1. Repulsion motor is provided with :
   (A) Commutator (B) Centrifugal switch
   (C) Capacitor (D) Squirrel cage rotor

2. Whenever a poly phase motor is loaded the :
   (A) induced emf in the rotor increases and its frequency falls
   (B) induced emf in the rotor increases and its frequency rises
   (C) induced in the rotor remains constant
   (D) induced emf in the rotor decreases and its frequency increases

3. For three resistance are connected in three phase, the power consumed will be more in _____ connection.
   (A) star delta (B) star (C) delta (D) delta-star

4. Synchronous motors run on leading power factor when connected in :
   (A) under excitation (B) rated excitation
   (C) fully loaded (D) over excitation

5. The out put voltage of a solar cell is approximately :
   (A) 1.2 V (B) 0.5 V (C) 2.1 V (D) 3 V

6. Slip rings are generally made of :
   (A) phosphor bronze (B) aluminum
   (C) copper (D) carbon

7. The hydrometer reading of fully charged lead acid battery :
   (A) 1.2 (B) 1.5 (C) 1.11 (D) 1.26

8. In induction motor percentage slip is maximum at :
   (A) low speed (B) medium speed
   (C) stand still condition (D) synchronous speed

9. Economiser is a part of :
   (A) hydel PS (B) nuclear PS (C) thermal PS (D) diesel PS

10. The crawling in an induction motor is caused by :

(A) improper design of the machine (B) low voltage supply

(C) high load (D) harmonics developed in the motor

11. The commutator segments are placed in :

(A) rotor (B) stator (C) armature (D) field

12. Reduction in the capacitance of capacitor start motor results in reduced :

(A) noise (B) starting torque

(C) speed (D) armature reaction

13. In an ac circuit the ratio of kW/kVA represents :

(A) power factor (B) load factor (C) starting torque (D) diversity factor

14. The unit of inductance is :

(A) OHM (B) MHO (C) HENRY (D) FARAD

15. Ear to ear resistance of human body :

(A) 400 (B) 1 kilo ohms (C) 650 ohms (D) 100 ohms

16. Centrifugal switches is provided for disconnecting the auxiliary winding in a :

(A) capacitor run motor (B) capacitor start motor

(C) reluctance motor (D) hysteresis motor

17. Transformer core is laminated to :

(A) reduce the copper loss (B) reduces the eddy current loss

(C) reduces the core loss (D) hysteresis loss

18. Which type of loss is **not** common to transformer and rotating machines ?

(A) eddy current loss (B) copper loss

(C) hysteresis loss (D) windage loss

19. The difference between the synchronous speed and the actual speed of an induction motor is known as :

(A) slip (B) regulation (C) black lash (D) lag

20. Three resistances of 30, 15, 5, ohms are connected in parallel, their combined resistance will be :

(A) greater than 30 ohm (B) between 30 to 15 ohm

(C) less than 5 ohm (D) between 15 to 5 ohm

21. Which of the following acts as a depolarizer in a dry cell ?

(A) zinc chloride (B) carbon powder

(C) ammonium chloride (D) manganese dioxide

22. Efficiency of a power transformer is of the order of :

(A) 50% (B) 75% (C) 98% (D) 45%

23. The strongest dia-magnetic material :

(A) sulphur (B) bismuth (C) glass (D) graphite

24. The magnitude of torque developed by a three phase induction motor depends upon :

(A) rotor current, rotor emf, rotor pf

(B) supply voltage, stator current, frequency

(C) number of poles, speed, frequency

(D) synchronous speed, rotor speed, frequency

25. Rheostat method of speed control of induction motor is used in :

(A) squirrel cage IM (B) slip ring IM (C) double cage IM (D) all of the above

26. In a three phase IM the number of poles in the rotor winding are :

(A) zero (B) less than stator poles

(C) equal to stator poles (D) more than stator poles

27. If the air gap of induction motor is increased :

(A) the magnetizing current will increase

(B) the pf will increase

(C) speed of the motor will increase

(D) friction and windage loss will increases

28. Isolate fire from the supply of oxygen by blanketing it with foam, sand etc.

(A) starving (B) cooling (C) spray water (D) smothering

29. What is the condition of ohm's law ?

(A) constant resistance (B) constant voltage

(C) constant current (D) constant temperature

30. Power p=

(A) energy/time (B) energy/voltage (C) current/voltage (D) time/voltage

31. Moving coil instruments are use :

(A) ac only (B) both ac/dc (C) dc only (D) none of these

32. Low resistance means :

(A) up to 10 ohm (B) 1 ohm and below

(C) 1000 ohm (D) 500 ohm

33. Unit of resistivity :

(A) ohm (B) ohm-m (C) ohm m^2 (D) ohm/m

34. Kelvin bridge is used for measure :

(A) capacitance (B) low resistance

(C) inductance (D) insulation resistance

35. Resistivity of eureka at 20°C :

(A) 2.8×10^{-8} (B) 1.72×10^{-8} (C) 49×10^{-8} (D) 20.2×10^{-8}

36. Application of series parallel combination :

(A) current divider (B) maximum resistance

(C) power divider (D) voltage divider

37. An earthing electrode usually made of :

(A) PVC pipe (B) carbon plate (C) glass rod (D) metal plate

38. The color of protective conductor :

(A) green - yellow (B) green - red (C) green - blue (D) green - black

39. The color of middle wire of 3 wire DC circuit is :

(A) red (B) black (C) blue (D) green

40. Example of primary cell :

(A) Lead acid cell (B) Edison cell (C) Voltaic cell (D) Nickel - iron cell

41. The amp-hour efficiency of lead acid cell :

(A) 75% (B) 90 - 95% (C) 80 - 85% (D) 60 - 65%

42. High rate discharge tester consists of :

(A) low range ammeter (B) high range voltmeter

(C) low range voltmeter (D) high range ammeter

43. The color of fresh Silica gell is :

(A) Blue (B) Red (C) Black (D) Light pink color

44. Imaginary line joining the two poles of a magnet :

(A) magnetic equator (B) magnetic pole

(C) magnetic lines (D) magnetic field

45. Rotor copper loss of a three phase induction motor is :

(A) Fractional slip × input power to the rotor

(B) Fractional slip × output of the rotor

(C) Input power × output power

(D) All the above

46. 1 Metric horse power is :

