BOARD OF INTERMEDIATE EDUCATION, TELANGANA., HYDERABAD
REVISION OF SYLLABUS – VOCATIONAL BRIDGE COURSE
SUBJECT- BOTANY- II (w.e.f. 2016-2017)

CHAPTERS	PERIODS
UNIT I PLANT PHYSIOLOGY	
CHAPTER 1: Transport in plants	
1.1 Means of Transport - Diffusion	**02**
1.2 Plant water relations	
1.3 Long distance transport of water	
1.4 Transpiration	
CHAPTER 2: MINERAL NUTRITION	**02**
2.1 Essential minearl elements	
2.2 Metabolism of Nitrogen	
CHAPTER 3 : ENZYMES	
3.1 Nature of enzyme action	**01**
PRACTICALS:	
1. Study of osmosis by potato osmometer	
2. Study of plasmolysis in epidermal peels (Eg.*Rheo* leaves)	
CHAPTER 4: Photosynthesis in Higher plants	**06**
4.1 What is the site of photosynthesis	
4.2 How many pigments are involved in Photosynthesis	
4.3 What is light reaction	
4.4 The Electron Transport	
4.5 Where are ATP and NADPH used	
PRACTICIALS:	
3. Comparative study of the rates of transpiration in the upper and lower surfaces of leaves (by CoCl2 method)	

CHAPTER 5: Respiration in Plants	**05**
5.1 Glycolysis	
5.2 Fermentation	
5.3 Aerobic Respiration	
5.4 Respiratory Quotient	
CHAPTER 6: GROWTH	**02**
6.1 Growth	
6.2 Plant Growth Regulators	
6.3 Seed Dormancy	
# UNIT II MICROBIOLOGY	
CHAPTER 7: Bacteria	**04**
7.1 Morphology of Bacteria	
7.2 Bacteria cell structure	
7.3 Reproduction	
7.4 The importance of Bacteria to Humans	
CHAPTER 8: Viruses	
8.1 Structure of Viruses	**02**
8.2 Multiplication of Bacteriophage	
8.3 Viral diseases in plants	
8.4 Viral diseases in Humans	
UNIT III GENETICS	
CHAPTER 9: Principles of Inheritance and variation	**04**
9.1 Mendel's Experiments	
9.2 Inheritance of One Gene (Monohybrid Cross)	
9.3 Inheritance of Two Genes (Dihybridcrossw)	

UNIT IV MOLECULAR BIOLOGY **CHAPTER 10: Molecular Basis of Inheritance (Main content)** 10.1 The DNA, RNA world 10.2 Replication 10.3 Transcription 10.4 Genetic Code 10.5 Translation	**07**
UNIT V BIOTECHNOLOGY **CHAPTER 11: Biotechnology Principles and Processes** 11.1 Tools of Recombinant DNA Technology 11.2 Process of Recombinant DNA Technology	**03**
CHAPTER 12: Biotechology and its Applications 12.1 Biotechnological Applications in Agriculture 12.2 Other applications of Biotechnology	**02**
PRACTICIALS: 10. Preparation of temporary mount of monocot and dicot root and monocot and dicot stem	
UNITVI PLANTS, MICROBES AND HUMAN WELFARE **CHAPTER 13: Strategies for Enhancement in Food Production** 13.1 Plant Breeding 13.2 Single Cell Protein 13.3 Tissue Culture **PRACTICALS:** Record work	**04**

CHAPTER 14: Microbes in Human Welfare 14.1 Micorbes in Household Products 14.2 Microbes in Industrial Products 14.3 Microbes in Sewage Treatment 14.4 Microbes in Production of Biogas 14.5 Microbes as Biocontrol Agents 14.6 Micronbes as Biofertilisers **PRACTICALS**: Completion of Record work	**06**

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SUBJECT- ZOOLOGY- II (w.e.f. 2016-2017)

