

104/2015

Maximum : 100 marks

Time : 1 hour and 15 minutes

1. The supply frequency of alternating current in India :
(A) 60 Hz (B) 50 Hz
(C) 100 Hz (D) 40 Hz
2. A lead acid battery of 24 volts consists :
(A) 12 cells in parallel (B) 6 cells series
(C) 24 cells in parallel (D) 12 cells in series
3. The quality of a good conductor is :
(A) any specific resistance (B) medium specific resistance
(C) low specific resistance (D) high specific resistance
4. Unit of capacitance denotes in :
(A) Farad (B) Siemens
(C) Ohm (D) Henry
5. The term "C F L" stands for :
(A) Chloro Fluro Lamp (B) Carbon Filament Lamp
(C) Compact Fluorescent Lamp (D) Cathod Filament Lamp
6. Which of the following is a good semi conductor ?
(A) Germanium (B) Brass
(C) Mercury (D) Fibre
7. A generator converts :
(A) Electrical energy into mechanical energy
(B) Mechanical energy into electrical energy
(C) Mechanical energy into potential energy
(D) Electrical energy into kinetic energy

8. If five resistances of 5 ohm is connected in parallel the total resistance will be :
- (A) 5 ohm (B) 10 ohm
(C) 2.5 ohm (D) 1 ohm
9. Which of the following gives Direct Current ?
- (A) Transformer (B) Alternator
(C) D.C. Generator (D) A.C. Motor
10. The abbreviation "P C B" stands for :
- (A) Polythene Circuit Board (B) Printed Circuit Board
(C) Permanent Circuit Board (D) Paraffin Circuit Board
11. In a series circuit :
- (A) Voltage is divided and current will be same
(B) Current is divided and voltage will be same
(C) Current and voltage will be same
(D) Current and voltage will be divided
12. Which material is used for making heating element ?
- (A) Copper (B) Silver
(C) Nichrome (D) Carbon
13. Which material is used for making bulb filament ?
- (A) Silicon (B) Tungsten
(C) Eureka (D) Tantalum
14. Multimeter is used for measuring :
- (A) Resistance (B) Voltage
(C) Current (D) All the above
15. As per Ohm's law which statement is correct ?
- (A) $I = V/R$ (B) $V = I/R$
(C) $R = V \times I$ (D) $I = V \times R$
16. Moving coil instrument is used for measuring :
- (A) A.C. Values (B) D.C. Values
(C) Both A.C and D.C Values (D) None of the above

17. The unit of electric charge :
- (A) Ampere (B) Volt
(C) Coulomb (D) Hertz
18. Electrolyte used in lead acid battery is :
- (A) Hydrochloric acid (B) Sulphuric acid
(C) Nitric acid (D) Citric acid
19. The purpose of using flux in soldering is :
- (A) It makes the solder to flow rapidly (B) It cleans the job
(C) It prevents oxidation (D) All the above
20. A 1000 Watts bulb connected to 250 Volts supply. How much current does it take ?
- (A) 10 Amps (B) 8 Amps
(C) 4 Amps (D) 2.5 Amps
21. The resistance of a 100 Watts bulb at 250 Volts supply is :
- (A) 625 ohms (B) 62.5 ohms
(C) 62500 ohms (D) 6.25 ohms
22. The material used for making fuse wire is :
- (A) Aluminium (B) Nickel
(C) Lead and Tin alloy (D) Cobalt
23. The C.G.S unit of heat is :
- (A) Joule (B) Watt
(C) Temperature (D) Calorie
24. The insulation used between the commutator segment is :
- (A) Mica (B) Bakelite
(C) Porcelain (D) P.V.C
25. The R.P.M of a 4 pole Alternator at 50 Hz supply is :
- (A) 6000 (B) 3000
(C) 1500 (D) 2000

