorch stain on cotton fabric~~
7. How do you remove Rust – Haldi stain on cotton fabric
8. How do you remove Coffee/Tea – curry stain on cotton fabric
9. How do you remove Oil – Paint stain on cotton fabric
10. How do you remove Ink – Pan stain on cotton fabric

SECTION-III

1X10=10 Marks

11. Visual Inspection of Fibres: (a) Cotton (b) Wool
12. Identification of Yarns: (a) Ply Yarn (b) Novelty Yarn
13. Identification of Fabrics and their weaves: (a)Poplin (b)Satin
14. ~~Parts of the Loom: (a) Harness (b) Shuttle~~
15. Finishes: (a) Mercerising Finish (b) Bleaching

Record	**5 marks**
Viva- Voice	**5 Marks**

COMMERCIAL GARMENT TECHNOLOGY
FIRST YEAR
MODEL QUESTION PAPER
Paper II: Textile Science (409/22)

Time: 3hrs **Max.Marks: 50**

[2,8,12]

Record	**5 marks**
Viva- Voice	**5 Marks**

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question only will be given 40 marks. The examiner shall decode it with the question bank and give the questions.

COMMERCIAL GARMENT TECHNOLOGY

FIRST YEAR

QUESTION BANK

Paper III: GARMENT CONSTRUCTION (409/23)

Time: 3hrs **Max. Marks: 50**

SECTION-I

1X20=20 Marks

1. Drafting, cutting and stitching of jhangia.
2. Drafting, cutting and stitching of Jabla
3. ~~Drafting, cutting and stitching of Romper~~.
4. Drafting, cutting and stitching of A-line frock
5. Drafting, cutting and stitching of Baby frock

SECTION-II

1X10=10 Marks

6. How do you take and record the measurements of children lower garments?
7. How do you take and record the measurements of women upper garments?
8. ~~How do you take and record the measurements of gents lower garments?~~
9. How do you calculate the amount of material required and estimate the cost of A-Line frock?
10. How do you calculate the amount of material required and estimate the cost of baby frock?

SECTION-III

1X10=10 Marks

11. Tools: (a) Tailors Chalk (b) L- Scale

~~12. Slopers: (a) Bodice block (b) Sleeve block~~

13. Identification of Fabrics: (a) Chiffon (b) Lace Fabrics

14. Supportive Fabrics: (a) Fusing or Stiff Paper (b) Lining

15. Fasteners: (a) Press Buttons (b) Hooks and Eyes

Record	**5 marks**
Viva- Voice	**5 Marks**

COMMERCIAL GARMENT TECHNOLOGY
FIRST YEAR
MODEL QUESTION PAPER
Paper III: GARMENT CONSTRUCTION (409/23)

Time: 3hrs **Max. Marks: 50**

[4,9,13]

Record	**5 marks**
Viva- Voice	**5 Marks**

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question only will be given 40 marks. The examiner shall decode it with the question bank and give the questions.

COMMERCIAL GARMENT TECHNOLOGY

SECOND YEAR

QUESTION BANK

Paper I: APPAREL MANUFACTURE (409/71)

Time: 3hrs **Max. Marks: 50**

SECTION-I

1X20=20 Marks

1. Construct a saree petticoat to the given measurements or to half scale.
2. Construct a Midriff yoke to the given measurements or to half scale
3. Construct a Kameez to the given measurements or to half scale.
4. Construct a Shalwar to the given measurements or to half scale
5. ~~Construct a Chudidaar Pyzama to the given measurements or to half scale~~.

SECTION-II

1X10=10 Marks

6. Do the Drafting of Puff sleeve
7. Do the drafting of Peterpan collar
8. How do you calculate the amount of material required and cost of Kameez and saree blouse.
9. Do the drafting of patch pocket.
10. ~~Do the drafting of Kimono sleeve~~.

SECTION-III

1X10=10 Marks

11. ~~Placket openings: (a) Continuous wrap opening (b)Bound Placket~~

12. Sleeves : (a) Plain Sleeve (b) Raglan sleeve

13. Measuring Tools: (a) Measuring Tape (b) Small Ruler

14. Cutting Tools : (a) Scissors (b)Pinking Shaears

15. Slopers: (a) Bodice block (b) Sleeve block

Record	**5 marks**
Viva- Voice	**5 Marks**

COMMERCIAL GARMENT TECHNOLOGY
SECOND YEAR
MODEL QUESTION PAPER
Paper I: APPAREL MANUFACTURE (409/71)

Time: 3hrs **Max.Marks: 50**

[3, 8, 15]

Record	**5 marks**
Viva- Voice	**5 Marks**

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question only will be given 40 marks. The examiner shall decode it with the question bank and give the questions.

COMMERCIAL GARMENT TECHNOLOGY

SECOND YEAR

QUESTION BANK

Paper II: FABRIC EMBELLISHMENT (409/72)

Time: 3hrs **Max. Marks: 50**

SECTION-I

1X20=20 Marks

1. Do the embroidery on a given motif by using stem and satin stitch?
2. Do the embroidery on a given motif by using button hole and feather stitch.
3. Do the fabric painting on a given motif by shading procedure.
4. Do applique work on a given sample.
5. ~~Do the banjara work on a given sample?~~

SECTION-II

1X10=10 Marks

6. Write about Geometrics and stylized motifs with diagrams.
7. Write about full drop and Ogee layouts with diagrams.
8. Write about the wet and dry technique in fabric painting.
9. Make a sample of Quilting.
10. ~~Do the kantha work on a given motif?~~

SECTION-III

1X10=10 Marks

11. Motifs: (a) Naturals (b) Abstract
12. Embroidery Tools: (a) Embroidery Frame (b) Carbon Paper
13. Painting Tools: (a) Round brush (b) Metallic Colours
14. Quilting
15. ~~Lucknow work~~

Record	**5 marks**
Viva- Voice	**5 Marks**

COMMERCIAL GARMENT TECHNOLOGY

SECOND YEAR

MODEL QUESTION PAPER

Paper II: FABRIC EMBELLISHMENT (409/72)

Time: 3hrs **Max. Marks: 50**

[3,6,14]

Record	**5 marks**
Viva- Voice	**5 Marks**

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question only will be given 40 marks. The examiner shall decode it with the question bank and give the questions.

COMMERCIAL GARMENT TECHNOLOGY

SECOND YEAR

QUESTION BANK

Paper III: Apparel & Fashion Designing (409/73)

Time: 3hrs **Max. Marks: 50**

SECTION-I

1X20=20 Marks

1. Design garments with a) Diagonal lines b) Balance
2. Design garments with a) Harmony b) Emphasis
3. Design garments with a) Rhythm b) Proportion
4. ~~Draw and develop designs for garments using a) analogous b) Complimentary colour scheme~~
5. Draw and develop designs for garments using colour harmonies

   a) Monochromatic b) Split complimentary

SECTION-II

1X10=10 Marks

6. Draw a basic fashion figure of 10 inch
7. Design and draw any two types of neck lines for blouses and frock
8. Design and draw any four popular collars
9. Draw a hand bag used by ladies
10. ~~Write the methods of application of computers in fashion designing.~~

SECTION-III

1X10=10 Marks

11. Primary and Secondary Colours
12. ~~Colouring Material : (a) Pencil (b) Poster Colours~~
13. Smooth and Rough Textures
14. Jewellery
15. Hats and Hand Bags

Record	**5 marks**
Viva- Voice	**5 Marks**

COMMERCIAL GARMENT TECHNOLOGY

SECOND YEAR

MODEL QUESTION PAPER

Paper III: Apparel & Fashion Designing (409/73)

Time: 3hrs **Max.Marks: 50**

[1,8,12]

Record	**5 marks**
Viva- Voice	**5 Marks**

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question only will be given 40 marks. The examiner shall decode it with the question bank and give the questions.

30% DELETED CONTENT (PRACTICALS)

COMMERCIAL GARMENT TECHNOLOGY

PRACTICAL CODE	SUBJECT NAME	DELETED QUESTION NUMBER FROM THE QUESTION BANK
21	Principales of Garment Making	4,9,15
22	Textile Science	5,6,14
23	Garment Construction	3,8,12
71	Apparel Manufacture	5,10,11
72	Fabric Embellishment	5,10,15
73	Apparel and Fashion Designing	4,10,12

VOCATIONAL PRACTICALS QUESTION BANK

(For the Academic Year 2020-21)

TOURISM &HOSPITALITY MANAGEMENT

(COURSE CODE: 506)

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

TOURISM & HOSPITALITY MANAGEMENT (T&HM)
FIRST YEAR
QUESTION BANK
PAPER I: FUNDAMENTALS OF TOURISM AND TRAVEL [506/21]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks**

1. Visit report on State Department of Tourism (D.O.T).
2. Visit report on Department of Tourism, Govt. of India. (M.O.T).
3. Explain about the cultural centres in Telangana.
4. Write a report on Fairs and Tourist Festivals of Telangana.
5. Various packages of T.S.T.D.C.

SECTION-II **1X10=10 Marks**

6. Mention the types of tourism products.
7. Explain about the natural tourism resources of Telangana
8. Write about the man-made tourism resources of Telangana
9. Write aims and objectives of F.H.R.A.I.
10. ~~Visit report on Paryatic Bhavan.~~

SECTION-III **1X10=10 Marks**

11. C.R.S. – Expand and explain
12. In Telangana- sound and light show conducting in which tourist spots - Explain
13. ~~P.A.T.A. - Expand and Explain.~~
14. T.A.A.I. - Expand and Explain.
15. F.H.R.A.I. - Expand and Explain.

Record **5 marks**

Viva- Voice **5 Marks**

TOURISM & HOSPITALITY MANAGEMENT (T&HM)
FIRST YEAR
MODEL QUESTION PAPER
PAPER I: FUNDAMENTALS OF TOURISM AND TRAVEL [506/21]
Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

TOURISM & HOSPITALITY MANAGEMENT (T&HM)
FIRST YEAR
QUESTION BANK
PAPER II: HOSPITALITY SERVICE [506/22]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks**

1. Commonly used various kitchen wares.
2. Display of Special Equipment.
3. ~~Various types of Napkin Folds~~.
4. Service of dessert, settling the bills and farewell.
5. ~~Tray setup for breakfast, lunch and dinner etc.~~

SECTION-II **1X10=10 Marks**

6. Various terms used in F&B Service.
7. ~~Laying and relaying table cloth.~~
8. ~~Laying different types of covers~~.
9. Procedure of welcoming, escorting and seating.
10. Tray setup for afternoon tea service.

