

SSR DEGREE COLLEGE (AUTONOMOUS) NIZAMABAD
B.SC. PHYSICS
QUESTION BANK
BASIC INSTRUMENTATION

I. Multiple Choice

1. What is the SI unit of length?

- A) Meter
- B) Kilometer
- C) Centimeter
- D) Mile

Answer: A) Meter

2. Which instrument is used to measure temperature?

- A) Barometer
- B) Thermometer
- C) Ammeter
- D) Hygrometer

Answer: B) Thermometer

3. What is the SI unit of mass?

- A) Gram
- B) Kilogram
- C) Pound
- D) Tonne

Answer: B) Kilogram

4. Which instrument is used to measure time?

- A) Stopwatch
- B) Speedometer
- C) Voltmeter
- D) Altimeter

Answer: A) Stopwatch

5. What is the SI unit of time?

- A) Minute
- B) Hour
- C) Second
- D) Day

Answer: C) Second

6. What is an electronic voltmeter used to measure?

- A) Current
- B) Voltage

- C) Resistance
- D) Power

Answer: B) Voltage

7. An electronic voltmeter generally has _____ input impedance.

- A) Low
- B) Medium
- C) High
- D) Zero

Answer: C) High

8. Which component is commonly used in an electronic voltmeter for amplification?

- A) Transformer
- B) Transistor
- C) Resistor
- D) Capacitor

Answer: B) Transistor

9. What is the main advantage of an electronic voltmeter over a conventional voltmeter?

- A) Low accuracy
- B) High power consumption
- C) High sensitivity
- D) Large size

Answer: C) High sensitivity

10. Electronic voltmeters are mainly used to measure:

- A) Only DC voltage
- B) Only AC voltage
- C) Both AC and DC voltages
- D) Mechanical energy

Answer: C) Both AC and DC voltages

11. What is the main function of a CRO?

- A) Measure resistance
- B) Display waveforms
- C) Measure power
- D) Generate signals

Answer: B) Display waveforms

12. The screen of a CRO is coated with which material?

- A) Copper
- B) Phosphor
- C) Silicon
- D) Aluminum

Answer: B) Phosphor

13. Which part of CRO controls the vertical movement of the electron beam?

- A) Time base
- B) Horizontal plates
- C) Vertical deflection plates
- D) Power supply

Answer: C) Vertical deflection plates

14. The time base in a CRO is used to:

- A) Control intensity
- B) Measure voltage
- C) Provide horizontal sweep
- D) Focus the beam

Answer: C) Provide horizontal sweep

15. CRO can be used to measure:

- A) Only voltage
- B) Only frequency
- C) Only phase
- D) Voltage, frequency, and phase

Answer: D) Voltage, frequency, and phase

16. What is the primary function of a signal generator?

- A) Measure voltage
- B) Generate electrical signals
- C) Measure resistance
- D) Store data

Answer: B) Generate electrical signals

17. Which instrument is used to analyze the frequency components of a signal?

- A) Multimeter
- B) Oscilloscope
- C) Spectrum Analyzer
- D) Ammeter

Answer: C) Spectrum Analyzer

18. A function generator can produce which type of signals?

- A) Only sine waves
- B) Only square waves
- C) Sine, square, and triangular waves
- D) Only DC signals

Answer: C) Sine, square, and triangular waves

19. Which instrument is used to measure signal distortion?

- A) Wattmeter
- B) Distortion Analyzer
- C) Voltmeter
- D) Galvanometer

Answer: B) Distortion Analyzer

20. In signal analysis, which instrument is used to observe waveform in time domain?

- A) Spectrum Analyzer
- B) Oscilloscope
- C) Signal Generator
- D) Frequency Counter

Answer: B) Oscilloscope

II. Fill in the Blanks

1. An impedance bridge is used to measure _____.

Answer: unknown impedance

2. The most commonly used bridge for resistance measurement is the _____ bridge.

Answer: Wheatstone

3. The bridge used to measure inductance is called _____ bridge.

Answer: Maxwell

4. The bridge used to measure capacitance is _____ bridge.

Answer: Schering

5. In a balanced bridge, the detector shows _____ output.

Answer: zero

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11. A digital multimeter is used to measure voltage, current, and _____.

Answer: resistance

12. The readings in a digital multimeter are displayed in _____ form.

Answer: numerical

13. A digital multimeter uses an _____ converter to convert analog signals into digital form.

Answer: ADC (Analog to Digital Converter)

14. The function switch in a DMM is used to select the _____ to be measured.

Answer: quantity

15. The display unit in a DMM is usually an _____ display.
Answer: LCD
16. CRO stands for _____.
Answer: Cathode Ray Oscilloscope
17. The display screen of a CRO is coated with _____.
Answer: phosphor
18. The electron beam in a CRO is produced by the _____ gun.
Answer: electron
19. The vertical deflection plates control the _____ movement of the beam.
Answer: vertical
20. The horizontal movement of the beam is controlled by the _____ base.
Answer: time