

13. What is the primary function of a wave analyzer? 1 K1 CO4
 (a) Measure the voltage of a signal (b) Measure the frequency of a signal
 (c) Analyze the harmonic components of a signal (d) Generate a sine wave
14. Quantities are digitized using _____ 1 K1 CO4
 (a) D/A converter (b) Oscillator (c) Amplifier (d) A/D converter
15. Q meter works on the principle of _____ 1 K1 CO4
 (a) barkhausen criterion (b) piezoelectric effect
 (c) parallel resonance (d) series resonance
16. Which of the following factors can affect the accuracy of time period measurements in digital systems? 1 K1 CO4
 (a) Voltage fluctuations (b) Temperature changes
 (c) Clock stability (d) Signal amplitude
17. Which part is called as heart of CRO? 1 K1 CO5
 (a) CRT (b) Sweep generator (c) Trigger circuit (d) Amplifier
18. What is a common application for a seven-segment display? 1 K1 CO5
 (a) Televisions (b) Calculators (c) Computer monitors (d) Mobile phones
19. Which type of memory is generally used in data loggers for data storage? 1 K1 CO5
 (a) RAM (b) ROM (c) Flash Memory (d) Magnetic Disks
20. Which communication protocols are commonly used by IoT-enabled recorders to transmit data? 1 K1 CO5
 (a) HTTP and FTP (b) Bluetooth and HDMI
 (c) Wi-Fi, MQTT, and Lora (d) Analog and digital signals

PART - B (10 × 2 = 20 Marks)

Answer ALL Questions

21. Why PMMC is not suitable for AC measurement? 2 K1 CO1
22. Define Q-Factor. 2 K1 CO1
23. Mention the purpose of copper shading bands in induction type wattmeter. 2 K1 CO2
24. Define phantom loading. 2 K1 CO2
25. Compare and contrast AC and DC potentiometer. 2 K2 CO3
26. Write the expression for calculating secondary winding burden in an instrument transformer. 2 K1 CO3
27. List the methods available in frequency measurements. 2 K1 CO4
28. State the basic working principle of LCR meters 2 K1 CO4
29. List the controllers normally found on XY recorder. 2 K1 CO5
30. Recall the main parts of a cathode ray tube. 2 K1 CO5

PART - C (6 × 10 = 60 Marks)

Answer ALL Questions

31. a) Describe in detail with neat illustration, the construction, working principle of moving iron meters. 10 K2 CO1
- OR**
- b) Illustrate the working of Schering bridge for the measurement of capacitance with neat diagram. 10 K2 CO1
32. a) With a neat sketch describe the construction and working principle of dynamometer type wattmeter. Develop its torque equation. 10 K2 CO2
- OR**
- b) Discuss the Errors Caused and Remedies of Single phase Induction type Energy meter. 10 K2 CO2

33. a) Enumerate with neat sketch the working of Drysdale polar type AC potentiometer. 10 K2 CO3
- OR**
- b) Summarize the working principle of Potential Transformer in detail and draw the phasor diagram. 10 K2 CO3
34. a) Explain the working of Wave analyzers with neat diagram and mention its application. 10 K2 CO4
- OR**
- b) Draw and explain the working principle and operation of Digital LCR meter. 10 K2 CO4
35. a) Explain the working of seven segment and Alphanumeric displays in detail. 10 K2 CO5
- OR**
- b) Explain in detail the working a sampling oscilloscope with neat diagrams. 10 K2 CO5
36. a) i) Write a technical note on Dual ramp type DVM. 5 K2 CO4
 ii) Explain about XY Recorders with neat diagram. 5 K2 CO5
- OR**
- b) i) With neat diagram explain about Digital Time measurement. 5 K2 CO4
 ii) Explain about LCD display devices. 5 K2 CO5