CHAPTERS	PERIODS
UNIT-I Human Anatomy and Physiology-I **Unit I A: Digestion and absorption** Alimentary canal and digestive glands; Role of digestive enzymes and digestion, absorption and assimilation of proteins, carbohydrates and fats, egestion, Calorific value of proteins, carbohydrates and fats (for box item-not to be evaluated); Nutritional disorders: Protein Energy Malnutrion (PEM), indigestion, constipation, vomiting, jaundice, diarrhea, Kwashiorkor. **Unit I B: Breathing and Respiration** Respiratory organs in animals; Respiratory system in humans; Mechanism of breathing and its regulation in humans - Exchange of gases, transport of gases Respiratory disorders: Asthma, Emphysema, Occupational respiratory disorders - Asbestosis, Silicosis, Siderosis, Black Lung Disease in coal miners.	**05**
UNIT II : Human Anatomy and Physiology-II **Unit II A: Body Fluids and Circulation** Covered in I year composition Clotting of blood; Human circulatory system - structure of human heart and blood vessels; Cardiac cycle, cardiac output, double circulation; Disorders of circulatory system: Hypertension, coronary artery disease, angina pectoris, heart failure. **Unit II B: Excretory products and their elimination** Modes of excretion - Ammonotelism, Ureotelism, Uricotelism; Human excretory system - structure of kidney and nephron; Urine formation, Renin - Disorders: Uraemia, renal failure, renal calculi, nephritis, dialysis	**05**

using artificial kidney.	
UNIT III: Human Anatomy and Physiology-III **Unit IIIA: Muscular and Skeletal system** Skeletal muscle - ultra structure; Contractile proteins & muscle contraction; Skeletal system and its functions; Joints. *(to be dealt with relevance to practical syllabus);* Disorders of the muscular and skeletal system: myasthenia gravis, tetany, muscular dystrophy, arthritis, osteoporosis, gout, regormortis. **Unit III B: Neural control and co-ordination** Nervous system in human beings - Central nervous system, Peripheral nervous system and Generation and conduction of nerve impulse; Elementary structure and functioning of eye and ear.	**09**
UNIT IV: Human Anatomy and Physiology-IV **Unit IVA: Endocrine system and chemical co-ordination** Endocrine glands and hormones; Human endocrine system -Hypothalamus, Pituitary, Pineal, Thyroid, Parathyroid, Adrenal, Pancreas, Gonads; **Elementary idea only); Hypo and Hyper activity and related disorders:** Common disorders -Dwarfism, acromegaly, cretinism, goiter, exophthalmic goiter, diabetes, Addison's disease, Cushing's syndrome.(Diseases & disorders to be dealt in brief). **Unit IVB: Immune system** Basic concepts of Immunology - Types of Immunity - Innate Immunity, Acquired Immunity, Active and Passive Immunity, HIV and AIDS.	**08**

UNIT V: **Human Reproduction** **Unit VA: Human Reproductive System** Male and female reproductive systems; Microscopic anatomy of testis & ovary. **Unit VB: Reproductive Health** Need for reproductive health and prevention of sexually transmitted diseases (STD); Birth control - Need and methods, contraception and medical termination of pregnancy (MTP); Amniocentesis; infertility and assisted reproductive technologies - IVF-ET, ZIFT, GIFT **(elementary idea for general awareness).**	**05**
UNIT VI: Genetics Heredity and variation: Blood groups and Rh-factor; Co-dominance (Blood groups as example); Elementary idea of polygenic inheritance; Sex determination - in humans, birds, Fumea moth, genic balance theory of sex determination in **Drosophila melanogaster** and honey bees; Sex linked inheritance - Haemophilia, Colour blindness; Mendelian disorders in humans: Thalassemia, Haemophilia, Sickle celled anaemia, cystiefibrosis PKU, Alkaptonuria; Chromosomal disorders -Down's syndrome, Turner's syndrome and Klinefelter syndrome; Genome, Human Genome Project and DNA Finger Printing,	**06**
UNIT VII: Organic Evolution Evidences for biological evolution (palaeontological, comparative anatomical, embryological and molecular evidences); Theories of evolution: Lamarckism (in brief), Darwin's theory of Evolution -Natural Selection with example (Kettlewell's experiments on **Bistonbitularia),** Mutation Theory of Hugo De Vries; Modern synthetic theory of Evolution - Types of Natural Selection; Gene flow and genetic drift; Variations (mutations and genetic	**04**

