**ELECTRICAL AND ELECTRONICS INSTRUMENTATION**

**1. The use of \_\_\_\_\_ instruments is merely confined within laboratories as stand¬ardizing instruments.**

(a) absolute (b) indicating

(c) recording (d) integrating

**Ans**: **A**

**2. 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

**Ans**: **B**

**3. \_\_\_\_\_ instruments are those which measure the total quantity of electricity delivered in a particular time.**

(a) Absolute (b) Indicating

(c) Recording (d) Integrating

**Ans**: **D**

**4. Which of the following are integrating instruments?**

(a) Ammeters (b) Voltmeters

(c) Wattmeters (d) Ampere-hour and watt-hour meters

**Ans**: **D**

**5. Resistances can be measured with the help of**

(a) wattmeters (b) voltmeters

(c) ammeters (d) ohmmeters and resistance bridges

**Ans**: **D**

**6. According to application, instruments are classified as**

(a) switch board (b) portable

(c) both (a) and (b) (d) moving coil

**Ans**: **C**

**7. 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

**Ans**: **D**

**8. 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

**Ans**: **C**

**9. The spring material used in a spring control device should have the following property.**

(a) Should be non-magnetic (b) Most be of low temperature co-efficient

(c) Should have low specific resistance (d) Should not be subjected to fatigue

(e) All of the above

**Ans**: **E**

**10. Which of the following properties damping oil must possess?**

(a) Must be a good insulator

(b) Should not have corrosive action upon the metal of the vane

(c) The viscosity of the oil should not change with the temperature

(d) Should be non-evaporating (e) All of the above

**Ans**: **E**

**11. 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

**Ans**: **A**

**12. 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

**Ans**: **C**

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

(a) Shunts (b) Multipliers

(c) Current transformers (d) Potential transformers

(e) All of the above **Ans**: **E**

**14. An induction meter can handle current upto**

(a) 10 A (b) 30 A

(c) 60 A (d) 100 A

**Ans**: **D**

**15. For handling greater currents induction wattmeters are used in conjunction with**

(a) potential transformers (b) current transformers

(c) power transformers (d) none of the above

**Ans**: **B**

**16. Induction type single phase energy meters measure electric energy in**

(a) kW (b) Wh

(c) kWh (d) VAR

**Ans**: **C**

**17. Most common form of A.C. meters met with in every day domestic and industrial installations are**

(a) mercury motor meters (b) commutator motor meters

(c) induction type single phase energy meters (d) all of the above

**Ans**: **C**

**18. 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

**Ans**: **C**

**19. 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

**Ans**: **D**

**20. A potentiometer may be used for**

(a) measurement of resistance (b) measurement of current

(c) calibration of ammeter (d) calibration of voltmeter

(e) all of the above **Ans**: **E**

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

(a) Tangent galvanometer (b) Meggar

(c) Current transformer (d) None of the above

**Ans**: **B**

**22. The household energy meter is**

(a) an indicating instrument (b) a recording instrument

(c) an integrating instrument (d) none of the above

**Ans**: **C**

**23. The pointer of an indicating instrument should be**

(a) very light (b) very heavy

(c) either (a) or (b) (d) neither (a) nor (b)

**Ans**: **A**

**24. The chemical effect of current is used in**

(a) D.C. ammeter hour meter (b) D.C. ammeter

(c) D.C. energy meter (d) none of the above

**Ans**: **A**

**25. In majority of instruments damping is provided by**

(a) fluid friction (b) spring

(c) eddy currents (d) all of the above

**Ans**: **C**

**26. An ammeter is a**

(a) secondary instrument (b) absolute instrument

(c) recording instrument (d) integrating instrument

**Ans**: **A**

**27. In a portable instrument, the controlling torque is provided by**

(a) spring (b) gravity

(c) eddy currents (d) all of the above

**Ans: A**

**28. The disc of an instrument using eddy current damping should be of**

(a) conducting and magnetic material (b) non-conducting and magnetic material

(c) conducting and non-magnetic material (d) none of the above

**Ans**: **C**

**29. 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)

**Ans**: **A**

**30. 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

**Ans**: **A**

**31. The multiplier and the meter coil in a voltmeter are in**

(a) series (b) parallel

(c) series-parallel (d) none of the above

**Ans**: **A**

**32. A moving iron instrument can be used for**

(a) D.C. only (b) A.C. only

(c) both D.C. and A.C. (d)None

**Ans**: **C**

**33. The scale of a rectifier instrument is**

(a) linear (b) non-linear

(c) either (a) or (b) (d) neither (a) nor (b)

**Ans**: **A**

**34. For measuring current at high frequency we should use**

(a) moving iron instrument (b) electrostatic instrument

(c) thermocouple instrument (d) none of the above

**Ans**: **C**

**35. 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 **Ans**: **C**

**36. A dynamometer 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

**Ans**: **A**

**37. 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

**Ans**: **B**

**38. The pressure coil of a wattmeter should be connected on the supply side of the current coil when**

(a) load impedance is high (b) load impedance is low

(c) supply voltage is low (d) none of the above

**Ans**: **A**

**39. 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

**Ans**: **B**

**40. 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

**Ans**: **C**

**41. In a 3-phase power measurement by two wattmeter method, both the watt meters had identical readings. The power factor of the load was**

(a) unity (b) 0.8 lagging

(c) 0.8 leading (d) zero

**Ans**: **A**

**42. In a 3-phase power measurement by two wattmeter method the reading of one of the wattmeter was zero. The power factor of the load must be**

(a) unity (b) 0.5

(c) 0.3 (d) zero

**Ans**: **B**

**43. The adjustment of position of shading bands, in an energy meter is done to provide**

(a) friction compensation (b) creep compensation

(c) braking torque (d) none of the above

**Ans**: **A**

**44. An ohmmeter is a**

(a) moving iron instrument (b) moving coil instrument

(c) dynamometer instrument (d) none of the above

**Ans**: **B**

**45. When a capacitor was connected to the terminal of ohmmeter, the pointer indicated a low resistance initially and then slowly came to infinity position. This shows that capacitor is**

(a) short-circuited (b) all right

(c) faulty (d) None **Ans**: **B** **46. For measuring a very high resistance we should use**

(a) Kelvin's double bridge (b) Wheat stone bridge

(c) Meggar (d) None of the above

**Ans**: **C**

**47. 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

**Ans**: **B**

**48. In a meggar controlling torque is provided by**

(a) spring (b) gravity

(c) coil (d) eddy current **Ans**: **C 49. The operating voltage of a meggar is about**

(a) 6 V (b) 12 V

(c) 40 V (d) 100 V

**Ans**: **D**

**50. 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

**Ans**: **C**