**QUESTION BANK**

**Choose the correct answer**:-

1. As per Ohm’s law statement in the circuit,current is directly proportional to……………………..
2. Voltage (b) resistance (c) temperature (d) specific resistance
3. Which law states that the relation between the current,voltage, and resistance in a closed circuit is at a constant temperature?
4. Kirchoff’s current law (b) Ohm’s law (c) Kirchoff’s voltage law

(d)Laws of resistance

1. Which law states that, in each closed circuit, the sum of all voltage drops are equal to zero?
2. Ohm’s law (b) Kirchhoff’s first law (c) Kirchoff’s second law (d) Coulomb’s law
3. What is the unit of power?
4. Kilo volt (b) watt hour (c) kilo watt (d) kilo watt hour
5. What is the commercial unit of electrical energy?
6. Mega watt hour (b) kilo watt hour (c) watt hour (d) watt seconds
7. When the current is passed through the conductor, it gets heated. That effect is called as ……………
8. magnetic effect (b) thermal effect (c) chemical effect (d) electrostatic effect
9. What is the formula to be used to find the power, if the current and voltage values are known?
10. V x I (b) V /I2 (c) V2 x I (d) V x I2
11. An appliance has a resistance of 100 ohms, takes 2 amperes. What is the power consumed by the appliance?
12. 400 watts (b) 300 watts (c) 450 watts (d) 350 watts
13. A 1000 watts heater is connected to a 240 V, AC supply. Then the current drawn by the heater is …….
14. 4,006 amperes (b) 4.106 amperes (c) 4.160 amperes (d) 4.166 amperes
15. What is the power input to an electric heater, that draws 4 amperes at 250 volts supply source?
16. 360 watts (b) 480 watts (c) 720 watts (d) 960 watts
17. The potential difference is measured by …………..
18. Ammeter (b) ohmmeter (c) voltmeter (d) wattmeter
19. The S.I. unit of electric charge is ………………….
20. Volt/ohm (b) ampere/second (c) watt second (d) coulomb
21. The unit of the quantity of electricity is ………………
22. Ampere/second (b) coulomb (c) mho (d) watt-second
23. Kilowatt hour (kWh) is the unit of ……………….
24. Electrical power (b) electrical energy (c) quantity of electricity (d) Electric current
25. The resistance of the material depends on ……………..
26. Length (b) Area of cross section (c) Material (d) All of these
27. The resistance of wire varies inversely as ………
28. Area of cross section (b) Length (c) Resistivity (d) Temperature
29. Over-load current protection for a motor is provided by:
30. Catridge fuse (b) kit-kat fuse (c) over-load current relay (d) all the above
31. In a motor circuit, a fuse provides:
32. Over-load current protection (b) short-circuit protection (c) open-circuit protection (d) none of the above
33. The fuse rating is expressed in terms of:
34. Voltage (b) Current (c) KVA (d) VAR
35. For safety point of view, the fuses should be placed in …………………..
36. neutral cable (b) phase cable (c) earth wire (d) any wire/cable
37. Which one of the following is the primary function of the fuse?
38. To protect the operator (b) To protect the line (c) To prevent excessive current (d) To open the circuit
39. A fuse in an electrical circuit “blows” as a result of a high ………………
40. Voltage caused by a short circuit (b) current flow caused by a short circuit (c) current flow caused by an open circuit (d) All of the above.
41. 35 S.W.G. copper wire has a fusing rate of …………..
42. 6 amperes (b) 5.5 amperes (c) 5 amperes (d) 4 amperes
43. As compared to rewirable fuses. H.R.C. fuses have ……………..
44. High rupturing capacity (b) high speed of operation (c) no ageing effect (d) low rupturing effect
45. The protective device which will not open the circuit even after 4 hours, when the current is 1.5 times the excess of the rated current will be ……
46. H.R.C. fuses (b) Catridge fuses (c) Circuit breakers (d) rewirable fuses
47. The specification surface type tumbler switch, one way is ……………..
48. 6A.,250 V (b) 6A., 240 V (c) 6A., 230 V (d) 6A., 250 V
49. In which type of accessories, intermediate switch belongs?
50. Holding accessories (b) Safety accessories (c) Controlling accessories
51. Outlet accessories
52. A length of conductor which is having one or more cores insulated from each other is called as ……………
53. Core (b) strand (c) wire (d) cable
54. What is the advantage of stranded conductors over solid conductors?
55. More flexible (b) More area of cross section (c) More resistance (d) More weight
56. The current rating of double pole iron clad switch is from …….
57. 15 A to 200 A (b) 16 A to 220 A (c) 16 A to 200 A (d) 15 A to 250A
58. What is the use of a crimping tool ?
59. It is used for soldering (b) It is used to desolder the cable joint (c) It is used to cut the cable as per needs (d) It is used to connect cable ends to connectors
60. Two pin socket and plug is rated as ……………
61. 6A., 220 V (b) 6A., 230 A (c) 6A., 240 V (d) 6A., 250V
62. HRC full form is ……………
63. High Rating capacity (b) High Rupturing capacity (c) High Rating current (d) High Rupturing current
64. A fuse is …………….
65. Always connected in series with the circuit (b) Always connected in parallel with the circuit (c) Normally connected in series with the circuit (d) Normally connected in parallel with the circuit
66. The main function of fuse is to…………..
67. Protect the line (b) Prevent excessive currents (c) Protect the appliance (d)Open the circuit
68. H.R.C. fuse provides best protection against …………..
69. Short circuit (b) Reverse current (c) overload (d) open circuits
70. The specific resistance of insulator is expressed in ………………
71. The dielectric strength is expressed as ……………..
72. Asbestos is used for ……. And ……….
73. The rubber is being replaced now a days by …………….
74. Mica is used on ……..
75. Examples of liquid insulators are …….. and ……….
76. The purpose of using transformer oil is ……….and ………..
77. Match the following correctly.