recombination); Adaptive radiation - viz., Darwin's finches and adaptive radiation in marsupials; Human evolution; Speciation - Allopatric, sympatric; Reproductive isolation.	
UNIT VIII: Applied Biology Apiculture; Animal Husbandry: Pisciculture, Poultry management, Dairy management; Animal breeding; Bio-medical Technology : Diagnostic Imaging (X-ray, CTscan, MRI), ECG, EEG; Application of Biotechnology in health: Human insulin and vaccine production ; Gene Therapy; Transgenic animals; ELISA; Vaccines, MABs, Cancer biology, stem cells.	**08** **50**
TOTAL PERIODS	

BOARD OF INTERMEDIATE EDUCATION, TELANGANA., HYDERABAD
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SUBJECT- PHYSICS - II (w.e.f. 2016-2017)

CHAPTERS	PERIODS
Chapter ONE: WAVES 1.1 INTRODUCTION 1.2 Transverse and longitudinal waves 1.3 Displacement relation in a progressive wave (Equation of a progressive wave) 1.4 Standing waves or Stationary waves 1.5 Beats 1.6 Doppler effect	**05**
Chapter TWO:RAY OPTICS AND OPTICAL INSTRUMENTS 2.1 INTRODUCTION 2.2 Reflection of Light by Spherical Mirrors 2.3 Refraction - applications 2.4 Total Internal Reflection - application 2.5 Refraction Lenses – thin lens formula 2.6 Refraction through a Prism 2.7 OPTICAL INSTRUMENTS – Microscope and Telescope	**05**
Chapter THREE: WAVE OPTICS 3.1 Introduction 3.2 Coherent and Incoherent Addition of Waves 3.3 Interference of Light Waves and Young's Experiment 3.4 Diffraction – Single slit 3.5 Polarisation – Polarisation by reflection	**05**
Chapter FOUR: ELECTRIC CHARGES AND FIELDS 4.1 INTRODUCTION 4.2 Electric Charges – Coulomb's Law 4.3 Electric Field - Electric Field Lines 4.4 Electric Flux - Gauss's Law 4.5 Application of Gauss's Law	**04**
Chapter FIVE: **ELECTROSTATIC POTENTIAL AND CAPACITANCE** 5.1 INTRODUCTION	**06**

5.2 Electrostatic Potential - Potential due to a Point Charge 5.3 Potential due to an Electric Dipole 5.4 Potential due to a System of Charges 5.5 Reflection between Potential and Electric Field 5.6 Potential Energy of a System of Charges 5.7 Capacitors and Capacitance 5.8 The Parallel Plate Capacitor 5.9 Combination of Capacitors – Series and Parallel combination 5.10 Energy Stored in a Capacitor	
Chapter SIX: CURRENT ELECTRICITY 6.1 INTRODUCTION - Electric Current 6.2 Ohm's law - Limitations of Ohm's Law 6.3 Resistivity of various Materials - Temperature Dependence of Resistivity 6.4 Combination of Resistors — Series and Parallel 6.5 Cells, emf, Internal Resistance 6.6 Kirchhoff's Laws 6.7 Wheatstone Bridge 6.8 Meter Bridge 6.9 Potentiometer	**06**
Chapter SEVEN: **MOVING CHARGES AND MAGNETISM** 7.1 INTRODUCTION 7.2 Magnetic Force on a chanrge – Lorentz force 7.3 Magnetic force on a current carrying conductor 7.4 Motion of charge in a magnetic field 7.5 Biot-Savart Law - Magnetic Field on the Axis of a Circular Current Loop 7.6 Ampere's Circuital Law 7.7 Force between Two Parallel Currents, the Ampere 7.8 Torque on Current Loop 7.9 The Moving Coil Galvanometer – ammeter and volt meter	**06**
Chapter EIGHT: MAGNETISM AND MATTER 8.1 INTRODUCTION 8.2 The Bar Magnet – Magnetic field on the axial and equational lines 8.3 Torque on a magnetic dipole in a uniform magnetic field 8.4 Magnetisation and Magnetic Intensity 8.5 Magnetic Properties of Materials	**03**