26. The material used for making brush in a D.C. Machine :
- (A) Bakelite (B) Copper
(C) Lead (D) Carbon
27. The height of a switch board to be fixed in domestic wiring :
- (A) 2 meters (B) 1.5 meters
(C) 1 meter (D) 1.75 meters
28. The maximum number of lighting points in a circuit is :
- (A) 8 points (B) 6 points
(C) 10 points (D) 5 points
29. Which of the material is used for making transformer core ?
- (A) Steel (B) Cast iron
(C) Aluminium (D) Silicon steel
30. The speed of a synchronous motor is :
- (A) Constant (B) Variable
(C) Absolutely constant (D) 1500 r.p.m
31. The type of oil used in transformer :
- (A) Mineral oil (B) Vegetable oil
(C) Synthetic oil (D) SERVO 40
32. A synchronous motor with 8 poles and 50 c/s frequency will run at :
- (A) 1440 r.p.m (B) 1550 r.p.m
(C) 4000 r.p.m (D) 750 r.p.m
33. Current flowing through a resistance depends on :
- (A) Only applied voltage
(B) Only value of resistance
(C) Both value of resistance and applied voltage
(D) None of the above
34. Power factor of an a.c circuit equals :
- (A) Cosine of phase angle (B) Unity for reactive circuit
(C) Zero for resistive circuit (D) Tangent of phase angle

35. An open inductive coil has :
- (A) 1000 ohm resistance (B) Zero resistance
(C) 100 ohm resistance (D) Infinitive resistance
36. Power is defined as :
- (A) Capacity to do a work (B) Rate of doing work
(C) Efficiency to do a work (D) Effect of gravitational force on mass
37. The term L E D stands for :
- (A) Liquid Emitting Diode (B) Lasor Emitting Diode
(C) Lower Emitting Diode (D) Light Emitting Diode
38. The atomic number of silicon is 14. It means its atom has 14 :
- (A) Valence electrons (B) Neutrons
(C) Electrons (D) Protons and neutrons together
39. The constituents in a solder wire is :
- (A) Lead and copper (B) Lead and tin
(C) Copper and lead (D) Copper and tin
40. Which semi conductor material is most commonly used for making IC's ?
- (A) Silicon (B) Carbon
(C) Gallium (D) Iodine
41. Which part of an atom determines whether a material is conductor, insulator or semi conductor ?
- (A) Electrons (B) Protons
(C) Neutrons (D) Valence electrons
42. Transformers are rated in :
- (A) KW (B) KVA
(C) MW (D) KV
43. The chemical contained in the breather of a transformer :
- (A) Calcium carbonate (B) Calcium oxide
(C) Calcium chloride (D) Calcium hydroxide

44. The efficiency of a transformer will be maximum when :
- (A) Iron losses are equal to copper losses
 - (B) Iron losses are more than copper losses
 - (C) Iron losses are less than copper losses
 - (D) None of the above
45. Commonly used a.c. Motor in industrial area :
- (A) Slipring induction motor
 - (B) Squirrel cage induction motor
 - (C) Synchronous motor
 - (D) Universal motor
46. The advantage of transistor over vacuum tube is :
- (A) Transistor operates at lower voltage
 - (B) Transistor is very small in size
 - (C) Less losses in the transistor
 - (D) All the above
47. If three resistances of R_1 , R_2 and R_3 are connected in series the total resistance is :
- (A) $R_1 + R_2 + R_3$
 - (B) $R_1 \times R_2 \times R_3$
 - (C) $1/R_1 + 1/R_2 + 1/R_3$
 - (D) $1/R_1 \times 1/R_2 \times 1/R_3$
48. The conversion of energy which takes place in thermal power plant :
- (A) Solar energy to electrical energy
 - (B) Hydro energy to electrical energy
 - (C) Heat energy to electrical energy
 - (D) Light energy to electrical energy
49. Which motor is used in domestic mixy's ?
- (A) Shaded pole motor
 - (B) Universal motor
 - (C) Slipring motor
 - (D) Capacitor start motor
50. The unit of impedance is in :
- (A) Ohm
 - (B) Henry
 - (C) Siemens
 - (D) Joule
51. In a star connection the ratio of the line voltage and phase voltage :
- (A) 1.414
 - (B) 1.732
 - (C) 3
 - (D) 2

