



Department of Electrical and Electronics Engineering

EE 8403 - Measurements and Instrumentation

Unit II - MCQ Bank

1. A moving-coil permanent-magnet instrument can be used as _____ by using a low resistance shunt.

- (A) **Ammeter**
- (B) Voltmeter
- (C) Flux-meter
- (D) Ballistic galvanometer

Answer : (A)

2. _____ is an instrument which measures the insulation resistance of an electric circuit relative to earth and one another,

- (A) Tangent galvanometer
- (B) **Megger**
- (C) Current transformer
- (D) None of the above

Answer : (B)

3. An induction wattmeter can be used for

- (A) Both D.C. and A.C.
- (B) **D.C. only**
- (C) A.C. only
- (D) Any of the above

Answer : (B)

4. Murray loop test can be used for location of

- (A) Ground fault on a cable
- (B) Short circuit fault on a cable
- (C) **Both the ground fault and the short-circuit fault**
- (D) None of the above

Answer : (C)

5. In an A.C. coordinate potentiometer, the currents in the phase and quadrature potentiometer are adjusted to be

- (A) **Out of phase by 90°**
- (B) Out of phase by 60°
- (C) Out of phase by 30°
- (D) Out of phase by 0°

Answer : (A)

6. For measuring a very high resistance we should use

- (A) Kelvin's double bridge
- (B) Wheat stone bridge
- (C) **Megger**
- (D) None of the above

Answer : (C)

7. The function of shunt in an ammeter is to

- (A) **By pass the current**
- (B) Increase the sensitivity of the ammeter
- (C) Increase the resistance of ammeter
- (D) None of the above

Answer : (A)

8. Which of the following is an essential part of a motor meter?

- (A) An operating torque system
- (B) A braking device
- (C) Revolution registering device
- (D) **All of the above**

Answer : (D)

9. _____ instruments are those which measure the total quantity of electricity delivered in a particular time.

- (A) Absolute
- (B) Indicating
- (C) Recording
- (D) **Integrating**

Answer : (D)

10. In a low power factor wattmeter the pressure coil is connected

- (A) To the supply side of the current coil
- (B) **To the load side of the current coil**
- (C) In any of the two meters at connection
- (D) None of the above

Answer : (B)

11. A direct current can be measured by

- (A) A D.C. potentiometer directly
- (B) **A D.C. potentiometer in conjunction with a standard resistance**
- (C) A D.C. potentiometer in conjunction with a volt ratio box
- (D) None of the above

Answer : (B)

12. If the current in a capacitor leads the voltage by 80° , the loss angle of the capacitor is

- (A) **10°**
- (B) 80°
- (C) 120°
- (D) 170°

Answer : (A)

13. Commonly used standard capacitor is

- (A) Spherical type
- (B) **Concentric cylindrical type**
- (C) Electrostatic type
- (D) Multilayer parallel plate type

Answer : (B)

14. Most sensitive galvanometer is

- (A) Elastic galvanometer
- (B) Vibration galvanometer
- (C) Duddlb galvanometer
- (D) **Spot ballistic galvanometer**

Answer : (D)

15. Which of the following is measured by using a vector voltmeter?

- (A) Amplifier gain and phase shift
- (B) Filler transfer functions
- (C) Complex insertion loss
- (D) **All of the above**

Answer : (D)

16. Damping of the Ballistic galvanometer is made small to

- (A) **Get first deflection large**
- (B) Make the system oscillatory
- (C) Make the system critically damped
- (D) Get minimum overshoot

Answer : (A)

17. In a vibrating reed frequency meter the natural frequencies of two adjacent reeds have a difference of

- (A) 0.1 Hz
- (B) 0.25 Hz
- (C) 0.5 Hz
- (D) **1.5 Hz**

Answer : (D)

18. Basically a potentiometer is a device for

- (A) **Comparing two voltages**
- (B) Measuring a current
- (C) Comparing two currents
- (D) Measuring a voltage

Answer : (A)

99. For measuring current at high frequency we should use

- (A) Moving iron instrument
- (B) Electrostatic instrument
- (C) **Thermocouple instrument**
- (D) None of the above

Answer : (C)

20. An induction meter can handle current up to

- (A) 10 A
- (B) 30 A
- (C) 60 A
- (D) **100 A**

Answer : (D)

21. A _____ device prevents the oscillation of the moving system and enables the latter to reach its final position quickly

- (A) Deflecting
- (B) Controlling
- (C) **Damping**
- (D) Any of the above

Answer : (C)

22. A potentiometer may be used for

- (A) Measurement of resistance
- (B) Measurement of current
- (C) Calibration of ammeter
- (D) **All of the above**

Answer : (D)

23. The electrical power to a Meggar is provided by

- (A) Battery
- (B) **Permanent magnet D.C. generator**
- (C) AC. generator
- (D) Any of the above

Answer : (B)

24. To avoid the effect of stray magnetic field in A.C. bridges we can use

- (A) **Magnetic screening**
- (B) Wagner earthing device
- (C) Wave filters
- (D) Any of the above

Answer : (A)

25. Volt box is a component to

- (A) **Extend voltage range**
- (B) Measure voltage
- (C) Compare voltage in a box
- (D) None of the above

Answer : (A)

26. Two holes in the disc of energy meter are drilled at the opposite sides of the spindle to

- (A) Improve its ventilation
- (B) **Eliminate creeping at no load**
- (C) Increase its deflecting torque
- (D) Increase its braking torque

Answer : (B)

27. Which of the following instruments indicate the instantaneous value of the electrical quantity being measured at the time at which it is being measured?