Mineral Insulator Paraffin wax

Synthetic products Asbestos

Fibrous materials Ebonite

Rubber and rubber product Bakelite

Vitreous materials Mica

Waxes and compounds Porcelain

1. Which one of the following conductors is used in bulbs ?
2. Tungsten (b) Carbon (c) Copper (d) Nichrome
3. Which one of the following conductors is used in heating elements?
4. Tungsten (b) Carbon (c) Copper (d)Nichrome
5. Which one is not an electrical conducting materials ?
6. Copper (b) Aluminium (c) Silver (d) Glass
7. Which one of the following is not a conductor ?
8. Silver (b) Copper (c) Aluminium (d) PVC
9. The material that contains free electron is ………….
10. Silver (b) PVC (c) Mica (d) Rubber
11. Which of the following is a good conductor ?
12. China day (b) Porcelain (c) Graphite (d) Glass
13. The SWG No. 36 is equal to ………………
14. 0.0084 inh or 0.21 mm dia (b) 0.0092 inch or 0.23 mm dia (c) 0.0100 inch or 0.25 mm dia (d) 0.0076 inch or 0.19 mm dia
15. Which one of the following material is the insulating material?
16. Water (b) Carbon (c) Mica (d) Copper
17. What is the insulating material used for heater base ?
18. Asbestos (b) Mica (c) Porcelain (d) Bakelite
19. Which insulating material is having high dielectric strength?
20. Porcelain (b) Fiber (c) Mica (d) Glass
21. Which material is NOT an insulating material?
22. Wood (b) Carbon (c) Asbestos (d) Bakelite
23. Which materials is the good conductor of current from the following?
24. Rubber (b) Copper (c) Ebonite (d) Bakelite
25. The main property of insulating material is ………………
26. Quick absorption of moisture (b) high specific resistance (c) high dielectric strength (d) high temperature coefficient of expansion
27. PVC stands for ……………
28. Polyvinyl chloride (b) Post vanish conductor (c) Pressed and vanished cloth (d) Positive voltage conductor
29. A capacitor consists of two
30. Insulation separated by a dielectric (b) conductors separated by an insulator (c) ceramic plates and one mica disc (d) silver coated insulators
31. The capacitance of a capacitor is NOT influenced by
32. Plate thickness (b) plate area (c) plate separation (d) nature of the dielectric
33. A capacitor that stores a charge of 0.5 coulomb at 10 volts has a capacitance of ………………..farads
34. 5 (b) 20 (c) 10 (d) 0.05
35. The unit of capacitance is:
36. Coulomb (b) volt (c) farad (d) ampere
37. The total capacitance of a group of capacitors is increased when they are connected in:
38. Series (b) parallel (c) series-parallel (d) parallel-series
39. The type of capacitor used in capacitor start motor is ………………..
40. Electrolytic capacitor (b) ceramic capacitor (c) paper capacitor (d) mica capacitor

**Fill in the blanks:-**

1. A magnet has ………………..poles.
2. Like poles ………………..each other.
3. Unlike poles ……………each other.
4. The space around a magnet in which its magnetic effect exists is called ……………
5. It is easy to magnetise ……………..materials

**True & false:-**

1. The unit of magnetic flux is weber.
2. A soft magnetic material is not used for making laminated cores.
3. Each molecule of a magnetic material is complete magnet.
4. A relay is a magnetically operated switch that can only be operated on DC.
5. Ferrites are magnetic substances but have high resistance.