SECTION-III **1X10=10 Marks**

11. Mention the various types of glass ware and cutlery.
12. ~~Order taking process and tray setup for Tea service.~~
13. Draw any Five types of Glassware
14. Draw any two types of restaurant tables
15. Define the term knife, fork, Supper, Napkin and Brunch

Record **5 marks**

Viva- Voice **5 Marks**

TOURISM & HOSPITALITY MANAGEMENT (T&HM)
FIRST YEAR
MODEL QUESTION PAPER
PAPER II: HOSPITALITY SERVICE [506/22]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

TOURISM & HOSPITALITY MANAGEMENT (T&HM)
FIRST YEAR
QUESTION BANK
PAPER III: FRONT OFFICE OPERATIONS AND COMPUTER APPLICATIONS
[506/23]

Time: 3hrs **Max.Marks: 50**

SECTION-I **1X20=20 Marks**

1. Various forms used at front office and filling with relevant data.
2. Telephone Etiquettes.
3. ~~Famous Pilgrim tourist places in India.~~
4. Procedure of Mail-Merge.
5. Preparation of Letters, Envelops through MS-Word.

SECTION-II **1X10=10 Marks**

6. Grooming for Hotel Front Office.
7. Taking reservations through phone.
8. Taking reservations through travel agents, travel companies etc.
9. Explain about Various Word Commands.
10. ~~Preparation of an Excel Sheet.~~

SECTION-III **1X10=10 Marks**

11. ~~Draw the Front office Hierarchy~~
12. Define the terms:- Scanty Baggage, Skipper, Walk-in, Crew and No-show
13. ~~Draw the layout of Lobby~~
14. Draw the guest cycle in Hotel
15. Define – Animation, Slideshow, Rows, Columns and Spreadsheet.

Record **5 marks**

Viva- Voice **5 Marks**

TOURISM & HOSPITALITY MANAGEMENT (T&HM)
FIRST YEAR
MODEL QUESTION PAPER
PAPER III: FRONT OFFICE OPERATIONS AND COMPUTER APPLICATIONS
[506/23]

Time: 3hrs **Max.Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

TOURISM & HOSPITALITY MANAGEMENT (T&HM)
SECOND YEAR
QUESTION BANK
PAPER I: TOURISM PROFILE IN TELANGANA [506/71]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks**

1. Visit report on State Tourism Department
2. Various Tourist Destinations of Telangana State
3. ~~Various Eco-tourism and adventure tourist spots of Telangana~~.
4. Report on tourism related festivals in Telangana.
5. Small survey on tourism facilities in Telangana at various destinations.

SECTION-II **1X10=10 Marks**

6. Objective of T.S.T.D.C.
7. Packages of T.S.T.D.C.
8. ~~Famous tourist destinations in Hyderabad~~
9. Various museums and galleries of Telangana
10. T.S.T.D.C. tourism development activities.

SECTION-III **1X10=10 Marks**

11. ~~T.S.T.D.C. – Expand and Explain.~~
12. ~~Explain briefly about the museums of Hyderabad~~.
13. List out the tourism related festivals and fairs in Telangana.
14. List out Various Eco-streams in Telangana
15. Explain about various Adventure Tourism activities.

Record **5 marks**

Viva- Voice **5 Marks**

TOURISM & HOSPITALITY MANAGEMENT (T&HM)
SECOND YEAR
MODEL QUESTION PAPER
PAPER I: TOURISM PROFILE IN TELANGANA[506/71]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

TOURISM & HOSPITALITY MANAGEMENT (T&HM)
SECOND YEAR
QUESTION BANK
PAPER II: TRAVEL AGENCY AND TOUR OPERATIONS [506/72]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks**

1. Functions of Travel Agency
2. Type of Package Tour.
3. ~~Creation of small tour itinerary and package cost.~~
4. Various package tours of T.S.T.D.C.
5. Procedure of Pass Port issue

SECTION-II **1X10=10 Marks**

6. ~~Structure of Travel Agency~~
7. ~~Type of booking system and reservation preparation of T.S.T.D.C.~~
8. Various railway tour packages
9. Different checking systems in Airport
10. ~~Visit report on R.T.C.~~

SECTION-III **1X10=10 Marks**

11. Reservation process – Railway Station.
12. Tourism packages of R.T.C.
13. Various Airport Codes and City Codes.
14. Various Railway Zones of India.
15. International Airports of India.

Record	**5 marks**
Viva- Voice	**5 Marks**

TOURISM & HOSPITALITY MANAGEMENT (T&HM)
SECOND YEAR
MODEL QUESTION PAPER
PAPER II: TRAVEL AGENCY AND TOUR OPERATIONS [506/72]
Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

TOURISM & HOSPITALITY MANAGEMENT (T&HM)
SECOND YEAR
QUESTION BANK
PAPER III: ACCOMMODATIONS OPERATIONS [506/73]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks**

1. Various forms used in House Keeping
2. Types of Guest Rooms in Hotel.
3. ~~Procedure of Bed making.~~
4. Functions of housekeeping manager
5. Handling of telephone calls in housekeeping department

SECTION-II **1X10=10 Marks**

6. Attributes of housekeeping staff.
7. ~~Handling of guest complaints and role plays.~~
8. Lost and Found procedure.
9. Personal hygiene of hotel housekeeping staff
10. Various keys and their control in housekeeping.

SECTION-III **1X10=10 Marks**

11. ~~Layout of Linen room~~
12. Draw the key control sheet and define the terms Laundry, Linen Room, King Room and Queen Room.
13. Explain about Front office.
14. General structure of housekeeping staff
15. ~~Layout of housekeeping department~~

Record **5 marks**

Viva- Voice **5 Marks**

TOURISM & HOSPITALITY MANAGEMENT (T&HM)
SECOND YEAR
MODEL QUESTION PAPER
PAPER III: ACCOMMODATIONS OPERATIONS [506/73]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

30% DELETED CONTENT (PRACTICALS)

TOURISM AND HOSPITALITY MANAGEMENT

PRACTICAL CODE	SUBJECT NAME	DELETED QUESTION NUMBER FROM THE QUESTION BANK
21	Fundamentals of Tourism and Travel	10,13
22	Hospitality Service	3,5,7,8,12
23	Front Office Operations and Computer Applications	3,10,11,13
71	Tourism Profile in Telangana	3,8,11,12
72	Travel Agency and Tour Operations	3,6,7,10
73	Accommodations Operations	3,7,11,15

VOCATIONAL PRACTICALS QUESTION BANK

(For the Academic Year 2020-21)

PRE-SCHOOL TEACHER TRAINING

(COURSE CODE:410)

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

PRE SCHOOL TEACHER TRAINNING
FIRST YEAR
QUESTION BANK
PAPER I: INTRODUCTION TO CHILD DEVELOPMENT[410/21]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks**

1. Prepare a growth chart by plotting the following weights and write its interpretation.

Age	Weight(Kgs)
Birth	3
6 months	5
12 months	8
18 months	10

2. How do you identify delayed development in children?
3. ~~List out the different types of psychomotor skills of children and draw any two related pictures.~~
4. How do you identify Visual impairment in children and write the services available for blind children
5. What are your observations found in new born baby?

SECTION-II **1X10=10 Marks**

6. What is growth chart and write its uses?
7. What were the social skills observed from 3 months to 2 years old children.
8. ~~How do you assess mental skills in children by using BSID (Bayley Scale of Infant development)~~?
9. How do you identify auditory impairment in children and write the services available for auditory impairment children?
10. What are the observations found in premature baby?

SECTION-III **1X10=10 Marks**

11. How do you educate parents regarding physical development of children by using growth chart?
12. What are the gross motor and fine motor skills observed in children?
13. ~~Prepare any one activity to assess the mental skills of children.~~
14. How do you identify motor impairment in children and write the services available for motor impairment children?
15. How do you take care of feeding equipment and draw feeding equipment used for children?

Record	**5 marks**
Viva- Voice	**5 Marks**

PRE SCHOOL TEACHER TRAINNING
FIRST YEAR
MODEL QUESTION PAPER
PAPER I: INTRODUCTION TO CHILD DEVELOPMENT[410/21]

Time: 3hrs **Max. Marks: 50**

2, 7, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

PRE SCHOOL TEACHER TRAINNING
FIRST YEAR
QUESTION BANK
PAPER II: ORGANIZATION AND MANAGEMENT OF CRÈCHES[410/22]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks**

1. Write an observation report on visit to a Private Crèche.
2. Draw a floor plan for urban crèche.
3. Prepare a list of equipment used in crèche.
4. ~~Plan stimulating activities for physical and motor development of crèche children.~~
5. ~~Write a procedure for any two stimulating activities for fine motor development of crèche children.~~

SECTION-II **1X10=10 Marks**

6. Write an observation report on visit to a Government crèche.
7. Prepare a Budget plan for urban crèche.
8. Draw a model copy of attendance and admission register.
9. Prepare a suitable stimulating aids for speech development in children.
10. ~~Write procedure for any two stimulating activities for gross motor development in children~~

SECTION-III **1X10=10 Marks**

11. Write an observation report on visit to a Mobile crèche
12. Draw a floor plan for rural crèche.
13. Draw a model copy of stock register
14. ~~Prepare stimulation material for any two activities related to cognitive development of crèche children.~~
15. ~~List out the stimulating activities for social development in crèche children~~

Record **5 marks**

Viva- Voice **5 Marks**

30% DELETED CONTENT (PRACTICALS)

TOURISM AND HOSPITALITY MANAGEMENT

PRACTICAL CODE	SUBJECT NAME	DELETED QUESTION NUMBER FROM THE QUESTION BANK
21	Fundamentals of Tourism and Travel	10,13
22	Hospitality Service	3,5,7,8,12
23	Front Office Operations and Computer Applications	3,10,11,13
71	Tourism Profile in Telangana	3,8,11,12
72	Travel Agency and Tour Operations	3,6,7,10
73	Accommodations Operations	3,7,11,15

PRE SCHOOL TEACHER TRAINNING
FIRST YEAR
MODEL QUESTION PAPER
PAPER II: ORGANIZATION AND MANAGEMENT OF CRÈCHES[410/22]
Time: 3hrs **Max. Marks: 50**

1, 8, 12

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

PRE SCHOOL TEACHER TRAINNING
FIRST YEAR
QUESTION BANK
PAPER III: HEALTH AND NUTRITION. [410/23]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks**

1. Plan semi solid foods for the children between 6 months to 1 year and write preparation method of any one recipe.
2. Plan a diet (Menu plan) for an infant between 1 to 2 years.
3. Plan a diet (menu plan) for children suffering from Kwashiorkor disease and write a procedure for any one protein rich recipe.
4. Write a report on crèche child suffering from red sore buttocks.
5. ~~Prepare a chart on balanced diet.~~

SECTION-II **1X10=10 Marks**

6. How do you prepare any two liquid foods between 6 months to 1 year old child?
7. Plan a diet (menu plan) for a child suffering from Marasmus.
8. Plan a diet (menu plan) for a child suffering from vitamin A deficiency.
9. Write a report on a child suffering from Constipation.
10. Prepare a chart on Vitamin C rich foods.

