Chettinad College of Engineering & Technology
Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai.

Department of Electrical and Electronics Engineering

EE 8403 - Measurements and Instrumentation

Unit III - MCQ Bank

1. If an inductance is connected in one arm of bridge and resistances in the remaining three arms

(A) The bridge can always be balanced

(B) **The bridge cannot be balanced**

(C) The bridge can be balanced if the resistances have some specific values

(D) None of the above

Answer : (B)

2. Which of the following properties a damping oil must possess?

(A) Must be a good insulator

(B) Should be non-evaporating

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

(D) **All of the above**

Answer : (D)

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

(A) **Spring**

(B) Gravity

(C) Eddy currents

(D) All of the above

Answer : (A)

4. 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

Answer : (A)

5. For measurement of inductance having high value, we should use

(A) Maxwell's bridge

(B) Maxwell Wien bridge

(C) **Hay's bridge**

(D) Any of the above

Answer : (C)

6. The use of instruments is merely confined within laboratories as standardizing instruments.

(a) **absolute**

(b) indicating

(c) recording

(d) integrating

(e) none of the above

Answer: a

7. 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

8. 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

9. Which of the following are integrating instruments ?

(a) Ammeters

(b) Voltmeters

(c) Wattmeters

(d) **Ampere-hour and watt-hour meters**

Answer: d

10. Resistances can be measured with the help of

(a) wattmeters

(b) voltmeters

(c) ammeters

(d) **ohmmeters and resistance bridges**

(e) all of the above

Answer: d

11. According to application, instruments are classified as

(a) switch board

(b) portable

(c) **both (a) and (b)**

(d) moving coil

(e) moving iron

(f)both (d) and (e)

Answer: c

12. 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

13. 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

14. 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**

Answer: e

15. Which of the following properties a damping oil must possess ?

(a) Must be a good insulator

(b) Should be non-evaporating

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

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

(e) **All of the above**

Answer: e

16. 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

17. 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

18. 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**

Answer: e

19. An induction meter can handle current upto

(a) 10 A

(b) 30 A

(c) 60 A

(d) **100 A**

Answer: d

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

(a) potential transformers

(b) **current transformers**

(c) power transformers

(d) either of the above

(e) none of the above

Answer: b

21. Induction type single phase energy meters measure electric energy in

(a) kW

(b) Wh

(c) **kWh**

(d) VAR

(e) None of the above

Answer: c

22. 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

Answer: c

23. 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

24. 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

25. 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**

Answer: e

26is 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

Answer: b

27. The household energy meter is

(a) an indicating instrument

(b) a recording instrument

(c) **an integrating instrument**

(d) none of the above

Answer: c

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. 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

Answer: a

30. In majority of instruments damping is provided by

(a) fluid friction

(b) spring

(c) **eddy currents**

(d) all of the above

Answer: c

31. An ammeter is a

(a) **secondary instrument**

(b) absolute instrument

(c) recording instrument

(d) integrating instrument

Answer: a

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

(a) **spring**

(b) gravity

(c) eddy currents

(d) all of the above

Answer: a

33. 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

Answer: c

34. The switch board instruments

(a) **should be mounted in vertical position**

(6) should be mounted in horizontal position

(c) either (a) or (b)

(d) neither (a) nor (b)

Answer: a

35. 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

36. The multiplier and the meter coil in a voltmeter are in

(a) **series**

(b) parallel

(c) series-parallel

(d) none of the above

Answer: a

37. A moving iron instrument can be used for

(a) D.C. only

(b) A.C. only

(c) **both D.C. and A.C.**

Answer: c

38. The scale of a rectifier instrument is

(a) **linear**

(b) non-linear

(c) either (a) or (b)

(d) neither (a) nor (b)

Answer: a

39. 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

40. 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

41. 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

Answer: a

42. 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

43. 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

Answer: a

44. 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

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. 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**

(6) 0.8 lagging

(c) 0.8 leading

(d) zero

Answer: a

47. 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
Answer: b

48. 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
Answer: a

49. An ohmmeter is a
(a) moving iron instrument
(b) **moving coil instrument**
(c) dynamometer instrument
(d) none of the above
Answer: b

50. 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
Answer: b