**Choose the correct answer:**

1. A natural magnet is called:
2. Steel (b) load stone (c) magnetism (d)soft iron
3. Externally, the magnetic lines of force travel:
4. North to south (b) south to north (c) negative to positive (d) in both the direction
5. The force acting between two magnetic poles is:
6. Directly proportional to the distance (b) inversely proportional to the distance (c) directly proportional to the square of the distance (d)inversely proportional to the square of the distance
7. The permeability of a material means:
8. Strength of a magnet (b) strength of an electromagnet (c) magnetization remained in an iron bar on withdrawal of the magnetizing force (d) the conductivity of a magnetic material for the magnetic lines of force
9. Which of the following material is used for making permanent magnets?
10. Carbon steel (b) Platinum cobalt (c) ALNICO-V (d) All of these
11. Which rule is used to determine the direction of the magnetic field?
12. Helix rule (b) End rule (c) Right hand grip rule (d) Fleming’s right hand rule
13. Which law/rule states that the magnitude of the induced e.m.f. is directly proportional to the rate of change of flux linkage ?
14. Lenz’s law (b) Faraday’s first law of electromagnet induction (c) Faraday’s second law of electromagnetic induction (d) Fleming’s right hand rule
15. When the distance between the turns of wire in a magnetic coil is increased then the inductance of the coil will…….
16. Increase (b) decrease (c) become zero (d) remain same
17. The unit of reluctance is …………………..
18. ampere/cm2 (b) weber/m2 (c) ampere turns/weber (d)ampere/weber
19. What is the unit of permeability ?
20. Ampere turns (b) weber/m 2 (c) ampere turns/weber (d) weber/metre 2
21. What is the unit of magneto motive force (mmf)?
22. Tesla (b) ampere turns (c) ampere/turns (d) weber/metre 2
23. The flux per unit area of a material is known as …………….
24. Flux density (b) magnetic lines of force (c) reluctance (d) magneto motive force (mmf)
25. Which of the following materials is a paramagnetic substance ?
26. Iron (b) Glass (c) Alluminium (d) Nickel
27. The …. Is the unit for measuring the m.m.f. of a current carrying coil.
28. A.T. (b) current (c) emf (d) none of these
29. The e.m.f. induced in a coil depends upon ……
30. Number of its turns (b) The change of flux linked with it (c) The time taken to change the flux (d) All of these
31. The direction of the induced e.m.f. in a coil is found by ……
32. Faraday’s Law (b) Lenz’s law (c) Fleming’s left hand rule (d) Fleming’s right hand rule

**Fill in the blanks:-**

1. The unit of inductive reactance is …………….
2. The power dissipated in a pure inductive circuitis ……………..
3. The opposition offered by a capacitor to the flow of A.C. through it is called …………
4. Volts x current in an a.c. circuit is called the ………………
5. For improving the power factor, …………… is used across the line.
6. The capacity of a parallel plate capacitor can be increased by …… the area of its plates.
7. The capacity of a parallel plates capacitor can be increased by ……. The distance between its plates.
8. The unit of energy stored in a capacitor is ………………
9. In addition to capacitance value, capacitors are rated for their …..
10. A system of two conductors separated by an insulator is called a ………

**True & false:-**

1. The inductive reactance ( x ) of a circuit increases with an increase in the frequency, while the capacitive reactance ( x ) decreases with an increase in the frequency.
2. The R.M.S. value of A.C. is always higher than the average value.
3. A.C. cannot be stopped-down easily while the D.C. can be stepped down easily.
4. The power factor of a pure resistive circuit is always zero.
5. In tube light circuits, capacitor is used to improve the power factor.
6. The reciprocal of a reactance is called susceptance (B) and its unit is simen.
7. Admittance ( Y) is equal to the sum of conductance (G) and susceptance (B) in an A.C. circuit.
8. The total capacitance of a series group of capacitors is equal to the capacitance lesser than the least value f the capacitors.
9. By increasing the P.D. across a capacitor, the magnitude of charge stored in the same also increases.
10. The capacitance of a capacitor can be expressed by using a colour code that is used for carbon resistors.

111. Power factor of an A.C circuit is equal to:

1. Cosine of angle between voltage and current
2. Tangent of angle between voltage and current
3. Impedance/resistance
4. Apparent power/real power.

112. The resistance of an open circuit is equal to:

1. Zero b)lesser than one ohm

c) Infinite d) lesser than before.