SECTION-III **1X10=10 Marks**

11. Write a procedure for any two solid foods suitable for crèche child.
12. ~~Plan a diet (menu plan) for a child suffering from Iron deficiency.~~
13. Plan a diet (menu plan) for a child suffering from Vitamin B_2 deficiency.
14. Write a report on a child suffering from Diarrhoea.
15. Write a procedure for any nutritious diet and write its importance.

Record	**5 marks**
Viva- Voice	**5 Marks**

PRE SCHOOL TEACHER TRAINNING
FIRST YEAR
MODEL QUESTION PAPER
PAPER III: HEALTH AND NUTRITION[410/23]

Time: 3hrs **Max. Marks: 50**

1, 8, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

PRE SCHOOL TEACHER TRAINNING
SECOND YEAR
QUESTION BANK
PAPER I: EARLY CHILDHOOD CARE AND EDUCATION[410/71]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 MARKS**

1. Plan activities for promoting Gross Motor Development.
2. ~~Plan activities for promoting Cognitive Development~~
3. Prepare a teaching aid for promoting language development
4. Plan any two outdoor play activities for Gross Motor Development
5. Prepare a teaching aid for the development of Colour Concept.

SECTION-II **1X10=10 Marks**

6. Plan activities for promoting fine motor development
7. Plan activities for promoting emotional development in children.
8. Prepare a teaching aid for promoting fine motor development
9. Plan activities for social development.
10. Prepare a teaching aid for the development of shape concept.

SECTION-III **1X10=10 Marks**

11. Prepare a teaching aid for the development of size concept
12. Prepare a teaching aid for the development of number concept
13. Prepare a teaching aid for the development of weight concept
14. Prepare a teaching aid for the development of Time concept
15. Plan activities for the all round development of Children

Record	**5 marks**
Viva- Voice	**5 Marks**

PRE SCHOOL TEACHER TRAINNING
SECOND YEAR
MODEL QUESTION PAPER
PAPER I: EARLY CHILDHOOD CARE AND EDUCATION[410/71]

Time: 3hrs **Max. Marks: 50**

1, 8, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

PRE SCHOOL TEACHER TRAINNING
SECOND YEAR
QUESTION BANK
PAPER II: ORGANIZATION AND MANAGEMENT OF PRE SCHOOLS
[410/72]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 MARKS**

1. Write a report on visit to Montessori School.
2. ~~Plan and prepare daily lesson plan on a selected theme.~~
3. Plan and prepare flash cards for story telling
4. Plan and prepare Rhyme Chart.
5. Write a report on Visit to Lab nursery School

SECTION-II **1X10=10 Marks**

6. Participate in a Given activity Ex:- Rhyme or Story or Creative Activity
7. ~~Plan and prepare a weekly lesson plan on a selected theme~~
8. Plan and prepare a conversation chart for a preschool child (Picture Chart)
9. Prepare a mask for a Pre-School Child and write its uses
10. ~~Write about your experiences during participation in preschool.~~

SECTION-III **1X10=10 Marks**

11. Write a report on visit to Anganwadi
12. List out the themes to be selected to teach preschool Children
13. ~~What are the different types of puppets and prepare any one puppet.~~
14. Prepare Picture Cards for teaching alphabets to nursery children
15. Write about ant festival celebrated in a pre-school

Record **5 marks**

Viva- Voice **5 Marks**

PRE SCHOOL TEACHER TRAINNING
SECOND YEAR
MODEL QUESTION PAPER
PAPER II: ORGANIZATION AND MANAGEMENT OF PRE SCHOOLS
[410/72]

Time: 3hrs **Max. Marks: 50**

1, 8, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

PRE SCHOOL TEACHER TRAINNING
SECOND YEAR
QUESTION BANK
PAPER III: PARENT EDUCATION, NUTRITION AND HEALTH
[410/73]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20**

1. Plan any two parent education programmes on awareness of nutrition
2. Prepare a chart on dental care
3. Organize a parent education programme
4. Write a report on chicken pox observed in a preschool children
5. Write a report on thumb sucking observed in a preschool child

SECTION-II **1X10=10 Marks**

6. How do you arrange a parent teacher meeting?
7. Write any two parent education programmes related to health
8. How do you educate parents regarding typhoid and malaria?
9. ~~Write a report on Whooping cough observed in a child.~~
10. Write a report on bed wetting observed in a preschool child.

SECTION-III **1X10=10 Marks**

11. What are the topics to be selected for educating parents regarding children
12. Write a report on stealing observed in a preschool child
13. Write a report on Tuberculosis (TB) observed in a preschool child
14. ~~Write a report on Temper tantrums observed in a preschool child~~
15. What are the techniques/ methods used to educate parents?

Record **5 marks**

Viva- Voice **5 Marks**

30% DELETED CONTENT (PRACTICALS)
PRE-SCHOOL TEACHER TRAINING

PRACTICAL CODE	SUBJECT NAME	DELETED QUESTION NUMBER FROM THE QUESTION BANK
21	Introduction to Child Development	3,8,13
22	Organization & Management of cruches	4,5,10,14,15
23	Health & Nutrition	5,12
71	Early Childhood Care & Education	2
72	Organization & Management of Preschool	2,7,10,13
73	Parent Education, Nutrition & Health	9,14

VOCATIONAL PRACTICALS QUESTION BANK

(For the Academic Year 2020-21)

COMPUTER GRAPHICS & ANIMATION

(COURSE CODE:508)

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

COMPUTER GRAPHICS & ANIMATION
FIRST YEAR
QUESTION BANK
PAPER I: WINDOWS & MS-OFFICE (508/21)

Time: 3hrs **Max.Marks: 50**

SECTION-I

1X20=20 Marks

1. Write and execute any 10 LINUX commands with syntax and example.
2. Explain and demonstrate the Mail merge procedure in MS-Word with suitable example
3. Write procedure and demonstrate the following functions in MS-Excel with suitable example
   (a) Date and Time Functions
   (b) Mathematical Functions
   (c) Statistical functions
4. Write procedure for creating of slides in power point and set up the slide show with specified slide timing and custom animation.
5. ~~(a)Write the procedure and Demonstrate for creation of a table in MS-Access using the following data items~~

~~EMP NO~~	~~E.NAME~~	~~SALARY~~
~~1001~~	~~Sateesh~~	~~50000~~
~~1002~~	~~Manohar~~	~~80000~~
~~1003~~	~~Khasim~~	~~20000~~
~~1004~~	~~Ramarao~~	~~75000~~

~~(b) Run a report and display Empno, Salary using above data.~~

SECTION-II

1X10=10 Marks

06. Write and demonstrate the following.
   (a) Create a folder named CGA on desktop
   (b) Create a word pad text file, enter the text and save the file in above folder.
   (c) Rename the folder CGA with CSE I Year
   (d) Delete the folder CGA I Year
   (e) Copy the folder CGA I year to D:\

07. Write and demonstrate the following

(a) Open MS-Word, enter two lines of text

(b) Demonstrate the cut, copy, paste and paste special commands

(c) Change the line spacing to 3 points

(d) Demonstrate the use of bullet in Word.

(e) Change the text colour to Blue

~~08. Write the procedure to create and run a MACRO with your own example~~

09. Write and demonstrate any 5 options in Control panel

10.Write the procedure to create and demonstrate a power point presentation using the different design layouts and animate with the text and images.

SECTION-III

1X10=10 Marks

11. Write and demonstrate the following tools in MS-Word.

a)

(b)

(c)

(d)

~~12. Explain and demonstrate format menu options with your own paragraph.~~

13. Write about FIND & REPLACE option

14. Write a short note and shortcut keys for New, Open, Cut, Copy, Paste and save.

15. Write the procedure to create a Student table with column names as Roll number, name, marks in English, gfc, sub1, sub2, sub3 and calculate total, percentage in MS-Excel 2016.

Record	**5 marks**
Viva- Voice	**5 Marks**

COMPUTER GRAPHICS & ANIMATION
FIRST YEAR
MODEL QUESTION PAPER
PAPER I: WINDOWS & MS-OFFICE (508/21)

Time: 3hrs **MaxMarks: 50**

[04,08,14]

Record	**5 Marks**
Viva	**5 Marks**

Note: The serial numbers of the questions mentioned above are the serial number in question bank.In practical examination the serial number of the questions only will be given for 40 marks. The examiner shall decode it with the question bank and give the questions.