Chapter NINE: ELECTROMAGNETIC INDUCTION 9.1 INTRODUCTION 9.2 The Experiments of Faraday and Henry - Faraday's Law 9.3 Lenz's Law and Conservation of Energy 9.4 Motional Electromotive Force – emf induced across a moving conductor 9.5 Eddy Currents 9.6 Self – Inductance and Mutual Inductance	**04**
Chapter TEN: ALTERNATING CURRENT 10.1 INTRODUCTION 10.2 AC Voltage Applied to a Resistor, an inductor and a capacitor 10.3 Power in AC Circuit: The Power Factor 10.4 Transformers	**03**
Chapter ELEVEN: ELECTROMAGNETIC WAVES 11.1 Sources of Electromagnetic Waves 11.2 Electromagnetic Spectrum	**02**
Chapter TWELVE: **DUAL NATURE OF RADIATION AND MATTER** 12.1 Photoelectric Effect 12.2 Einstein's Photoelectric Equation: Energy Quantum of Radiation 12.3 Particle Nature of Light: The Photon 12.4 Wave Nature of Matter 12.5 Application of Photo Electric Effect – Photo Cell	
Chapter THIRTEEN: ATOMS 13.1 INTRODUCTION 13.2 Atomic Spectra – Spectral Series 13.3 Bohr Model of the Hydrogen Atom	**02**
Chapter FOURTEEN: NUCLEI 14.1 INTRODUCTION 14.2 Atomic Masses and Composition of Nucleus 14.3 Mass-Energy Equation and Nuclear Binding Energy 14.4 Radioactivity and law of radioactive decay 14.5 Nuclear fission – Nuclear reactor 14.6 Nuclear fusion – Energy of the Suns and Stars	**06**
Chapter FIFTEEN: **SEMICONDUCTOR ELECTRONICS:** **MATERIALS, DEVICES AND SIMPLE CIRCUITS** 15.1 INTRODUCTION 15.2 Classification of Metals, Conductors and Semiconductors	**06**

15.3	Intrinsic Semiconductor	
15.4	Extrinsic Semiconductor	
15.5	p-n Junction diode	
15.6	Application of Junction Diode as a half Rectifier and full wave Rectifier	
15.7	Junction Transistor	
15.8	Digital Electronics and Logic Gates	
Chapter SIXTEEN: COMMUNICATION SYSTEMS		**02**
16.1	INTRODUCTION	
16.2	Elements of a Communication System	
16.3	Basic Terminology Used in Electronic Communication Systems	
16.4	Propagation of Electromagnetic Waves	
16.5	Modulation and its Necessity	
	TOTAL NO OF PERODS	**69**

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SUBJECT- CHEMISTRY- II (w.e.f. 2016-2017)

CHAPTERS	PERIODS
Chapter 1: SOLID STATE 1.1 General characteristics of solid state1.2 Amorphous and crystalline solids 1.2 Probing the structure of solids: X-ray crystallography 1.3 Number of atoms in a unit cell (primitive, body centred and face centred cubic unit cell) 1.4 Imperfections in solids-types of point defects-stoichiometric and non-stoichiometric defects	**06**
Chapter 2: SOLUTIONS 2.1 Expressing concentration of solutions, mole fraction, molarity and molality 2.2 Solubility: Solubility of a gas in a liquid, Henry's law 2.3 Raoult's law as a special case of Henry's law 2.4 Colligative properties and determination of molar mass-relative lowering of vapour pressure, osmosis and osmotic pressure	**06**
Chapter 3: **ELECTROCHEMISTRY AND CHEMICAL KINETICS** **ELECTROCHEMISTRY** 3.1 Galvanic cells :measurement of electrode potentials 3.2 Electrochemical cell and Gibbs energy of the cell reaction 3.3 Electrolytic cells and electrolysis: Faraday's laws of electrolysis-products of electrolysis 3.4 Batteries: primary batteries and secondary batteries 3.5 Fuel cells 3.6 Corrosion of metals-Hydrogen economy **CHEMICAL KINETICS** 3.7 Rate of a chemical reaction 3.8 Factors influencing rate of a reaction: dependance of rate on concentration- order of a reaction, molecularity of a reaction 3.9 Temperature dependence of the rate of a reaction -effect of catalyst	**10**