113. The unit of inductance is:

1. Farad b) ohm

c) Mho d) henry

114. The power dissipation of a pure inductor is:

1. Very low b)zero

c) Very high d) lesser than unity

115. on passing A.C through an inductor:

1. Voltage leads the current
2. Voltage and current remain in phase
3. Voltage lags behind the current
4. Voltage drop is equal to / x Z

116. The magnitude of inductance ...............with an increase

a) Decreases

b) Remains unchanged

c) Increases

d) Becomes zero

117. The power factor of a pure resistive circuit is equal to:

a) Zero

b) 1

c) 0.5

d) 0.8

118. The difference between peak positive and peak negative values of an A.C voltage is called:

1. maximum value c) effective value
2. Average value d)peak–to peak value

119. The R.M.S value of A.C is equal to:

1. 0.637 Of max. Value c) 1.414 of max value
2. 0.707 of max value d) the maximum value

120. The value of form factor of a pure sine-wave is:

a) 1.414 c) 0.637

b) 0.707 d) 1.11

121 In star connection system..

1. Line current is equal to phase current
2. Line voltage is equal to phase voltage
3. Line current is equal toѴ3 times the phase current
4. None of these

122. A.C main supply in India has the frequency of...

1. 100 Hz c) 50 Hz
2. 60 Hz d) 40 Hz

123. According to the I.E. Rules, the permissible variation of frequency is...

1. 3% c) 8%
2. 5% d) 10%

124. Peak factor is the ratio of...

1. Peak value of R.M.S value
2. Peak value to average value
3. R.M.S value to average value
4. Average value to R.M.S value

125. From factor =

a) Average value c) Instantaneous value

R.M.S value Average value

1. Average value d) R.M. S. value

Peak value Average value

126. The direction of current is an A.C. Circuit...

1. Is from +ve to –ve
2. Is always in one direction
3. Varies from instant to instant
4. Cannot be determined

127. Power factor can be improved by...

1. Static capacitor
2. Synchronous condenser
3. Phase advancer
4. All of these

128. The main purpose of filling oil in a circuit breaker is:

a ) To produce insulation effect

b) To stop the ionisation of the surrounding air

c) To ensure the operation of the device at a low temperature

d) To suppress the sparking produced across the connector at the time

of breaking a circuit.

129. in circuit breakers the device used for tripping the line

In the event of short-circuit is of.........type.

a) Magnetic

b ) Thermal

d) Magnetic and thermal

d) Low voltage.

130. The circuit breaker which does not contain any

Serviceable part is known as:

a) Oil circuit breaker (OCB)

b) Miniature circuit breaker (MCB)

c) Air circuit breaker (ACB)

d) Air blast circuit breaker (ABCB)

131. Short circuit protection is provided in the circuit breaker by...

1. Magnetic and thermal release
2. Thermal release
3. Magnetic release
4. Low voltage release

132. Miniature circuit breaker (MCB) are used in domestic and commercial

Installations for control and protection.

What is the range of current rating of single pole MCBs Commercially?

Available?

1. 2.0 to 6 amps. c) 1.0 to 62 amps.
2. 0.5 to 60 amps d) 6.0 to 32 amps.

133. Miniature circuit breakers (M.C.B) are used in domestic and commercial

Installations for control and protection.

The current rating of double pole and triple pole MCB is......

1. 2.0 to 6 amperes c) 5.0 to 60 amperes
2. 0.5 to 60 amperes d) 6.0 to 100 amperes

134. Current rating of MCB selected for an air conditioner of 1 ton is......

1. 10/15 amperes c) 10/20 amperes
2. 15/20 amperes d) 15/30 amperes

135. ELCB stands for.........

1. Electrical Leakage Circuit Breaker
2. Earth Leakage Current Breaker
3. Earth Leakage Circuit Breaker
4. Electrical Line Circuit Breaker

136. The expansion form of RCCB is...........

1. Residual Current Circuit Breaker
2. Residual Circuit Current Breaker
3. Residual Current Control Breaker
4. Residual Control Circuit Breaker

137. MCCB’s expansion is...........

1. Moulded Case Circuit Breaker
2. Main Case Circuit Breaker
3. Main Control Circuit Breaker
4. Main Current Circuit Breaker.

138. The rupturing capacity of circuit breakers is generally expressed in....

1. Mega volt ampere (MVA)
2. Kilo volt ampere (KVA)
3. Kilo ampere ( KA)
4. Volt ampere ( VA)

139. MCB stands for.......

1. Miniature Current Circuit Breaker
2. Maximum Current Circuit Breaker
3. Moulded Cabinet Circuit Breaker
4. Moulded Case Circuit Breaker

140. The expansion of MCB is.........

1. Miniature Circuit Breaker
2. Moulded Circuit Breaker
3. Main Circuit Breaker
4. Maintained Circuit Breaker

141. for air conditioner of 1.5 ton capacity, sockets with MCB rating is....

