



Electrical Measurements and Sensors

UNIT-I: Introduction to Measuring Instruments

1. Which torque is responsible for moving the pointer from the zero position?

- A) Controlling torque
- B) Damping torque
- C) Deflecting torque
- D) Frictional torque

Answer: C) Deflecting torque

2. The controlling torque in a spring-controlled instrument is given by:

- A) $T_c = kI$
- B) $T_c = k\theta$
- C) $T_c = BI$
- D) $T_c = LI^2$

Answer: B) $T_c = k\theta$

3. A PMMC instrument can be used to measure:

- A) Only AC
- B) Both AC and DC
- C) Only DC
- D) High-frequency signals only

Answer: C) Only DC

4. The deflecting torque of a PMMC instrument is:

- A) Proportional to I^2
- B) Proportional to V^2
- C) Proportional to current I
- D) Independent of current

Answer: C) Proportional to current I

5. Which measuring instrument can measure both AC and DC?

- A) PMMC Instrument
- B) Moving Iron Instrument
- C) Electrostatic Voltmeter only
- D) Tangent Galvanometer

Answer: B) Moving Iron Instrument

6. Which damping method is commonly used in PMMC instruments?

- A) Gravity damping
- B) Air friction damping
- C) Eddy current damping
- D) Spring damping

Answer: C) Eddy current damping

7. An ammeter is connected in _____ and has _____ resistance.

- A) Parallel, High

- B) Series, Low
- C) Parallel, Low
- D) Series, High

Answer: B) Series, Low

8. To extend the range of an ammeter, a _____ is connected.

- A) Capacitor in series
- B) High resistance in parallel
- C) Low resistance (shunt) in parallel
- D) Inductor in series

Answer: C) Low resistance (shunt) in parallel

9. Which type of error occurs due to improper reading of the instrument scale?

- A) Instrumental error
- B) Random error
- C) Observational (Parallax) error
- D) Environmental error

Answer: C) Observational (Parallax) error

10. Electrostatic voltmeters are mainly used for measuring:

- A) Very low current
- B) Low DC voltage only
- C) High AC and DC voltages
- D) Power factor

Answer: C) High AC and DC voltages