Chapter 4: SURFACE CHEMISTRY 4.1 Adsorption and absorption: Characteristics of physisorption- characteristics of chemisorption 4.2 Catalysis:Catalysts, auto catalysis- homogeneous and heterogeneous catalysis- 4.3 Colloids Classification of colloids: Classification based on physical state of dispersed phase and dispersion medium- classification based on nature of interaction between dispersed phase and dispersion medium- classification based on type of particles of the dispersed phase 4.4 Emulsions	**06**
Chapter 5: **GENERAL PRINCIPLES OF METALLURGY** 5.1 Occurance of metals 5.2 Concentration of ores, magnetic separation, froth floatation 5.3 Extraction of crude metal from concentrated ore-conversion to oxide, reduction of oxide to the metal 5.4 Refining of crude metal 5.5 Uses of aluminium, copper, zinc and iron	**05**
Chapter 6: p-BLOCK ELEMENTS **GROUP-15 ELEMENTS** 6.1 Occurance- electronic configuration, atomic and ionic radii, ionisation energy,electronegativity, physical and chemical properties 6.2 Compounds of nitrogen-preparation and properties of ammonia 6.3 Preparation and properties of nitric acid 6.4 Oxoacids of phosphorous **GROUP-16 ELEMENTS** 6.5 Occurance- electronic configuration, atomic and ionic radii, ionisation enthalpy, electron gain enthalpy, electronegativity, physical and chemical properties 6.6 Ozone-preparation,properties, structure and uses 6.7 Oxoacids of sulphur 6.8 Sulphuric acid-industrial process of manufacture, properties and uses	**16**

GROUP-17 ELEMENTS 6.9 Occurance, electronic configuration, atomic and ionic radii, ionisation enthalpy, electron gain enthalpy, electronegativity, physical and chemical properties 6.19 Chlorine-preparation, properties and uses 6.10 Interhalogen compounds **GROUP-18 ELEMENTS** 6.11 Occurance, electronic configuration (a) Xenon-fluorine compounds- XeF_2, XeF_4 and XeF_6 – structures of XeF_2, XeF_4 and XeF6 (b) Xenon-oxygen compounds XeO_3 and $XeOF_4$ - their structures	
Chapter 7: **d AND f BLOCK ELEMENTS & COORDINATION COMPOUNDS** **d AND f BLOCK ELEMENTS** 7.1 Position in the periodic table 7.2 Electronic configuration of the d-block elements 7.3 General properties of the transition elements (d-block) -physical properties, variation in atomic and ionic sizes of transition series, magnetic properties, formation of coloured ions, formation of complex compounds, catalytic properties, formation of interstitial compounds, alloy formation 7.4 Inner transition elements(f-block)-lanthanoids- electronic configuration-atomic and ionic sizes-oxidation states- general 7.5 Some applications of d and f block elements **COORDINATION COMPOUNDS** 7.6 Werner's theory of coordination compounds 7.7 Definitions of some terms used in coordination compounds 7.8 Nomenclature of coordination compounds-IUPAC nomenclature	**08**
Chapter 8: POLYMERS 8.1 Classification of Polymers -Classification based on source, molecular forces 8.2 Polythene, teflon and polyacrylonitrile--—polyamidespreparation of Nylon 6,6 and nylon 6-poly esters-terylenebakelite, melamine,formaldehyde polymer- copolymerization- Rubber-natural rubber-vulcanisation of rubber-Synthetic rubbers	**04**