52. The E.M.F of a single dry cell is :
- (A) 2 volts (B) 2.5 volts
(C) 2.3 volts (D) 1.5 volts
53. According to Faraday's law the magnitude of e.m.f induced in a conductor is proportional to :
- (A) Rate of change of flux (B) The magnitude of voltage
(C) The size of conductor (D) The magnitude of the current
54. The positive electrode of a lead acid battery is made of :
- (A) Spongy lead (B) Lead peroxide
(C) Lead sulphate (D) Red lead
55. In case of electric fire spreads :
- (A) Throw water
(B) Throw wet sand
(C) Pour soap water
(D) Use liquid carbon dioxide fire extinguisher
56. If four incandescent lamps of 100 watts, 60 watts, 40 watts and 25 watts are connected in series with 250 volts supply. Which bulb glows brighter ?
- (A) 60 watts (B) 25 watts
(C) 100 watts (D) 40 watts
57. Why the earth pin of a three pin plug become thicker and longer ?
- (A) For identifying the earth pin (B) For correct plugging
(C) For reducing resistance (D) All the above
58. The specific resistance of the electrolyte is measured with :
- (A) Hygrometer (B) Hydrometer
(C) Barometer (D) Lactometer
59. One Horse power is equivalent to :
- (A) 746 watts (B) 735 watts
(C) 750 watts (D) 1000 watts

60. The instrument used for measuring r.p.m of a motor is :
- (A) Tong tester (B) Snap on meter
(C) Tachometer (D) Speedometer
61. Joule's law states that the heat produced in a conductor is proportional to :
- (A) Voltage (B) Current
(C) Size of conductor (D) Square of the current
62. One B.O.T unit is equivalent to :
- (A) 1 kw/second (B) 1 kw/minute
(C) 1 kwh (D) 746 watts
63. The depolarizer used in dry cell is :
- (A) Manganese dioxide (B) Manganese sulphate
(C) Copper sulphate (D) Ammonium chloride
64. The specific gravity of a fully charged lead acid battery is :
- (A) 1180 (B) 1100
(C) 1280 (D) 1300
65. Which type of bulb is usually used in line testers ?
- (A) LED (B) Neon
(C) Argon (D) Halogen
66. The abbreviation "L C D" stands for :
- (A) Light Crystal Display (B) Logical Crystal Display
(C) Linear Crystal Display (D) Liquid Crystal Display
67. Dielectric strength of insulation is denoted in :
- (A) Kilo volts (B) Kilo volts/mm
(C) Volts (D) Kilo watts/mm
68. Which rectifier have more efficiency ?
- (A) Full wave bridge rectifier (B) Half wave rectifier
(C) Centre tapped rectifier (D) None of the above

69. A voltmeter is accidentally connected in series with 100 watts lamp across 240 V supply. What will be the effect of voltmeter and the bulb ?
- (A) The lamp will not glow
 - (B) The voltmeter will not give correct reading
 - (C) The lamp will give partial glow
 - (D) The voltmeter will give incorrect reading and the lamp will partially glow
70. NPN transistors are most commonly used than PNP transistors why ?
- (A) NPN transistors have low cost
 - (B) NPN transistors have higher switching speed
 - (C) Easy in + ve supply rail
 - (D) None of the above
71. When a diode is reverse biased the resistance is :
- (A) <100 ohm
 - (B) >100 ohm
 - (C) >100 Mega ohm
 - (D) Infinitive
72. The material which is not a semi conductor ?
- (A) Tantallum
 - (B) Telluruim
 - (C) Selenium
 - (D) Iodine
73. In delta connection of three phase :
- (A) Line voltage = 1.732 times of phase voltage
 - (B) Line voltage = 3 times of phase voltage
 - (C) Line voltage and phase voltage are same
 - (D) Line voltage is 220 volts and phase voltage is 440 volts
74. The ratio of true power to apparent power denotes :
- (A) Form factor
 - (B) Power factor
 - (C) R.M.S value
 - (D) Average value
75. Which of the following instrument takes higher power consumption ?
- (A) Hot wire instrument
 - (B) Moving coil instrument
 - (C) Moving iron instrument
 - (D) Integrating type instrument