- (A) Absolute instruments
- (B) **Indicating instruments**
- (C) Recording instruments
- (D) Integrating instruments

Answer : (B)

28. The pointer of an indicating instrument should be

- (A) **Very light**
- (B) Very heavy
- (C) Either (A) or (B)
- (D) Neither (A) nor (B)

Answer : (A)

29. A phase shifting transformer is used in conjunction with

- (A) D.C. potentiometer
- (B) **Drysdale potentiometer**
- (C) A.C. coordinate potentiometer
- (D) Crompton potentiometer

Answer : (B)

30. The desirable static characteristics of a measuring system are

- (A) Accuracy and reproducibility
- (B) **Accuracy, sensitivity and reproducibility**
- (C) Drift and dead zone
- (D) Static error

Answer : (B)

31. In an Anderson bridge, the unknown inductance is measured in terms of

- (A) Known inductance and resistance
- (B) **Known capacitance and resistance**
- (C) Known resistance
- (D) Known inductance

Answer : (B)

32. The resistance in the circuit of the moving coil of a dynamometer wattmeter should be

- (A) Almost zero
- (B) Low
- (C) **High**
- (D) None of the above

Answer : (C)

33. Which of the following devices may be used for extending the range of instruments?

- (A) Shunts
- (B) Multipliers
- (C) Current transformers
- (D) **All of the above**

Answer : (D)

34. Which of the following essential features is possessed by an indicating instrument?

- (A) Deflecting device
- (B) Controlling device
- (C) Damping device
- (D) **All of the above**

Answer : (D)

35. In a Meggar controlling torque is provided by

- (A) Spring
- (B) Gravity
- (C) **Coil**
- (D) Eddy current

Answer : (C)

36. The ratio of maximum displacement deviation to full scale deviation of the instrument is called

- (A) Static sensitivity

- (B) Dynamic deviation
- (C) **Linearity**
- (D) Precision or accuracy

Answer : (C)

37. Various adjustments in an energy meter include

- (A) Light load or friction
- (B) Lag and creep
- (C) Overload and voltage compensation
- (D) **All of the above**

Answer : (D)

38. E.m.f. of a Weston cell is accurately measured by

- (A) **Electrostatic voltmeter**
- (B) Hot wire voltmeter
- (C) Isothermal voltmeter
- (D) Electrodynamic voltmeter

Answer : (A)

39. An ammeter is a

- (A) **Secondary instrument**
- (B) Absolute instrument
- (C) Recording instrument
- (D) Integrating instrument

Answer : (A)

40. The stator of phase shifting transformer for use in conjunction with an A.C. potentiometer usually has a

- (A) **Single-phase winding**

(B) **Two-phase winding**

(C) Three-phase winding

(D) Any of the above

Answer : (B)

41. According to application, instruments are classified as

(A) Switch board

(B) Portable

(C) **Both (A) and (B)**

(D) None of these

Answer : (C)

42. The switch board instruments

(A) **Should be mounted in vertical position**

(B) Should be mounted in horizontal position

(C) Either (A) or (B)

(D) Neither (A) nor (B)

Answer : (A)

43. In a Schering bridge the potential of the detector above earth potential is

(A) **A few volts only**

(B) 1 kV

(C) 5 kV

(D) 10 Kv

Answer : (A)

44. A multi-range instrument has

(A) **Multiple shunt or series resistances inside the meter**

(B) Multi-coil arrangement

- (C) Variable turns of coil
- (D) Multi range meters inside the measurement system

Answer : (A)

45. In a low power factor wattmeter the compensating coil is connected

- (A) In series with current coil
- (B) In parallel with current coil
- (C) **In series with pressure coil**
- (D) In parallel with pressure coil

Answer : (C)

46. A moving-coil permanent-magnet instrument can be used as flux-meter

- (A) By using a low resistance shunt
- (B) By using a high series resistance
- (C) **By eliminating the control springs**
- (D) By making control springs of large moment of inertia

Answer : (C)

47. Which of the following are integrating instruments?

- (A) Ammeters
- (B) Voltmeters
- (C) Watt-meters
- (D) **Ampere-hour and watt-hour meters**

Answer : (D)

48. A Weston synchronoscope is a

- (A) Moving coil instrument
- (B) Moving iron instrument
- (C) **Dynamometer instrument**

(D) None of the above

Answer : (C)

49. Wattmeter cannot be designed on the principle of

(A) Electrostatic instrument

(B) Thermocouple instrument

(C) **Moving iron instrument**

(D) Electrodynamic instrument

Answer : (C)

50. Which of the following meters are not used on D.C. circuits?

(A) Mercury motor meters

(B) Commutator motor meters

(C) **Induction meters**

(D) None of the above

Answer : (C)