COMPUTER GRAPHICS & ANIMATION
FIRST YEAR
QUESTION BANK
PAPER II: PROGRAMMING IN C (508/22)

Time: 3hrs **Max.Marks: 50**

SECTION-I

1X20=20 Marks

1. (a)Write an Algorithm and draw the flow chart to find Largest of three given numbers
   (b) Write a c program to print the biggest of three number.
2. Write a C program to Calculate of Factorial to given number using Recursion
3. Write a C program for Addition of two dimensional matrices.
4. Write a C program to create a single dimensional array of numbers and display the contents and arrange this single dimensional array of numbers into descending order.
5. ~~Write a C program for Multiplication of Two matrices~~

SECTION-II

1X10=10 Marks

6. Write a C program to Generate a multiplication Table of given number and given limit using for loop
7. Write a C program to generate Fibonacci series using Recursion for given limit.
8. Write a C program for the following
   (a) Calculate simple and compound interest.
   (b) Convert temperature in Celsius to Fahrenheit
9. ~~Write a C program to~~
   ~~(a) Write a C program to find whether given number is Prime number or not~~
   ~~(b). Write a function and call a function to perform add, subtract and multiply two numbers.~~
10. write a C program to check given year is Leap year or not

SECTION-III

1X10=10 Marks

11. Write the structure of C program.
12. Write about SWICH statement with syntax
13. ~~Write a C program to perform string handling functions~~
14. ~~What are the File operations in C~~
15. What is structure and Union? Write its syntax with example.

Record	**5 marks**
Viva- Voice	**5 Marks**

COMPUTER GRAPHICS & ANIMATION
FIRST YEAR
MODEL QUESTION PAPER
PAPER II: PROGRAMMING IN C (508/22)

Time: 3hrs **Max.Marks: 50**

[5, 7, 11]

Record	**5 Marks**
Viva	**5 Marks**

Note: The serial numbers of the questions mentioned above are the serial number in question bank.In practical examination the serial number of the questions only will be given for 40 marks. The examiner shall decode it with the question bank and give the questions.

COMPUTER GRAPHICS & ANIMATION
FIRST YEAR
QUESTION BANK
PAPER III: ENGINEERING DRAWING(508/23)

Time: 3hrs **Max.Marks: 50**

SECTION-I

1X20=20 Marks

1. Draw the front view , top view and side view of the given object in third angle projection
2. Draw the front view , top view and side view of the given object in third angle projection
3. ~~Construction of ellipse by concentric circles method~~.
4. A line PQ , 90mm long is in the H.P and makes an angle of 30 degrees with V.P it's end point P is 25mm in front of the V.P its projections.
5. ~~A square ABCD of 50 mm has its corner A in the H.P, it's diagonal AC inclined at 30 degrees to H.P and the diagonal BD inclined at 45degrees to V.P and parallel to H.P . Draw its projections.~~

SECTION-II

1X10=10 Marks

6. Write the following letters in single stroke vertical capital letters of 10mm size "VOCATIONAL EDUCATION"
7. Write the following letters in single stroke vertical capital letters of 10mm size "TELANGANA STATE "
8. Bisect the straight line of size 100mm
9. Trisect the angle of 90 degrees
10. ~~Construct the regular Hexagon with side 30 mm~~

SECTION-III

1X10=10 Marks

11. To divide a given straight line into any number of equal parts
12. ~~Bisect the angle of 75degrees~~
13. Draw the isometric view of the cylinder
14. To draw a tangent to a given circle at point on it.
15. ~~Draw the isometric view of cone~~.

Record	**5 marks**
Viva- Voice	**5 Marks**

COMPUTER GRAPHICS & ANIMATION
FIRST YEAR
MODEL QUESTION PAPER
PAPER III: ENGINEERING DRAWING (508/23)

Time: 3hrs **Max.Marks: 50**

[02,08,14]

Record	**5 Marks**
Viva	**5 Marks**

Note: The serial numbers of the questions mentioned above are the serial number in question bank.In practical examination the serial number of the questions only will be given for 40 marks. The examiner shall decode it with the question bank and give the questions.

COMPUTER GRAPHICS & ANIMATION
SECOND YEAR
QUESTION BANK
PAPER I: GRAPHIC DESIGN (508/71)

Time: 3hrs **Max.Marks: 50**

SECTION-I

1X20=20 Marks

1. How to Handling the digital camera
2. Create a tri-fold brochure in Adobe indesign
3. ~~Create a Logo using Adobe Illustrator~~
4. Create a Business/Visiting card using Adobe Illustrator
5. Create a landing page for a website using Adobe Photoshop

SECTION-II

1X10=10 Marks

6. Write and demonstrate any 05 tools in Photoshop
7. Write and demonstrate any 05 tools in Adobe In design
8. Write and demonstrate any 05 tools in Adobe Illustrator
9. Create a simple logo using Adobe Photoshop
10. ~~Create Clip masking in Photoshop~~

SECTION-III

1X10=10 Marks

11. ~~Working with various blending options in Adobe Photoshop~~
12. How to work with Crop tool and slice tool explain the difference.
13. Write and demonstrate various types of selection tools in Photoshop
14. ~~Write and demonstrate various locking options in Photoshop~~
15. How to work with clone stamp tool in Photoshop

Record	**5 marks**
Viva- Voice	**5 Marks**

COMPUTER GRAPHICS & ANIMATION
FIRST YEAR
MODEL QUESTION PAPER
PAPER I: GRAPHIC DESIGN (508/71)

Time: 3hrs **Max.Marks: 50**

[04,09,14]

Record	**5 Marks**
Viva	**5 Marks**

Note: The serial numbers of the questions mentioned above are the serial number in question bank.In practical examination the serial number of the questions only will be given for 40 marks. The examiner shall decode it with the question bank and give the questions.

COMPUTER GRAPHICS & ANIMATION
SECOND YEAR
QUESTION BANK
PAPER II: 3D ANIMATION (508/72)

Time: 3hrs **Max.Marks: 50**

SECTION-I

1X20=20 Marks

1. How to setup/install Autodesk Maya in your PC. What are the Hardware requirements of Autodesk Maya.
2. Model a cartoon character using polygon surface
3. ~~Setup Interior lighting for the living room set~~
4. Write about IK & FK and animate any character using IK & FK
5. ~~Animate any character using Autodesk Maya~~

SECTION-II

1X10=10 Marks

6. Create a key frame animation in Maya
7. How to create 3D text in Autodesk Maya
8. Create fire effect using Autodesk Maya
9. Setup 3 point lighting for the cartoon character
10. ~~Create smoke effect in Autodesk Maya~~

SECTION-III

1X10=10 Marks

11. Write and demonstrate various tools in Autodesk Maya
12. How to open a new and existing document in Maya and write about Maya file types
13. ~~Create an automatic character rig for a mesh.~~
14. How to render AVI file in Maya (Play blast)
15. What are animation principles

Record	**5 marks**
Viva- Voice	**5 Marks**

COMPUTER GRAPHICS & ANIMATION
FIRST YEAR
MODEL QUESTION PAPER
PAPER II: 3D ANIMATION (508/72)

Time: 3hrs **Max.Marks: 50**

[02,10,14]

Record	**5 Marks**
Viva	**5 Marks**

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination the serial number of the questions only will be given for 40 marks. The examiner shall decode it with the question bank and give the questions.

COMPUTER GRAPHICS & ANIMATION
SECOND YEAR
QUESTION BANK
PAPER III: INTERNET TECHNOLOGIES (508/73)

Time: 3hrs **Max.Marks: 50**

SECTION-I

1X20=20 Marks

1. Write and demonstrate the procedure to compose, send and receive an email with attachments.
2. Create a Feedback form using Form tags in HTML
3. Write and demonstrate Inline, Internal, External Style sheets
4. Write and demonstrate HTML code for creating lists
    a. Ordered List
    b. Unordered List
    c. Definition list
5. ~~Create a full-fledged personal website structure using frame tags~~

SECTION-II

1X10=10 Marks

6. Create a HTML table structure for student's time table
7. Create a rich media content page using audio and video
8. Create a multiple web page structure using hyperlinks
9. ~~Create a program using colspan and rowspan~~
10. Create a Monthly calendar using basic HTML tags

SECTION-III

1X10=10 Marks

11. Create a HTML program on Nested table
12. Create a CSS page using text-decoration properties
13. Create a html table structure for students lists with their marks
14. ~~Create a HTML program on CSS background properties~~
15. ~~Create a HTML Program on CSS Links~~

Record	**5 marks**
Viva- Voice	**5 Marks**

COMPUTER GRAPHICS & ANIMATION
SECOND YEAR
MODEL QUESTION PAPER
Paper III: INTERNET TECHNOLOGIES (508/73)

Time: 3hrs **Max.Marks: 50**

[03, 09, 13]

Record	**5 Marks**
Viva	**5 Marks**

Note: The serial numbers of the questions mentioned above are the serial number in question bank.In practical examination the serial number of the questions only will be given for 40 marks. The examiner shall decode it with the question bank and give the questions.

VOCATIONAL PRACTICALS QUESTION BANK

(For the Academic Year 2020-21)

MEDICAL LAB TECHNICIAN

(COURSE CODE:617)

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

MEDICAL LAB TECHNICIAN

FIRST YEAR

QUESTION BANK

Paper I: Biochemistry-I(617/21)

Time: 3hrs **Max.Marks: 50**

SECTION-I

1X20=20 Marks

1. Collect the Venous Blood and write the procedure.
2. Qualitative identification of sugar in the given sample of urine.
3. Qualitative identification of proteins in the given sample of urine by heat coagulation Method.
4. Quantitative determination of sugar in the given sample of blood.
5. a) Separation of serum from clotted blood.
   b) Separation of plasma from anticoagulated blood.

SECTION-II

1X10=10 Marks

6. Collection of Capillary Blood
7. Draw the diagram of photo electric colorimeter. Write the principle, operation and maintenance.
8. Qualitative Identification of proteins in given urine sample by Sulfo salicylic acid method.
9. Prepare 250 ml of 0.9% Nacl solution. Show the preparation. Write the procedure.
10. Write the Proforma of Lab order form and lab register.

SECTION-III

1x10=10 Marks

11. (a) Burette and Pipette

    (b) Electric Centrifuge

12. (a) Conical Flask and Syringe

    (b) Simple Balance

13.(a) Beaker and Lancet

    (b) Photo Electric colorimeter

14. (a) Flat bottom Flask and Glass Rod

    (b) R.B.C Pipette

15.(a)Separating Funnel

    (b)W.B.C Pipette

Record	**5 marks**
Viva- Voice	**5 Marks**

MEDICAL LAB TECHNICIAN
FIRST YEAR
MODEL QUESTION PAPER
Paper I: Biochemistry-I(617/21)

Time: 3hrs **Max.Marks: 50**

[2, 6, 12]

Record	**5 marks**
Viva- Voice	**5 Marks**

Note: The serial numbers of the questions mentioned above are the serial number in question bank.In practical examination only the serial number of the question only will be given 40 marks. The examiner shall decode it with the question bank and give the questions.

