

# VOCATIONAL PRACTICALS QUESTION BANK

*(With Effect from the Academic year 2018-19)*

## 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**

### List of Participants

1.	Smt. C.H. PADMA, MTS, J.L. in E&CT Government Vocational Junior College, Nampally, Hyderabad.
2.	Sri. SHAIK ABDUL MATEEN, CJL Government Junior College, Chanchalguda, 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  $45^{\circ}$  without using Protractor.
13. Bisect 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, TRIAC, 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**

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# **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**

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**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**

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**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**

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**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**

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