1. 16 A c) 20 A
2. 18 A d) 22 A

142. No. Of poles in MCB (TPN) is.......

1. 2 Poles c) 3 poles
2. 4 poles d) 5 poles

143. SF-6 gas is.

a) Sulphur fluoride

b) Sulphur di fluoride

c) Sulphur hexa di fluoride

d) Sulphur hexa fluoride

144. Which of the following circuit breakers is preferred for EHT application?

1. Air blast circuit breaker
2. Minimum oil circuit breaker
3. Bulk oil circuit breaker
4. SF-6 oil circuit breaker

145. RCCB stands for...

1. Residual Current Circuit Breaker
2. Released Current Circuit Breaker
3. Residual Capacitance Circuit Breaker
4. Released Capacitance Circuit Breaker

146. A three phase motor of 1.15 kW. Full load current of 3.5 Amperes,

Then T.P M.C.B range is...

1. 4 A c) 4 A or 5 A
2. 5 A d) 3 A

147. On occurrence of fault on the connected circuit, a circuit breaker operates....

1. Manually.
2. Automatically
3. Manually through a control switch
4. Depending upon the circuit breaker design

148. Earth wire or ground wire is made of:

1. Copper c) iron
2. Aluminium d) galvanized steel

149. Average resistance of human body is:

1. 500 ohms c) 1000 ohms
2. 1500 ohms d) 2000 ohms

150. Generally earthling is provided for:

1. Only for the safety of the equipment
2. Only for the safety of the operating personnel
3. Both (a) and (b) d)None of the above

151. When earth fault occurs:

1. Voltage potential at the earth mat increases due to earthling.
2. Voltage potential at the earth mat decreases due to earthling
3. Voltage potential at the earth mat remains zero irrespective of fault
4. None of the above

152. The objective of earthling or grounding is :

1. to provide as low resistance possible to the ground
2. To provide as high resistance possible to the ground
3. To provide flow of positive, negative and zero sequence currents
4. None of the above

153. Moisture content in the soil....................... The earth soil resistance:

A ) increase c) does not affect

b) Decrease d) none of the above

154. Factors on which soil resistance depends:

a) depth of the electrode c) Na CI

b) Moisture d) all the above

155. What is the main purpose for providing earthling to the electrical equipments?

1. To protect the equipment from excess current
2. To maintain the line current constant
3. To maintain the supply voltage constant
4. To increase the life of the equipments

156. Why does the earth conductor provide a path to ground?

1. For over current c) For leakage current
2. For high voltage d) For low voltage

157. Which colour wire is recommended for earth connection ass per ISI code?

1. Red c) Black
2. Green d) Blue

158. An earthling connection to a C.I pipe is necessary:

1. To prevent a damage to the insulation wires
2. To prevent a damage to the wires
3. For safe current flow
4. To pass the leakage current to the earth

159. The resistance of the earth:

1. 1 M c) infinite
2. 20 M d) about zero

160. In an earth-point, charcoal and salt are used:

1. To protect the plate against rust
2. To absorb the moisture of the surrounding soil
3. To increase the moisture of the surrounding soil
4. To hold the plate firmly in the soil.

161. Earth continuity conductors should run from the machine to the

Panel boards and to the main, no. of earth electrodes are..........

1. 1 c) 3
2. 2 d) 4

162. The equipment earthling protects from the..............

1. Leakage current c) lightning strokes
2. Breakdown current d) operational surge voltages

163. As a rule, the minimum stance between two electrodes shall now be less than........

1. One time the length of electrode c) Three times the length of electrode
2. Two times the length of electrode d) Four times the length of electrode

164. A metal plate, pipe (or) other conductor (or) an array of conductors electrically

Connected to the general mass of the earth is called.....

1. Earth wire c) Earth continuity conductor
2. Earth electrode d )Earth terminal

165. What size of the copper earth continuity conductor is recommended to the

2 2

1. 2.5 mm c) 3mm 2
2. 2.5 mm/2 d) 4mm

166. Rod electrodes of copper used for earthling should be atleast12.5 mm in

Diameter and those of steel or galvanised iron shall be at least in diameter......

1. 18mm c) 12.5 mm
2. 16mm d) 10 mm

167. `For plate earthling the thickness of the G.I or steel plate should not be less than ......