preparation of neoprene and buna-N 8.3 Biodegradable polymers-PHBV, Nylon 2-nylon 6 8.4 Polymers of commercial importancepoly propene, poly styrene,poly vinyl chloride(PVC), ureaformaldehyde resin, glyptal, bakelite- their monomers, structures and uses	
Chapter 9: BIOMOLECULES 9.1 Carbohydrates - Classification of carbohydrates- Importance of carbohydrates 9.2 Aminoacids: Natural aminoacids-classification of aminoacids - Denaturation of proteins 9.3 Proteins structures classification 9.3 Enzymes: Enzymes,mechanism of enzyme action 9.4 Vitamins: Explanation-names- classification of vitamins – sources of vitamins-deficiency diseases of different types of vitamins 9.5. Nucleic acids: DNA finger printing biological functions of nucleic acids 9.6 Hormones:Definition, different types of hormones, their production, biological activity, diseases due to their abnormal activities	**04**
Chapter 10: CHEMISTRY IN EVERYDAY LIFE 10.1 Therapeutic action of different classes of drugs: antacids, antihistamines, neurologically active drugs: tranquilizers, analgesics–nonnarcotic, narcotic analgesics, antimicrobials-antibiotics, antiseptics and disinfectants- antifertility drugs 10.2 Chemicals in foodartificial sweetening agents, food preservatives, antioxidants in food 10.3 Cleansing agents-soaps and synthetic detergents	**05**
Chapter 11: HALOALKANES AND HALOARENES 11.1 Classification and nomenclature 11.2 Methods of preparation : Alkyl halides and aryl halidesfrom alcohols, from hydrocarbons (a)by free radical halogenations –(b) by electrophilic substitution (c) by replacement of diazonium group(Sand-Meyer reaction) (d) by the addition of hydrogen halides and halogens to alkenes-by halogen exchange(Finkelstein reaction)	**05**

Chapter 12: ORGANIC COMPOUNDS CONTAINING C, H AND O (Alcohols, Phenols, Ethers, Aldehydes, Ketones and Carboxylic acids)	**10**

Chapter 12: ORGANIC COMPOUNDS CONTAINING C, H AND O
(Alcohols, Phenols, Ethers, Aldehydes, Ketones and Carboxylic acids)

ALCOHOLS, PHENOLS AND ETHERS

12.1 Alcohols,phenols and ethers –classification

12.2 Nomenclature: (a)Alcohols, (b)phenols and (c)ethers

12.3 Methods of preparation: Alcohols from alkenes and carbonyl compounds- Phenols from haloarenes, benzene sulphonic acid, diazonium salts, cumene

12.4 Chemical reactions of alcohols and phenols (i) Reactions involving cleavage of O-H bond-Acidity of alcohols and phenols, esterification (ii) Reactions involving cleavage of C-O bond- reactions with HX, PX3, dehydration and oxidation (iii) Reactions of phenols- electrophili aromatic substitution, Kolbe's reaction, Reimer – Tiemann reaction, reaction with zinc dust, oxidation

12.5 Ethers–Methods of preparation: By dehydration of alcohols, Williamson synthesis- Physical properties-Chemical reactions: Cleavage of C-O bond and electrophilic substitution of aromatic ethers.

ALDEHYDES AND KETONES

12.6 Preparation of aldehydes and ketones-(1) by oxidation of alcohols (2) by dehydrogenation of alcohols (3) from hydrocarbons – Preparation of aldehydes (1) from acyl chlorides (2) from nitriles and esters(3)from hydrocarbons-Preparation of ketones(1) from acyl chlorides (2)from nitriles (3)from benzene or substituted benzenes 12.11Physical properties of aldehydes and ketones

12.7 Chemical reactions of aldehydes and ketonesnucleophilic addition, reduction, oxidation, reactions due to - Hydrogen and other reactions (Cannizzaro reaction,electrophilic substitution reaction)

12.8 Uses of aldehydes and ketones

CARBOXYLIC ACIDS

12.9 Methods of preparation of carboxylic acids- (1)from primary alcohols and aldehydes (2) from alkylbenzenes

12.10 Chemical reactions: (i) Reactions involving cleavage of OH bond- acidity, reactions with metals and alkalies (ii) Reactions involving cleavage of C-OH bond-formation of anhydride, reactions with PCl_5, PCl_3, $SOCl_2$, esterification and reaction with ammonia (iii) Reactions involving -COOH group-reduction, decarboxylation (iv) Substitution reactions in the hydrocarbon part – halogenation and ring substitution