76. Pure form of semi conductors are named as :
- (A) Extrinsic semi conductor (B) Doped semi conductor
(C) Intrinsic semi conductor (D) None of these
77. A gang capacitor is used in :
- (A) Filter circuits (B) Voltage stabilizers
(C) Ignition systems (D) Radio and T.V receivers
78. Which metal used in construction of cathodes in vacuum tubes ?
- (A) Tungsten (B) Molybdenum
(C) Copper (D) Zinc
79. Tong tester is used for measuring :
- (A) Voltage
(B) Power
(C) Current without disturbing the circuit or making any connection
(D) Frequency
80. Filter circuit used in electronic devices is for :
- (A) Convert A.C into D.C
(B) Convert D.C into A.C
(C) Purifying the rectifier circuit
(D) Removing the remaining A.C content from output of rectifier
81. "The Father of Political Movement" in modern Travancore :
- (A) N. Narayana Pillai (B) T.K. Madhavan
(C) G. Parameswaran Pillai (D) A.K. Pillai
82. The 20th Common Wealth Games was held at :
- (A) Glasgow (B) London
(C) Canberra (D) Delhi
83. The first President of the Indian National Congress :
- (A) A.O. Hume (B) D.E. Wacha
(C) S.N. Banerjee (D) W.C. Banerjee

84. The Brand Ambassador of Telegana state:
(A) M.S. Dhoni (B) Sania Mirza
(C) P.V. Sindhu (D) Sachin Tendulkar
85. The volunteer captain of the Guruvayoor Satyagraha was :
(A) K. Kelappan (B) T.K. Madhavan
(C) A.K. Gopalan (D) C. Krishnan
86. Misra-bhojanam (inter dining) was popularised in Kerala by :
(A) K. Ayyappan (B) Dr. Palpu
(C) C.V. Kunhiraman (D) Pandit Karuppan
87. By which congress session passed the historic resolution, Poorna Swaraj (complete Independence) at :
(A) Nagpur Congress Session 1920
(B) Karachi Congress Session 1931
(C) Bombay Congress Session 1942
(D) Lahore Congress Session 1929
88. The Foreign Secretary of India :
(A) Nirupama Rao (B) Sujatha singh
(C) Sushama swaraj (D) Meera kumar
89. The first complete census was held in India in 1881 under :
(A) Lord Lytton (B) Lord Mayo
(C) Lord Rippon (D) Lord Dufferin
90. The Apex level agency of 'Kudumba Sree' project in Kerala :
(A) CDS (B) SSA
(C) RMSA (D) ADS
91. The Rourkela Steel Plant in Orissa (Odisha) with the collaboration of :
(A) France (B) Russia
(C) U.K. (D) Germany

92. Which soil is suitable for the production of cotton ?
(A) Alluvial soil (B) Black soil
(C) Red soil (D) Laterite soil
93. "Atma Vidya Sangham" founded by :
(A) Swami Vagbhatanda (B) Swami Agamanda
(C) Vaikunda Swamikal (D) Chattambi Swamikal
94. "The Accidental Prime Minister" a book written by :
(A) Salman Khurshid (B) M.K. Narayan
(C) T.K.A. Nair (D) Sanjay Baru
95. Part III of Indian constitution refers :
(A) The Union
(B) The Fundamental Rights
(C) The Union and its territory
(D) Directive Principles and fundamental duties
96. When the Travancore – Cochin states united ?
(A) 27th July 1947 (B) March 24, 1948
(C) July 1st 1949 (D) October 18, 1947
97. Who has been chosen for the Jnanpith award 2013 ?
(A) Kedarnath Singh (B) Ravuri Bharadwaj
(C) Mahesweta Devi (D) Sugatha kumari
98. Human Rights Day observed on :
(A) June 5 (B) October 24
(C) July 11 (D) December 10
99. Which organ is called, "the laboratory of the human body" ?
(A) heart (B) liver
(C) lungs (D) cerebellum
100. The currency of South Africa :
(A) Real (B) Rand
(C) Rouble (D) Renminibi Yuan