1. 3.30 mm c) 5.30 mm
2. 4.30 mm d) 6.30 mm

168. The potential of neutral is.........

1. Low c) medium
2. High d) zero

169. The ground wire should not be smaller than no..................copper.

1. 4 ` c) 2
2. 10 d) 6

170. The earthy wire should not be thinner than a..................

1. 20 SWG wire c) 10 SWG wire
2. 16 SWG wire d) 8 SWG wire

171. The mass of material deposited over an electrode is:

1. Proportional to voltage
2. Proportional to time only
3. Proportional to current only
4. Proportional to quantity of electricity and E.C.E

172. In electroplating, the positive electrode is called:

1. Cathode c) anode
2. Terminal d) ion trap

173. Distilled water is used to electrolytes because it:

1. prevents or slows down local action
2. speeds up electrochemical action
3. improves specific gravity
4. prevents polarisation

174. The condition of electrolyte in a battery is measured in terms of:

1. current value c) acid contents
2. specific gravity d) voltage output

175. The function of a dry cell is to convert:

1. chemical energy to mechanical energy
2. chemical energy to electrical energy
3. electrical energy into a mechanical energy
4. electrical energy into magnetic energy

176. Cells are connected in parallel to:

1. increase the internal resistance c) increase the current capacity
2. Increase the output E.M.F. d) decrease the current capacity

177. Cells are connected in series to:

1. Decrease the output e.m.f. c) decrease the internal resistance
2. Increase the output e.m.f d) increase the current capacity

178. Secondary cell can produce large amount of power for a :

1. Short time and can be recharged
2. Long time and can be recharged
3. Short time and cannot be recharged
4. Long time and cannot be recharged

179. Gassing occurs in the process of:

a) Charging an accumulator

b) Charging a dry cell

c) Discharging an accumulator

d) Discharging a dry cell

180. The charge condition of a secondary cell can be checked by:

1. its terminal voltage
2. the colour of its electrolyte
3. the level of its electrolyte
4. its terminal voltage and specific gravity of its electrolyte

181. Electrolyte of a lead-acid battery is formed by adding:

a) Water to hydrochloric acid

b) Sulphuric acid to water

c) Hydrochloric acid to water

d) Water to sulphuric acid

182. The ampere-hour capacity of a battery depends on:

1. the thickness of plates
2. the distance between the plates
3. the number and area of plates
4. the strength of electrolyte

183. The internal resistance of a discharged battery:

1. is high c) remains the same
2. is low d) is negative

184. The separators in a lead-acid battery are designed to prevent the plates from:

1. touching the electrolyte c) shorting with the sediments
2. shorting together d) touching the container

185. A lead-acid cell is rechargeable because:

1. its electrolyte is sulphuric c) its chemical action is reversible
2. it is wet cell d) its electrolyte has a high specific gravity

186. When a lead-acid battery is needed to be kept idle for a long time then:

1. overcharge the battery
2. clean the plates with distilled water
3. remove the electrolyte
4. remove electrolyte and dry up the battery and store

the same in a cool, dry and clean place.

187. Cells can be classified into two categories namely;

1. cylindrical cell and rectangular cell
2. dry cell and wet cell
3. primary cell and secondary cell
4. acid cell and alkali cell

188. The current rating of a battery is given in ------

1. amperes c) coulombs
2. ampere-hours d) all the above stated materials

189. The active material of a lead-acid cell is/are ----------

1. spongy lead c) dilute sulphuric acid
2. lead peroxide d) all the above stated material

190. Boost charge is given to a ----

1. dead battery c) full charged battery
2. battery in danger of becoming

Over-discharged during a working shift d) completely discharged battery

191. In order to charge a 6 V battery in constant voltage charging method,

The D.C. output of the charger should be -----

1. 6 V c) 8 V
2. 7 V d) 9 V

192. The ratio of normal charging current to the trickle charging current is ----

1. 1:2 c) 1:20
2. 1:10 d)\_ 1:100

193. Which gas is produced during charging a lead-acid battery ---

1. Hydrogen c) Oxygen
2. Methane d) Carbon dioxide

194. The normal voltage of a fully charged lead acid cell is......

1. 1.1 V c) 2.2 V
2. 1.5 V d) 3.0 V

195. The negative plate of a lead acid cell is........

1. P b O c) Pb

2

1. PbSO d) H SO

4 4 4

196. The relative density of the electrolyte is in a lead acid battery is 1.280. This value

Indicates that the battery is..................

1. Fully discharged c) three quarter charged
2. Half charged d) fully charged

197. The main purpose of lead acid battery is to store electrical energy in the form of....

1. Kinetic energy c) chemical energy
2. Potential energy d) mechanical energy

198. The electrolyte used in a lead acid battery is........

1. Sulphuric acid and diluted lead
2. Diluted lead and pure water
3. Pure water and distilled water
4. Distilled water and sulphuric acid

199. The active material used in positive plates of lead acid cell is......

1. Pb c) PbO

3

1. PbO d) PbSO

2 4

200. The material of the negative plates of the lead acid battery is.......

1. Lead sulphate3 ( Pb S O ) c) Nickel chromium

4

1. Carbon rod d) Pure lead (Pb)

201. Which material is applied to the terminal posts of a lead acid battery?

to avoid corrosion ?