12.11 Uses of carboxylic acids

Chapter 13: ORGANIC COMPOUNDS CONTAINING NITROGEN	**05**
I. AMINES 13.1 Preparation of amines:reduction of nitro compounds, ammonolysis of alkyl halides, reduction of nitriles,reduction of amides, Gabriel phthalimide synthesis and Hoffmann bromamide degradation reaction. 13.2 Physical properties 13.3 Chemical reactions:basic character of amines, alkylation, acylation, carbyl amine reaction, reaction with nitrous acid **II. DIAZONIUM SALTS** 13.4 Method of preparation (by diazotization) 13.5 Chemical reactions: Reactions involving displacement of nitrogen, reactions involving **III. CYANIDES AND ISOCYANIDES** 13.6 Preparation, physical properties and chemical reactions of cyanides and isocyanides	
TOTAL PERIODS	**90**

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SUBJECT- MATHEMATICS - II (w.e.f. 2016-2017)

CHAPTERS	PERIODS
01 COMPLEX NUMBERS: 1.1 Complex number as an ordered pair of elementary operations 1.2 Expressing the complex numbers in the form of a + ib 1.3 Modulus and amplitude form of a complex number 1.4 Polar form and Argand plane.	**09**
02 QUADRATIC EXPRESSIONS AND EQUATIONS 2.1 Solving Quadratic Equations and finding nature of roots 2.2 Finding out Maximum and minimum values of a Quadratic expression (upto 3(a) – exercise in PAPER-II (A) 2.3 Relation between coefficients and roots of the equations upto 4th order.	**06**
03 BIONOMIAL THEOREM 3.1 Binomial Theorem for Positive Index. 3.2 Problems on expansions, middle terms. Finding out coefficients of x^P and independent terms	**11**
04 PARTIAL FRACTIONS 4.1 Rational Fractions 4.2 Non repeated linear factors, repeated linear factors and irreducible non repeated factors	**06**
05 MEASURES OF DISPERSION 5.1 Range 5.2 Mean Deviation 5.3 Variance and standard deviation for grouped and un grouped data 5.4 Coefficient of variance with equal means and different variances in Frequency distribution analysis 5.5 Solved Problems	**16**

COORDINATE GEOMETRY		**22**
06	**CIRCLES**	
6.1	Equation of a circle, standard form centre and radius.	
6.2	Position of point in the plane of a circle. Definition of a tangent	
6.3	Position of a straight line in the plane of a circle. Condition for a line to be tangent	
07	**SYSTEM OF CIRCLES**	**11**
7.1	Relative positions of two circles	
7.2	Angle between two measuring circles	
7.3	Radical axis of two circles	
08	**PARABOLA**	**10**
8.1	Conic sections – Equation of a Parabola in standard form (without proof)	
8.2	Tangent and Normal at a point on the Parabola	
09	**ELLIPSE**	**06**
9.1	Equation of an ellipse in standard form	
9.2	Tangent and normal at a point on the ellipse	
10	**HYPERBOLA**	**05**
10.1	Equation of a Hyperbola in standard form	
10.2	Tangent and normal at a point of hyperbola	
CALCULUS		
11	**INDEFINITE INTEGRATION**	**18**
11.1	Methods of Integration	
11.2	Integration of different types of functions	
11.3	Integration of methods of substitution	
11.4	Reduction formulae (without proof). Problems only	
12	**DEFINTIE INTEGRALS**	**12**
12.1	Fundamental theorem of integral calculus	
12.2	Properties of definite integrals	
12.3	Reduction formulae (without proofs) only problems	
13	**DIFFERENTIAL EQUATIONS**	**08**
13.1	Formation of differential equations – Degree and order of an ordinary differential equation	
13.2	Solving Differential equations 1- Variables separable method 2- Homogeneous differential equations	

14	**PERMUTATIONS & COMBINATIONS**	**03**
14.1	Definition of Permutation and Combination	
14.2	Simple problems	
15	**PROBABILITY**	**07**
15.1	Definition of Probability	
15.2	Random experiment and events	
15.3	Additional and Multiplication theorems (without proof)	
	TOTAL PERIODS	**150**