

Time – 2.30 Hours

Max.Marks: 90

PART –A**Choose the correct answer:****15 x 1 = 15**

1. Mark the odd one out.
(a) Adder (b) Subtractor (c) BJT (d) Flip-Flop
2. What type of Modulation used in Satellite Communication?
(a) Phase modulation (b) Pulse Modulation
(c) Amplitude Modulation (d) Frequency Modulation
3. Which type of Antenna mostly used for Television reception?
(a) Yagi Antenna (b) Loop Antenna
(c) Monopole Antenna (d) Micro strip Antenna
4. Which type of test is using to measure voltage and current in electronic devices?
(a) Soak test (b) Vibration Test
(c) Signal Test (d) Secondary test
5. What gases are used in Plasma Display?
(a) Oxygen and Carbon Mono oxide (b) Xenon and Neon
(c) Hydrogen and Helium (d) Nitrogen and Helium
6. Hotspot is functioning in ----- Technology.
(a) Wi-Fi (b) Bluetooth (c) NFC (d) RFID
7. Optical fibre Cable's Data Transmission rate is
(a) 2Gbps (b) 3Gbps (c) 1024Mbps (d) None of the above
8. Microwave Frequency ranges are
(a) 1 GHz to 30 GHz (b) 100KHz to 30 MHz
(c) 550 KHz to 1650 KHz (d) 300 MHz to 300 GHz
9. Image sensors produce
(a) Voltage waveform (b) Current (c) Audio (d) Discrete Signal
10. Intensity of Sound is measuring in ----- units
(a) Decibel (b) Coulomb (c) Kelvin (d) Ampere
11. LM317 IC acts as a
(a) Voltage Regulator (b) Invertor (c) Convertor (d) Rectifier
12. ----- is a good language to start with Raspberry pi
(a) Python (b) Java (c) C++ (d) None of the above
13. μ P is called
(a) Ports (b) Serial Bus (c) Microprocessor (d) MOBO



14. Which type of Endoscopy used for diagnosis of the nose inside?
(a) Nasopharyngoscopy (b) Bronchoscopy
(c) Arthroscopy (d) Gastroscope
15. ----- Source is used for Computed Tomography-CT.
(a) Gamma ray (b) X-Ray (c) Ultrasonic (d) Infrared

PART - B

II. Answer to any 10 Questions. Question number 22 is compulsory. $10 \times 3 = 30$

16. Write briefly about Asynchronous counter.
17. List out the properties of Antenna.
18. "Both coils are perpendicular displacement in yoke coil" – why?
19. "Hotspot is classified into two" – How?
20. What is the major difference between GPS and GPRS?
21. "Transceiver and Transponder" – Compare the devices.
22. Tabulate and lists the Illuminance versus Light conditions.
23. Write the advantages of Headphones.
24. What is the purpose of UPS?
25. Explain HTMI.
26. List out the Difference between Microcontroller and Microprocessor?
27. List out the applications of PET.
28. List out the four types of Endoscopy.

PART –C

III. Answer to any five question. Question number 35 is compulsory $5 \times 5 = 25$

29. Is it possible to perform subtraction in logic gates? Prove with circuit and table.
30. Explain about the Half-Duplex and Full-Duplex Modem.
31. What are the advantages and disadvantages of OFC?
32. Draw and explain the audio amplifier using TDA 2003 IC?
33. Explain the working of NPN relay switch circuit.
34. Explain the Pin Description of Arduino UNO?
35. Explain the working function of Treadmill test equipment.

PART –IV

Answer all questions.

$2 \times 10 = 20$

36. Explain how an LED panel works using TCON and gate driver circuits? (or)
Draw a block diagram of a simple cellphone and explain its working functions?
37. Explain the working principles of CCD sensors with neat diagram? (or)
Draw the circuit diagram of switching circuit using ULN 2003 A – IC?