(A) 742 W (B) 735 W (C) 735.6 W (D) 746 W

47. The back emf set up in the stator of a synchronous motor will depend on :

(A) rotor speed only (B) stator speed only

(C) rotor emf (D) rotor excitation

48. The armature Wdg of repulsion motor is excited :

(A) resistively (B) inductively (C) conductively (D) capacitively

49. The main disadvantage of shaded pole motor :

(A) low starting torque (B) little over load capacity

(C) low efficiency (D) all the above

50. The armature flux opposes the main flux is in synchronous machine when the PF is :

(A) unity (B) zero lagging (C) zero leading (D) 0.8 lagging

51. Dielectric strength of a medium is :

(A) Joules/m^2 (B) Coulomb/m^2 (C) kV/mm (D) Volt/m^2

52. Electric intensity is expressed as :

(A) webber (B) Volt/m (C) emf (D) coulomb

53. Whenever two charges are separated there exist :

(A) magnetic field (B) electric field

(C) electrostatic field (D) emf

54. Potential inside the hollow charged sphere :

(A) less than its surface (B) greater than on its surface

(C) same as on its surface (D) zero

55. Capacitance in any circuit is opposition to :

(A) voltage (B) current flow

(C) any change in current (D) any change in power

56. The simple measuring instrument used to transfer measurement from the steel rule to object :

(A) try-square (B) calliper (C) scriber (D) punch

57. 2 ohm resistance having current of 2 A will dissipate the power of :

(A) 8 W (B) 8 J (C) 2 W (D) 4 W

58. If the diameter of a wire is doubled keeping the length constant the resistance :

(A) becomes one fourth (B) become twice

(C) remains same (D) becomes 4 times

59. Which of the following is linear and bilateral element ?

(A) Semiconductor (B) resistor (C) electron tube (D) transistor

60. Why accumulators are preferred to pmy cell in motor car ?

(A) they are bulk (B) they have high internal resistance

(C) they can be recharged (D) all the above

61. Sedimentation occurs in lead acid cell to :

(A) over charging at high rate (B) over charging at slow rating

(C) no use for longer period (D) slow charged rate

62. Kirchhoff's law are valid for :

(A) linear circuit (B) non-linear circuit

(C) both linear and non-linear circuit (D) passive circuit

63. The algebraic sum of all IR drops and emf in any closed loop of a network as per KVL is :

(A) +ve (B) zero (C) −ve (D) +ve or −ve

64. Form factor is the ratio of :

(A) average value/rms value (B) average value × rms value

(C) instantaneous value/rms value (D) rms value/average value

65. The power factor of the inductive load is :

(A) leading (B) lagging (C) unity (D) zero

66. A choke coil has :

(A) high inductive, high resistance (B) low inductive, low resistance

(C) low inductive, high resistance (D) high inductive, low resistance

67. A choke is used for limiting current in :

(A) AC ckt only (B) DC ckt only

(C) both AC and DC (D) either AC or DC

68. Impedance at series resonance circuit :

(A) maximum (B) average (C) minimum (D) all the above

69. Power factor is defined as :

(A) kVA/kVAR (B) kVA/kW (C) kW/kVA (D) kW/kVR

70. 2 Wattmeter method measuring power, 2 meters read equal and opposite reading the load power factor :

(A) zero (B) 0.5 (C) unity (D) above 0.5

71. The secondary current of 400 kVA, 11kV/433V, 3 phase transformer is about :

(A) 420 A (B) 533 A (C) 666.5 A (D) 840 A

72. The current rating of 400 mm^2 AYFY cable is :

(A) 400 A (B) 435 A (C) 305 A (D) 335 A

73. The maximum efficiency of distribution transformer is :

(A) $1/4^{th}$ load (B) full load (C) $3/4^{th}$ load (D) half load

74. Unit of luminous intensity :

(A) lumen (B) lux (C) candela (D) lumen/m

75. The most efficient lamp :

(A) graphene (B) LED

(C) CFL (D) sodium vapour lamp

76. The larger transformer stepped core arrangement is used to minimize the use of :

(A) core (B) copper (C) hysteresis loss (D) core loss

77. Examine the Commutator and brushes :

(A) weekly maintenance (B) monthly maintenance

(C) daily maintenance (D) yearly maintenance

78. In DC generator the voltage drop of copper-carbon brush is about :

(A) 1.6 V (B) 2 V (C) 1.75 V (D) 0.3 V

79. Alternator voltage regulation is determined by emf method. It is due to :

(A) Rothert (B) Behn-Eschenberg

(C) Faraday (D) Pointer

80. The starting torque of capacitor start, capacitor run is about :

(A) 200% of FL torque (B) 50% of FL torque

(C) 300% of FL torque (D) 100% of FL torque