MEDICAL LAB TECHNICIAN

FIRST YEAR

QUESTION BANK

Paper II: Microbiology And Pathology(617/22)

Time: 3hrs **Max.Marks: 50**

SECTION-I

1X20=20 Marks

1. Estimate the Hb % in the given blood sample by Sahli's method. Produce the result.
2. Perform Gram Staining for given sample
3. Perform Acid Fast Bacilli (AFB) staining for the given Sputum sample
4. Count the total RBC in the given sample, show the result and write the procedure.
5. Estimate the ESR in the given sample, show the result and write the procedure.

SECTION-II

1X10=10 Marks

6. ~~Prepare Mac Conkey's agar media. Show the preparation. Write the Procedure~~.
7. Identify the Bile salts in the given urine sample, Write the Procedure.
8. Prepare blood agar medium Show the preparation. Write the Procedure.
9. Perform physical examination of Urine
10. Perform simple staining for the given sample.

SECTION-III

1X10=10 Marks

11.(a) Microscope

(b) R.B.C Pipette

12.(a) Haemoglobino meter

(b) Hot air oven(HAO)

13.(a) Incubator

(b)ESR Stand

14.(a)Autoclave

(b) Neubaur's Chamber

15. (a) Nutrient Agar Medium

(a) W.B.C Pipette

Record	**5 marks**
Viva- Voice	**5 Marks**

MEDICAL LAB TECHNICIAN
FIRST YEAR
MODEL QUESTION PAPER
Paper II: Microbiology and Pathology (617/22)

Time: 3hrs **Max.Marks: 50**

[3, 7, 11]

Record	**5 marks**
Viva- Voice	**5 Marks**

Note: The serial numbers of the questions mentioned above are the serial number in question bank.In practical examination only the serial number of the question only will be given 40 marks. The examiner shall decode it with the question bank and give the questions.

MEDICAL LAB TECHNICIAN

FIRST YEAR

QUESTION BANK

Paper III:Anatomy & Physiology (617/23)

Time: 3hrs **Max.Marks: 50**

SECTION-I

1X20=20 Marks

1.Count the total RBC in the given blood sample using neubauer'scounting chamber, show the result. write the Procedure.

2. Determine the Differential Leucocyte Count(DLC) from the given blood sample.

- ~~3. Draw neat diagrams of Skull and Humerus with labelling~~

4. Determine T.P.R of your friend

5. POP model of Brain

SECTION-II

1X10=10 Marks

6.Determine blood pressure of your friend

7. POP model of Kidney

8. Femur bone

9.POP model of Heart

- ~~10 Epithelial tissue & connective tissue slides~~

SECTION-III

1X10=10 Marks

11.(a)Stethoscope

(b) Femur Bone

12. (a) Sphygmomanometer

(b) Clavicle

13. (a)Thermometer

(b)Skin

14.(a) POP of Liver

(b)Nervous Tissue

15. (a)Pancreas

(b) POP of Lungs

Record	**5 marks**
Viva- Voice	**5 Marks**

30% DELETED CONTENT (PRACTICALS)
COMPUTER GRAPHICS & ANIMATION

PRACTICAL CODE	SUBJECT NAME	DELETED QUESTION NUMBER FROM THE QUESTION BANK
21	Windows & MS Office	5a,5b,8,12
22	Programming in "C"	5,9a,9b,13,14
23	Engg Drawing	3,5,10,12,15
71	Graphic Design	3,10,11,14
72	3D Animation	3,5,10,13
73	Internet Technologies	5,9,14,15

MEDICAL LAB TECHNICIAN

FIRST YEAR
MODEL QUESTION PAPER
Paper III:Anatomy &Physiology(617/23)
Time: 3hrs **Max.Marks: 50**

[4, 7, 13]

Record	**5 marks**
Viva- Voice	**5 Marks**

Note: The serial numbers of the questions mentioned above are the serial number in question bank.In practical examination only the serial number of the question only will be given 40 marks. The examiner shall decode it with the question bank and give the questions.

MEDICAL LAB TECHNICIAN

SECOND YEAR

QUESTION BANK

Paper I: Biochemistry-II (617/71)

Time: 3hrs **Max.Marks: 50**

SECTION-I

1X20=20 Marks

1.Estimate the serum sodium in the given sample using Flame Photometer. Produce the result and write the procedure.

2. Determine the serum bilirubin in the given sample show the result and write the procedure.

~~3.Estimate the concentration of blood urea in the given sample by DAM-TSC method. Show the result and write the procedure.~~

4.Separation of serum Amino Acids by Paper chromatography.

5.Estimation of HDL Cholesterol in the given sample of serum

SECTION-II

1X10=10 Marks

6. Estimation of serum calcium in the given blood sample
7. Qualitative identification of urine sugar by Benedict's method.
8. ~~Separation of serum protein by using Paper electrophoresis.~~
9. ~~Determination of SGPT in the given serum sample.~~
10. Qualitative identification of urine proteins by heat coagulation Method

SECTION-III

1X10=10 Marks

11.(a) Photoelectric colorimeter

(b) Disposable syringe and Water bath

12.(a) Centrifuge

(b) Burette and pipette

13. (a) Paper Chromatography

(b)Conical Flask andCuvette

14. (a) Computer

(b)Measuring cylinder andReagent Bottle

15. (a) Lancet and Surgical cotton

(b) Beaker and Centrifuge Tube

Record	**5 marks**
Viva- Voice	**5 Marks**

MEDICAL LAB TECHNICIAN
SECOND YEAR
MODEL QUESTION PAPER
Paper I: Biochemistry-II(617/71)

Time: 3hrs **Max.Marks: 50**

[1, 8, 14]

Record	**5 marks**
Viva- Voice	**5 Marks**

Note: The serial numbers of the questions mentioned above are the serial number in question bank.In practical examination only the serial number of the question will be given. The examiner shall decode it with the question bank and give the questions.

MEDICAL LAB TECHNICIAN

SECOND YEAR

QUESTION BANK

Paper II: Microbiology-II(617/72)

Time: 3hrs **Max.Marks: 50**

SECTION-I

1X20=20 Marks

1. Perform WIDAL test for the given blood sample
2. ~~Identify the HIV by ELISA technique~~
3. Incubation of fertile eggs and inoculation by various routes
4. Perform Antibiotic Sensitivity Test with the given sample
5. Perform Acid Fast Bacilli Staining (AFB) for the given sputum sample.

SECTION-II

1X10=10 Marks

6. Perform VDRL with the given sample
7. Methods of collection of Clinical Specimens.
8. Fungal examination by KOH Preparation.
9. Identify the Ova and Cysts by wet Preparation.
10. ~~Procedure of Skin clipping for the identification of Leprae bacilli.~~

SECTION-III

1X10=10 Marks

11.(a) Blood Agar Media

(b)Autoclave

12. (a) Hot air oven(HAO)

(b) WIDAL kit

~~13. (a) Micro Scope~~

~~(b)Rabies virus~~

14. (a) Staphylococus

(b)VDRL kit

15. (a) IMViC Test

(b)Incubator

Record	**5 marks**
Viva- Voice	**5 Marks**

MEDICAL LAB TECHNICIAN
SECOND YEAR
MODEL QUESTION PAPER
Paper II: Microbiology-II(617/72)

Time: 3hrs **Max.Marks: 50**

[3, 6,12]

Record	**5 marks**
Viva- Voice	**5 Marks**

Note: The serial numbers of the questions mentioned above are the serial number in question bank.In practical examination only the serial number of the question will be given. The examiner shall decode it with the question bank and give the questions.

MEDICAL LAB TECHNICIAN

SECOND YEAR

QUESTION BANK

Paper III: Pathology –II (617/73)

Time: 3hrs **Max.Marks: 50**

SECTION-I

1X20=20 Marks

1.Find out the blood group in the given sample, show the result. write the procedure

2. Identify the Sickle cells in the given sample

3. Find out the Bleeding time in your own blood. show the result. write the procedure

4. Describe the steps in sharpening of microtome knives

5. Steps performed in tissue processing.

SECTION-II

1X10=10 Marks

6.Find out the clotting time in your own blood show the result. write the procedure.

~~7. Perform Coomb's Test in the given sample. write the procedure.~~

~~8. Prepare the special stain PAS.~~

9. Perform cross matching in the given sample. write the procedure.

10. Prepare buffy coat with the given sample. write the procedure.

SECTION-III

1X10=10 Marks

~~11.(a)Automatic tissue processor~~

~~(b) L.E.Cell~~

12.(a)Coulter counter

(b) Platelets

13. (a)Centrifuge

(b)Microtome

14.(a)Leishman stain

(b)Microtome knives

15.(a) Test Tube and Coverslip

(b) Petri dish and Watch glass

Record	**5 marks**
Viva- Voice	**5 Marks**

MEDICAL LAB TECHNICIAN
SECOND YEAR
MODEL QUESTION PAPER

Paper III: Pathology- II (617/73)

Time: 3hrs **Max.Marks: 50**

[1, 8, 12]

Record	**5 marks**
Viva- Voice	**5 Marks**

Note: The serial numbers of the questions mentioned above are the serial number in question bank.In practical examination only the serial number of the question will be given. The examiner shall decode it with the question bank and give the questions.

VOCATIONAL PRACTICALS QUESTION BANK

(For the Academic Year 2020-21)

PHYSIOTHERAPHY

(COURSE CODE:618)

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

PHYSIOTHERAPY
FIRST YEAR
QUESTION BANK
PAPER I: ANATOMY & PHYSIOLOGY[618/21]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks.**

1. Draw a neat diagram of digestive system & discuss about its parts.
2. Draw a neat diagram of heart & discuss about circulation of heart.
3. Draw a neat diagram of respiratory system & discuss about mechanism of respiration
4. Draw a labelled diagram of skin & discuss about its functions.
5. Draw a neat diagram of excretory system & mention its parts.