1. Ammonium sulphate c) Petroleum jelly
2. Silica gel d) Sulphur powder

202. Why are vent holes provided in wet cells?

1. To let gases escape during charging
2. To let gases escape during discharging
3. To let gases escape during charging and discharging
4. To pour electrolyte.

203. The number of positive plates in a battery cell is..............

a) One more than the negative plates.

b) One less than the negative plates.

c) Two less than the negative plates.

d) Two more than the negative plates.

204. A maintenance-free battery..................

a) Has lead-antimony plate grid

b) Has lead-calcium plate grid.

c) Does not contain acid.

d) Does not contain water.

205. The capacity of a battery is determined by the number of plates and.............

1. Number of cells c) size of plates
2. Shape of plates d) number of separators

206. What type method of charge can be done on a battery with fully?

Discharged and kept for a long time?

1. Trickle charge c) Constant voltage
2. Constant current d) Rectifier charging

207. Which material is applied to the terminal post to avoid sulpha ion?

1. Ammonium sulphate c) Silica gel
2. Petroleum jelly d) Sulphur powder

208. If the battery is recharged for a longer period at a low rate called.....

1. Constant current method charging
2. Constant voltage method charging
3. Rectifier method charging
4. Trickle charge method

209. The name of the electrolyte use in the form of moist

Paste in dry cell is called.......

1. Potassium hydroxide
2. Diluted sulphuric acid
3. Ammonium chloride
4. Alkaline solution

210. In a online UPS system, the switch over time from mains to battery is ....

1. 10 mill seconds c) 9 mill seconds
2. 8 mill seconds d) zero seconds

211. An electronic device, that converts Direct Current (DC) to

Alternating Current (AC), is called as...

1. Converter c) Inverter
2. Rectifier d) diode

212. A battery consists of a.................

1. Cell c) generator
2. Circuit d) number of cells

213. When main supply fails, alternate supply is obtained immediately

And automatically by..........

1. Diesel generator c) U.P.S
2. Gas turbine generator d) Battery source

214. The life of a lead acid battery is expected to be...............

1. 6 months c) 2 to 5 years
2. 1 years d) 10 to 15 years.

215. Cells are connected in series in order to increase the.............

1. Current capacity c) Voltage rating
2. Life of the cells d) Terminal voltage

216. Tumbler switches are made of:

1. Iron c) plastic
2. Rubber d) Bakelite

217. The minimum cross-sectional area of a copper conductor used in a

A “light and fan” sub-circuit should be:

1. 1 mm2 c) 2 mm2

1. 2.5 mm2 d) 3 mm2

218. The minimum cross-sectional area of an aluminium conductor used

In a “light and fan” sub circuit should be:

1. 1 mm2 c) 2.5 mm2

1. 1.5 mm2 d) 4 mm2

219. The minimum cross-sectional area of a copper conductor used

In a ‘power’ sub-circuit should be:

1. 1.5 mm2 c) 2.5 mm2

1. 2.0 mm2 d) 4.0 mm2

220. The minimum cross-sectional area of an aluminium conductor used

In a ‘power’ sub-circuit should be:

1. 1.5 mm2 c) 2.5 mm2

1. 2.0 mm2 d) 4.0 mm2

221. If mechanical and fire safety is important factors, the wiring should be:

1. Lead sheathed type c) T.S.Type
2. Conduit type d) casing-caping type

222. A stair case point is operated with:

1. Two one-way switches c) two intermediate switches
2. Two two-way switches d) None of these

223. Outlets above 15 A rating should be connected through a :

1. Two-way switch c) T. P. Switch
2. D.P. Switch d) D.P.T.S. Switch

224. Which one of the following material is used to fix the screw on

Concrete wall and ceiling?

1. Link clips c) Saddles
2. Bushings d) Rowl plugs

225. To estimate the materials and cables, the diagram which is very?

Useful will be:

1. Laying diagram and wring diagram
2. Installation plan and circuit diagram.
3. Circuit diagram and installation plan
4. Wiring diagram and circuit diagram.

226. As compared to rewritable fuses ,HRS fuses have .........

1. High rupturing capacity
2. High speed of operation
3. No ageing effect
4. Low rupturing effect

227. `As per standard practice the circuit of different phases should be kept at ......

1. 3.5 meters c) 3.05 meters
2. 2.55 meters d) 2.05 meters

228. The distance between clips in horizontal runs shall not exceed.......

1. 20 cm c) 10 cm
2. 15cm d) 5 cm

229. What is the minimum distance to be kept between link clips in the

Case of vertical runs?