SECTION-II **1X10=10 Marks**

6. Identify the joint (Ball & socket or hinge joint) & Perform the movements occurring in it.
7. Identify the bones kept is place, different types of bones (long, short, irregular, flat bones) & tell the examples of it.
8. Discuss the cranial nerves with functions in order.
9. Identify the muscle marked (quadriceps, hamstrings, deltoid, biceps, triceps) & show the origin, insertion, name the nerve supply & perform the action of any one of the muscle.
10. Record the vital signs of the model given to you.

SECTION-III **1X10=10 Marks**

11. BP Apparatus, Thermometer, Stethoscope Microscope, Knee hammer
12. Vertebrae, Skull Patella, Humerus, Femur
13. Liver, Cauda equina, Cerebellum, Neuron, Pancreas
14. Sterno Clavicular Joint, Synovial Joint, Knee Joint, Tarsal Joint, Wrist Joint
15. Pulse rate, Respiratory rate, Temperature, B.P, Heart sounds

Record	**5 marks**
Viva- Voice	**5 Marks**

PHYSIOTHERAPY
MODEL QUESTION PAPER

PAPER I: ANATOMY & PHYSIOLOGY[618/21]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

PHYSIOTHERAPY

FIRST YEAR
QUESTION BANK
PAPER II: PSYCHOLOGY & ABNORMAL PSYCHOLOGY [618/22]

Time: 3hrs **Max.Marks: 50**

SECTION-I **1X20=20 Marks.**

1. Evaluate Intelligence of the given child
2. Discuss about Evaluation of Psychiatric Patients (abnormal behaviour)
3. Treat the geriatric patient
4. Discuss the treatment of patients with alcoholism
5. ~~Take the personality assessment of the patient given to you~~

SECTION-II **1X10=10 Marks**

6. ~~Demonstrate treating of different psychiatric conditions~~
7. Demonstrate the classical conditioning
8. Give counselling to the client to overcome conflicts
9. Help the patient given to you in overcoming menopausal syndrome
10. Discuss about the psychological changes in childhood

SECTION-III **1X10=10 Marks**

11. ~~Block Building test, Pencil & Paper tests, Human Figure test, Intelligent Quotient~~
12. Verbal learning, motor learning, concept learning and serial learning
13. Stand ford binett scale, Wechsler's Memory Scale, Intelligent Test
14. Types of Thinking, Tools of thinking, Introvert, Extrovert
15. Cognitive Behavioural Therapy and its phases.

PHYSIOTHERAPY
MODEL QUESTION PAPER

PAPER II: PSYCHOLOGY & ABNORMAL PSYCHOLOGY [618/22]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

PHYSIOTHERAPY
FIRST YEAR
QUESTION BANK
PAPER III: BIOMECHANICS & EXERCISE THERAPY [618/23]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks.**

1. Perform passive movements (Either UL/LL) on the model following the Principles
2. Demonstrate the active movements to the model given to you
3. Teach various Relaxation Techniques to the model given to you
4. Perform Back massage
5. Teach freckles exercises to the patient with In co-ordination

SECTION-II **1X10=10 Marks**

6. ~~Show the shoulder mobilization on the model given to you~~
7. Demonstrate breathing Exercises
8. ~~Place the Patient for postural drainage who has accumulation of secretion in lower lobe~~
9. ~~Take the Range of motion of Right knee Joint on the patient/model given to you~~
10. Give the Gait training to the patient who has abnormal gait

SECTION-III **1X10=10 Marks**

11. Stationary Bicycle , Suspension Bed, Quadriceps table, Wheel Chair
12. Finger ladder, Parallel bar, Crutches, Shoulder wheel
13. Swiss ball, Pulleys, Springs, Equilibrium Board
14. ~~Diaphragmatic Breathing, Pursed lip Breathing, Postural drainage, Goniometry~~
15. Kneading, Petrissage, Percussion, Vibratory Manipulations

Record **5 marks**

Viva- Voice **5 Marks**

PHYSIOTHERAPY
MODEL QUESTION PAPER

PAPER III: BIOMECHANICS & EXERCISE THERAPY [618/23]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

PHYSIOTHERAPY
SECOND YEAR
QUESTION BANK
PAPER I: MEDICAL & SURGICAL CONDITION[618/71]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks.**

1. Discuss the case history of medical conditions
2. Discuss the PT Management of Burns
3. Give the Pre & Post-operative management to the patient who has undergoing Respiratory surgery
4. ~~Place the patient for postural drainage who is suffering from Bronchiectasis~~
5. Discuss the PT management of Myocardial Infarction Patient

SECTION-II **1X10=10 Marks**

6. Demonstrate breathing exercises
7. Discuss briefly about Incisions & Anaesthesia
8. Discuss briefly about Septic Arthritis
9. Discuss about Angina pectoris
10. Teach various physiotherapy Techniques to the Cerebral palsy patient

SECTION-III **1X10=10 Marks**

11. ~~ASD, VSD, TOF, PDA, IHD~~
12. ~~Acne Vulgaris, Alopecia, Psoriasis, Eczema, Dermatitis~~
13. Wheezing, haemoptysis, Cyanosis, Clubbing, Dyspnoea
14. ~~AIDS, Syphilis, Gonorrhoea, Leprosy, Gangrene~~
15. Transverse Incision, Inguinal Incision, Rule of 9, Rickets, Scurvy

Record	**5 marks**
Viva- Voice	**5 Marks**

PHYSIOTHERAPY
MODEL QUESTION PAPER

PAPER I: MEDICAL & SURGICAL CONDITION[618/71]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

30% DELETED CONTENT (PRACTICALS)
MEDICAL LAB TECHNICIAN

PRACTICAL CODE	SUBJECT NAME	DELETED QUESTION NUMBER FROM THE QUESTION BANK
21	Biochemistry-I	Nil
22	Microbiology & Pathology	6
23	Anatomy & Physiology	3,10
71	Biochemistry-Ii	03,08,09
72	Microbiology & Pathology	02,10,13
73	Pathology	07,08,11

PHYSIOTHERAPY
SECOND YEAR
QUESTION BANK
PAPER II: ORTHOPAEDICS & NEUROLOGY [618/72]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks.**

1. Take the case history of this patient who has orthopaedic problem
2. Perform passive movements on the hemiplegic patient following the principles
3. ~~Discuss the PT Management of fractures~~
4. Demonstrate the movements to the Rheumatoid arthritis patient
5. Show the shoulder mobilization to the per arthritis shoulder patient

SECTION-II **1X10=10 Marks**

6. Treat this patient of parkinsonism
7. Take the assessment of this patient with neurological problem
8. Evaluate the type Peripheral Nerve Injury & discuss the treatment
9. Teach the freckle's exercises to the patient with Ataxia
10. Treat the patient of coma given to you

SECTION-III **1X10=10 Marks**

11. ~~Galezzi Fracture, Colles Fracture, Monteggial Fracture, Trigger Finger, Bennetts Fracture~~
12. Paraplegia, Hemiplegia, Quadriplegia, Monoplegia, Bellspalsy
13. Orthosis, Prosthesis, Amputation Symes Prosthesis , Knee orthosis
14. ~~Parkinsonism, Polio, GBS, Spinabifida, Multiple Sclerosis~~
15. Scoliosis, Kyphosis, RA, OA, Ataxia

Record	**5 marks**
Viva- Voice	**5 Marks**

PHYSIOTHERAPY
MODEL QUESTION PAPER

PAPER II: ORTHOPAEDICS & NEUROLOGY [618/72]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

PHYSIOTHERAPY

SECOND YEAR
QUESTION BANK

PAPER III: ELECTROTHERAPY [618/73]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks.**

1. Use Ultra Sound on the following Patient to treat Tennis elbow
2. Show the method of applications of SWD for an OA Knee on the model provided
3. Demonstrate the treatment for flat foot using faradic current
4. Demonstrate about phono phoresis
5. Patient with wrist drop take the SD curve of any one wrist extensors

SECTION-II **1X10=10 Marks**

6. ~~Use Ultra violet rays on the patient to treat psoriasis~~
7. Treat the patient of deltoid inhibition given to you
8. Show the method of application of IFT for periarthritic patient
9. Demonstrate the precautions of Electric shock
10. Show the Cryotherapy Techniques on the model provided

SECTION-III **1X10=10 Marks**

11. Treatment tray, Disc Electrodes, Pad Electrodes, leads, Pen Electrodes
12. Ice Packs, Waxbath, IRR , TENS, Hot packs
13. ~~Coupling media Transducer head, Phonophoresis, Iontophoresis, Rheobase~~
14. ~~Application of IFT, Beat Frequency, LASER, Magnetron, Stimulator~~
15. ~~Positioning of Electrodes in SWD, Testdose in UVR, Methods of UST, Parts of UST, SD Curve~~

Record **5 marks**

Viva- Voice **5 Marks**

PHYSIOTHERAPY
MODEL QUESTION PAPER

PAPER III: ELECTROTHERAPY [618/73]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

30% DELETED CONTENT (PRACTICALS) PHYSIOTHERAPHY

PRACTICAL CODE	SUBJECT NAME	DELETED QUESTION NUMBER FROM THE QUESTION BANK
21	Anatomy and Physiology	Nil
22	Psychology and alonorma psychology	5,6,9
23	Biomechanics and Exercise Therapy	6,8,9,14
71	Medical & Surgical Conditions	4,11,12,14
72	Orthopaedics & neurology	3,11,14
73	Electrotherapy	6,13,14,15

VOCATIONAL PRACTICALS QUESTION BANK

(For the Academic Year 2020-21)

MULTIPURPOSE HEALTH WORKER

(COURSE CODE: 619)

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

MULTIPURPOSE HEALTH WORKER (FEMALE)

FIRST YEAR

QUESTION BANK

Paper I: Community Health Nursing [619/21]

Time: 3hrs **Max.Marks: 50**

SECTION-I

1X20=20 Marks

1. Explain the principles, Planning and importance of Home visiting?
2. Explain the Procedure of bag technique and list out the articles of community health bag?
3. List out the types of Vaccines, and explain the storage and process of cold chain system?
4. Explain the Immunization schedule and write the methods of administering Vaccines?
5. Explain in detail about the health Assessment and Physical Examination?

SECTION-II

1X10=10 Marks

6. ~~Explain the structure and functions of Panchayat Raj and write the role of Panchayat Raj in promoting the health of community?~~
7. Explain the principles uses of Health Education and A.V. Aids?
8. List out the different types of Records and Reports in the community Health centre?
9. Write the preparation of ORS at home and explain the uses of ORS?
10. Explain briefly about the Role and Responsibility of Female health worker in Community?

SECTION-III

1X10=10 Marks

11. Community Health bag, Flash cards, B.P Apparatus/ Sphygmomanometer, Thermometer
12. Stethoscope, Glucometer, Hot water bag, Ice cap
13. ~~Vaccine Carrier, Insuline syringe, Adipose syringe, 5ml syringe~~
14. Hydrogen peroxide, Spirit, Dettol, Benedict solution
15. Gloves, mask, cap, apron

Record	**5 marks**
Viva- Voice	**5 Marks**

MULTIPURPOSE HEALTH WORKER (FEMALE)
FIRST YEAR

MODEL QUESTION PAPER

Paper I: Community Health Nursing[619/21]

Time: 3hrs **Max.Marks: 50**

3, 8, 15

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given and for forty (40) marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

MULTIPURPOSE HEALTH WORKER (FEMALE)

FIRST YEAR

QUESTION BANK

Paper II: Health Promotion[619/22]

Time: 3hrs **Max.Marks: 50**

SECTION-I

1X20=20 Marks

1. List down the Nutritional Health problems and Explain briefly about PEM.
2. ~~Prepare a Menu plan for Infant and Adult.~~
3. Explain the classification of Vitamins and write the sources and functions of Fat Soluble Vitamins.
4. Explain the principles and methods of Cooking.
5. Explain about the Food Adulteration and Food Hygiene and Write briefly about local food.

SECTION-II

1X10=10 Marks

6. Explain the Mid-day Meal programme and write the nutrition supplementation of under five children.
7. ~~Draw the structure of Heart and explain its functions~~.
8. Prepare a Menu plan for women with Anaemia.
9. Explain the promotion of Kitchen garden and Explain the methods of Food Storage.
10. Draw the structure of Kidney and explain its functions.

SECTION-III

1X10=10 Marks

11. Orange, Papaya, Apple, Banana
12. Carrot, Radish, Cucumber, Potato
13. Almonds, Anjeer figs, Groundnuts, Dry Dates
14. Green Leafy Vegetables, Brinjal, Lady Finger, Tomato
15. ~~Pressure cooker, Hot box, Pulses, Wheat~~

Record	**5 marks**
Viva- Voice	**5 Marks**

MULTIPURPOSE HEALTH WORKER (FEMALE)
FIRST YEAR

MODEL QUESTION PAPER

Paper II: Health Promotion[619/22]

Time: 3hrs **Max.Marks: 50**

4, 9, 13

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given and for forty (40) marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

MULTIPURPOSE HEALTH WORKER (FEMALE)

FIRST YEAR

QUESTION BANK

Paper III: Primary Health Care Nursing [619/23]

Time: 3hrs **Max.Marks: 50**

SECTION-I

1X20=20 Marks

1. List down the types of Bed Making and explain the procedure of un-occupied Bed.
2. Explain the procedure of Vital Signs.
3. Explain the different routes of Drug Administration and briefly explain the procedure of Intra-Muscular injection.
4. ~~Explain briefly about the different types of Positions and write about the Exercises.~~
5. Explain the principles, uses and types of Bandages.

SECTION-II

1X10=10 Marks

6. Explain briefly about the Hand washing procedure.
7. Explain the care of patient with pressure points (Bed sores).
8. What are the types of wounds and briefly explain about wound care?
9. ~~Explain the principles and methods of specimen collection.~~
10. Explain the principles of First-Aid and list down the articles of First-Aid Kit.

SECTION-III

1X10=10 Marks

11. Thermometer, Glucometer, B.P Apparatus, Weighing machine
12. Blunt Scissors, Sponge holding forceps, Straight Scissor, Artery forceps
13. Mackintosh sheet, Crape bandage, Kidney tray, Ambubag,
14. Ryles tube, Enima can, Ice cap, Bed pan
15. ~~Catheter, Connecting tubes, Oxygen mask, First aid kit,~~

Record	**5 marks**
Viva- Voice	**5 Marks**

MULTIPURPOSE HEALTH WORKER (FEMALE)
FIRST YEAR

MODEL QUESTION PAPER

Paper III: Primary Health Care Nursing[619/23]

Time: 3hrs **Max.Marks: 50**

1, 7, 15

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given and for forty (40) marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

MULTIPURPOSE HEALTH WORKER (FEMALE)

SECOND YEAR

QUESTION BANK

Paper I: Midwifery[619/71]

Time: 3hrs **Max.Marks: 50**

SECTION-I

1X20=20 Marks

1. Explain briefly about the Antenatal examination.
2. Explain the importance of Nutrition in Pregnancy and prepare a menu plan for pregnant woman.
3. Write briefly about the Pre and Post-operative care of mother with Caesarean Section.
4. ~~Explain in detail about the stages and Mechanism of Labour.~~
5. Explain about the Temporary & Permanent methods of Family Planning with suitable examples.

SECTION-II

1X10=10 Marks

6. ~~Explain briefly about the Causes, Types and Nursing Management of Abortion.~~
7. Explain briefly about Phases of Menstrual Cycle.
8. Explain in detail about the Physiological Changes during Pregnancy.
9. List down the Minor Ailments during Pregnancy and write their management.
10. Explain briefly about the types and functions of Placenta.

SECTION-III

1X10=10 Marks

11. Stethoscope, B.P Operator, Weight machine, Fetoscope
12. ~~Dilators, Midwifery forces, Utrine sound, Abdominal retractor~~
13. Speculum, Midwifery kit, Oxytocin, Methergine,
14. Breast pump, Urinary Catheter, Mucous Sucker, IV Cannula
15. Inch tape, Glucometer, Cord Clamp, Cord cutter

Record	**5 marks**
Viva- Voice	**5 Marks**

MULTIPURPOSE HEALTH WORKER (FEMALE)
SECOND YEAR

MODEL QUESTION PAPER

Paper I: Midwifery[619/71]

Time: 3hrs **Max.Marks: 50**

2, 7, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given and for forty (40) marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

MULTIPURPOSE HEALTH WORKER (FEMALE)

SECOND YEAR

QUESTION BANK

Paper II: Child Health Nursing[619/72]

Time: 3hrs **Max.Marks: 50**

SECTION-I

1X20=20 Marks

1. Explain briefly about the New Born Assessment including Apgar Scope.
2. ~~Explain briefly about nutritional Assessment and Nutritional Requirement of Children.~~
3. Explain the care of Child with Diarrhoea at home and write the preparation of ORS.
4. Explain briefly about care of School Children and role of MULTIPURPOSE HEALTH WORKER (FEMALE) in School Health Programme.
5. Explain briefly about exclusive Breast Feeding and Kangaroo Mother care.

SECTION-II

1X10=10 Marks

6. Explain briefly about the types of Reflexes.
7. Explain in detail about Weaning Food.
8. Explain briefly about the Immunization Schedule.
9. ~~Explain in detail about Neonatal Resuscitation.~~
10. Explain in detail about Home Accidents among Children and write the preventive measures of Accidents at Home.

SECTION-III

1X10=10 Marks

11. Inch tape, Height scale, Weighing machine , Thermometer
12. Cord Clamp, Cord cutter, Mucous Sucker, Paediatric Ryles cube
13. BCG Vaccine, OPV, DPT, Vitamin-A
14. ~~Breast Pump, Butterfly needle, Adipose syringe, Insuline syringe~~
15. Oxygen mask, Nebuliser, Ambubag, Connecting tubes

Record	**5 marks**
Viva- Voice	**5 Marks**

MULTIPURPOSE HEALTH WORKER (FEMALE)
SECOND YEAR
MODEL QUESTION PAPER

Paper II: Child Health Nursing [619/72]

Time: 3hrs **Max.Marks: 50**

4, 9, 11

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given and for forty (40) marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

MULTIPURPOSE HEALTH WORKER (FEMALE)

SECOND YEAR

QUESTION BANK

Paper III: Health Centre Management[619/73]

Time: 3hrs **Max.Marks: 50**

SECTION-I

1X20=20 Marks

1. Explain briefly about the organisation and conducting Various clinics.
2. Explain briefly about maintenance of Records and Reports and write the preparation of Action Plans.
3. Explain the Role and Responsibilities of Health Team at community health centre.
4. List out the National Health Programmes and explain one of them in detail.
5. ~~Explain about Stock Indenting and Calculation of Indents as per population requirement.~~

SECTION-II

1X10=10 Marks

6. Explain briefly about the Role of female health worker in population education and family welfare.
7. Explain briefly about 104 and108 Ambulance services.
8. ~~Explain briefly about the Management of Ice Lined Refrigerators and Cold Chain System~~.
9. Explain about Organisation and Functions of Sub Centre.
10. Explain in detail about Arogyasree services.

SECTION-III

1X10=10 Marks

11. Syringe 5ml, Insuline syringe, IV Cannula, IV Set
12. Stethoscope, B.P Operator, Weighing machine, Glucometer
13. ~~IV Fluids (NS, RL, DNS, 5D)~~
14. Savlon, Benedict solution, Hydrogen peroxide, Spirit
15. Copper-T, Copper-S, Oral pills, Nirodh

Record	**5 marks**
Viva- Voice	**5 Marks**

MULTIPURPOSE HEALTH WORKER (FEMALE)
SECOND YEAR
MODEL QUESTION PAPER

Paper III: Health Centre Management[619/73]

Time: 3hrs **Max.Marks: 50**

5, 9, 13

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given and for forty (40) marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

30% DELETED CONTENT (PRACTICALS)
MULTIPURPOSE HEALTH WORKER (FEMALE)

PRACTICAL CODE	SUBJECT NAME	DELETED QUESTION NUMBER FROM THE QUESTION BANK
21	Community Health Nursing	6,13
22	Health promotion	2,7,15
23	Primary Health Care Nursing	4,9,15
71	Midwifery	4,6,12
72	Child Health Nursing	2,9,14
73	Heaalth Centre Management	5,8,13

VOCATIONAL PRACTICALS QUESTION BANK

(For the Academic Year 2020-21)

PHARMA TECHNOLOGY

(COURSE CODE:616)

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Telangana State, Hyderabad

&

Board of Intermediate Education

Telangana State, Hyderabad

PHARMA TECHNOLOGY
FIRST YEAR
QUESTION BANK
PAPER I: HUMAN ANATOMY AND PHYSIOLOGY [616/21]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks.**

1. Find out the total R.B.C. count of given blood sample.
2. Estimate the amount of Glucose in blood and urine.
3. Estimate the differential leucocyte count of given blood sample.
4. ~~Identify the given model and explain the structure. (Heart).~~
5. ~~Estimate the B.P. of given subject.~~

SECTION-II **1X10=10 Marks**

6 Find the temperature, pulse and respiration of given subject.

7 Demonstrate Widal test by using biochemical kits.

8 Explain first aid method for emergency case, CPR and burns.

9 Explain vertebral column and classify.

~~10 Write the classification of ribs.~~

SECTION-III **1X10=10 Marks**

11 Scapula, Skull, Radius, Sternum, Liver

12 Radius, Sternum, Femur, Scapula, Skull

13 Femur, Liver, Fibula, Ovary, Patella

~~14 Fibula, Ovary, Patella, Pancreas, Femur~~

~~15 Patella, Pancreas, Scapula, Radius, Skull~~

Record	**5 marks**
Viva- Voice	**5 Marks**

PHARMA TECHNOLOGY
FIRST YEAR
QUESTION BANK
PAPER I: HUMAN ANATOMY AND PHYSIOLOGY [616/21]
Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

PHARMA TECHNOLOGY
FIRST YEAR
QUESTION BANK
PAPER II: PHARMACEUTICAL TECHNOLOGY- I[616/22]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks.**

1 Determine the viscosity of given liquid using Ostwald viscometer.

2 Determine the surface tension of given sample.

3 Prepare and submit syrup I.P. and evaluate its specific gravity.

4 ~~Determine the bulk density and tapped density of given powder and calculate its compressibility ratio.~~

5 ~~Perform the in process checks of given compressed tablet.~~

SECTION-II **1X10=10 Marks**

6 Determine particle size of given powder by sieve analysis

7 Determine particle size of given powder by using optical microscope

8 Perform leak test of ampoules.

9 ~~Perform the in process checks of the given liquid preparation~~

10 Find out the disintegration time of given tablet

SECTION-III **1X10=10 Marks**

11 Bulk density apparatus, Torque tester, Hardness tester, Friabilator, Brookfield viscometer

12 capsule sealing machine, melting point apparatus, disintegration rate test apparatus, capillary tube, Vernier calipers

13 Bulk density apparatus, Torque tester, Hardness tester, Friabilator, Brookfield viscometer

14 ~~capsule sealing machine, melting point apparatus, disintegration rate test apparatus, capillary tube, Vernier calipers~~

15 ~~Bulk density apparatus, Torque tester, Hardness tester, Friabilator, Brookfield viscometer~~

Record **5 marks**

Viva- Voice **5 Marks**

PHARMA TECHNOLOGY
FIRST YEAR
QUESTION BANK
PAPER II: PHARMACEUTICAL TECHNOLOGY- I[616/22]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

PHARMA TECHNOLOGY
FIRST YEAR
QUESTION BANK
PAPER III: PHARMACEUTICAL CHEMISTRY AND QUALITY MANAGEMENT SYSTEMS [616/23]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks**

1 Prepare and standardize the given molar solution with acid base titration.

2 Prepare and standardize the given normal solution by iodimetric titration.

3 Perform the chromatographic separation of given sample by paper chromatography

4 ~~Identify the given inorganic salt.~~

5 ~~perform functional group analysis of given sample~~

SECTION-II **1X10=10 Marks**

6 How do you prepare 10% w/v solution of given sample?

7 Prepare 1 M solution of given base

8 Prepare 1 N solution of given acid.

9 ~~Caliberate the given weighing balance~~.

10 Perform the technique of centrifugation for the given sample.

SECTION-III **1X10=10 Marks**

11 Conical flask, beaker, common balance, pipette, Burette

12 boiling point apparatus, funnel, iodine flask, analytical balance, capillary Tubes

13 Conical flask, beaker, common balance, pipette, Burette

~~14 boiling point apparatus, funnel, iodine flask, analytical balance, capillary Tubes~~

~~15 Conical flask, beaker, common balance, pipette, Burette~~

Record **5 marks**

Viva- Voice **5 Marks**

PHARMA TECHNOLOGY
FIRST YEAR
QUESTION BANK
PAPER III: PHARMACEUTICAL CHEMISTRY AND QUALITY MANAGEMENT SYSTEMS [616/23]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

PHARMA TECHNOLOGY
SECOND YEAR
QUESTION BANK
PAPER I: PHARMACOLOGY [616/71]

TIME: 3HRS **MAX. MARKS: 50**

SECTION-I **1X20=20 Marks.**

1 Demonstrate the effect of drugs on frogs heart

2 ~~Perform the bioassay of digitalis on simulated heart~~

3 Record the effect of adrenaline and perform the bioassay.

4 ~~Perform the bioassay of acetyl choline.~~

5 Perform pyrogen test.

SECTION-II **1X10=10 Marks**

6. a) how do you handle the lab animals?

   b) Explain euthanasia of lab animals.

7. Briefly discuss about layout of animal house.

8. ~~How do you collect blood from lab animals?~~

9. Explain the sanitation of animal house.

10. Demonstrate the gastric acid secretion studies.

SECTION-III **1X10=10 Marks**

11. ~~Frontal writing lever, Simple lever, Aeration tube, symes canula, sherington recording drum~~
12. Animal cage, Dissection tray, kymograph paper, ringerlactate solution, Student organ bath.
13. ~~Frontal writing lever, Simple lever, Aeration tube, symes canula, sherington recording drum~~
14. Animal cage, Dissection tray, kymograph paper, ringerlactate solution, Student organ bath.
15. ~~Frontal writing lever, Simple lever, Aeration tube, symes canula, sherington recording drum~~

Record **5 marks**

Viva- Voice **5 Marks**

PHARMA TECHNOLOGY
SECOND YEAR
QUESTION BANK
PAPER I: PHARMACOLOGY [616/71]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

PHARMA TECHNOLOGY
SECOND YEAR
QUESTION BANK
PAPER II: PHARMACEUTICAL TECHNOLOGY- II [616/72]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks.**

1 ~~Prepare and evaluate the monophasic liquid oral dosage form~~

2 Prepare and evaluate suspensions

3 Prepare and evaluate emulsions

4 ~~Prepare and evaluate o/w cream~~

5 Prepare the tablet using wet granulation method.

SECTION-II **1X10=10 Marks**

6. How do you evaluate angle of repose for the given sample of granules.
7. Carry out weight variation test for given sample of tablet.
8. Perform the friability test for the given tablets using friabilator
9. Prepare an autoclave sterilization cycle load.
10. ~~Find out bulk density and tapped density for the given sample of granules~~.

SECTION-III **1X10=10 Marks**

11. Dissolution rate test apparatus, Capsule filling machine, Tablet compression machine, Sterile gloves (surgical), Monsanto hardness tester
12. Vernier calipers, Sieve, Coating pan, Microscope, Disintegration rate test apparatus
13. ~~Dissolution rate test apparatus, Capsule filling machine, Tablet compression machine, Sterile gloves (surgical), Monsanto hardness tester~~
14. Vernier calipers, Sieve, Coating pan, Microscope, Disintegration rate test apparatus
15. ~~Dissolution rate test apparatus, Capsule filling machine, Tablet compression machine, Sterile gloves (surgical), Monsanto hardness tester~~

Record **5 marks**

Viva- Voice **5 Marks**

PHARMA TECHNOLOGY
SECOND YEAR
QUESTION BANK
PAPER II: PHARMACEUTICAL TECHNOLOGY- II [616/72]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

PHARMA TECHNOLOGY
SECOND YEAR
QUESTION BANK

PAPER III: PHARMACEUTICAL ENGINEERING [616/73]

Time: 3hrs **Max. Marks: 50**

SECTION-I **1X20=20 Marks.**

1. ~~Demonstrate the ohm's law~~
2. Demonstrate fire extinguisher.
3. Determine the rate of filtration
4. Illustrate and demonstrate size reduction
5. ~~Demonstrate workshop practice~~

SECTION-II **1X10=10 Marks**

6. Project straight lines and planes using engineering drawing
7. Determine the rate of drying
8. Demonstrate p-n junction diode
9. Perform the experiment of Wheatstone Meter Bridge
10. ~~Calculate the frictional losses during flow of fluids~~

SECTION-III **1X10=10 Marks**

11 Screw conveyor, Bolts and nuts, Torque tester, Ball mill, Motor grinder

12 Transistor, Electric circuits, Forward loops, DC meter, planetary mixer.

13 Screw conveyor, Bolts and nuts, Torque tester, Ball mill, Motor grinder

14 ~~Transistor, Electric circuits, Forward loops, DC meter, planetary mixer.~~

15 ~~Screw conveyor, Bolts and nuts, Torque tester, Ball mill, Motor grinder~~

Record	**5 marks**
Viva- Voice	**5 Marks**

PHARMA TECHNOLOGY
SECOND YEAR
QUESTION BANK

PAPER III: PHARMACEUTICAL ENGINEERING [616/73]

Time: 3hrs **Max. Marks: 50**

5, 9, 14

Note: The serial numbers of the questions mentioned above are the serial number in question bank. In practical examination only the serial number of the question will be given. The Questions given by TSBIE are for 40 Marks. The examiner shall decode it with the question bank and give the questions.

Record	**5 marks**
Viva- Voice	**5 Marks**

30% DELETED CONTENT (PRACTICALS)
PHARMA TECHNOLOGY

PRACTICAL CODE	SUBJECT NAME	DELETED QUESTION NUMBER FROM THE QUESTION BANK
21	Human anatomy & Phsiology	4,5,10,14,15
22	Pharmaceutical Technology	4,5,9,14,15
23	Pharmaceutical Chemistry & Quality Management System	4,5,9,14,15
71	Pharmacology & Pharmaceutical Regulation	2,4,8,11,13,15
72	Pharmaceutical Technology	1,4,10,13,15
73	Pharmaceutical Engineering	1,5,10,14,15