1. 20 cm c) 15 cm
2. 18 cm d) 10 cm

230. Which type of wiring is suitable for multi-storey building?

1. Tree-system c) Distribution board system
2. Ring main system d) Ring main and distribution board system

231. Name the type of cables used for cleat wiring?

1. Weather proof cables
2. Vulcanized Indian Rubber (VIR) cables
3. Lead sheathed cables
4. Tough Rubber Sheathed (TRS)cables

232. The radius of bends used in conduit wiring should not be less than.......

1. 3 cm c) 6 cm
2. 5 cm d) 7.5 cm

233. The surface conduit wiring saddles should be fixed at intervals of not more than.......

1. 0.5 m c) 1.0 m
2. 0.75 m d) 1.5 m

234. The best suitable fish wire to be used in conduit runs is........

1. GI wire c) VIR wire
2. PVC wire d) Aluminium wire

235. The only wiring which can be taken through shortest route is the roof

And required ales right angle bends is..................

1. Conduit surface wiring
2. Conduct concealed wiring
3. Casing and capping wiring
4. Batten wiring

236. Laying of concealed wiring in roof starts, soon after completion of.......

1. Pouring concrete c) shuttering
2. Centring d) load bearing walls

237. a) Inspection elbows, bends and Tees

b) Solid elbows, bends and Tee’s

c) Conduit saddles

d) Metal coupling with check nut

238. In which one of the following wiring, three two way switches

Only are required to operate three lamps?

1. Staircase wiring c) Tunnel wiring
2. Corridor wiring d) Go down wiring

239. A staircase point can be operated.......

1. With one one-way and one two-way switches
2. With two one-way switches
3. With two two-way switches
4. With two intermediate switches

240. Batten wiring is recommended for..........

1. Temporary house wiring
2. permanent house wiring
3. Industrial wiring
4. Power wiring

241. The leakage current flowing in an installation is due to..................

1. Improper earthling
2. High earth loop impedance
3. Insulation failure
4. Low earth resistance

242. I. E .rule states the leakage current should not exceed ......

1. 1/5000 th part of full load current
2. 1/4000 th part of full load current
3. 1/3000 th part of full load current
4. 1/2000 th part of full load current.

243. As per IE rules, the leakage current in any wiring installation should not

Exceed more than........

1. 1/5000 th part of full load current
2. 1/4000 th part of full load current
3. 1/3000 th part of full load current
4. 1/2000 the part of full load current

244. The sub circuits are divided into......

1. 5 c) 3
2. 4 d) 2

245. The minimum size of aluminium conductor used in a power circuit is.......

1. 1 sq mm c) 2.5 sq mm
2. 1.5 sq mm d) 4 sq mm

246. If the working voltage of an installation is 220 volts, then insulation

Tester rated voltage is;

1. 2000 V c) 1000 V
2. 1500 V d) 500 V

247. The wall thickness of heavy gauge 20 mm size of conduit is....

1. 1.0 mm c) 1.2 mm
2. 1.8 mm d) 2.0 mm

248. The size of P.V.C conduit pipe in diameter to be preferred for

Domestic wiring is....

1. 21 mm c) 18 mm
2. 19 mm d) 17 mm

249. The minimum thickness of TW batten shall not be less than.....

1. 8 mm c) 12 mm
2. 10 mm d) 15 mm

250. T.W. board for fixing mains are available in..........

1. 110 mm x 80 mm c) 130 mm x 80 mm
2. 120 mm x 80 mm d) 150 mm x 80 mm

251. The wiring system generally employed in public building (offices):

1. Cleat wiring c) C. T .S wiring
2. Casing-Capping wiring d) Conduit wiring

252. Red colour wire is generally known for................

1. Earth c) Phase
2. Neutral d) Insulated wire

253. Before working on any electric conductor, it should be discharged and

Also to prevent the same from being charged by mistake, the I.E.R is....

1. I.E.R 1956 Rule No.38 c) I.E.R 1956 Rule No.35
2. I.E.R 1956 Rule No.36 d) I.E.R 1956 Rule No.34

254. The insulation resistance of an installation is more than.......

1. 1 mega ohm c) 2 kilo ohms
2. 1 ohm d) 5 mega ohms

255. What is the maximum load that can be connected in a circuit?

Connecting lighting load only.......

1. 500 W c) 750 W
2. 800 W d) 1000 W

256. What is maximum number of lighting points that can be

Connected in a circuit?

` a) 5 c) 8

1. 10 d) 12

257. What instrument is used to measure the insulation resistance of?

An installation?

1. Megger c) Multi meter
2. Earth tester d) Ohm meter

258. For measurement of insulation resistance, the best instrument is megger as it

Measures accurately in the range of....................

1. Milli ohms c) mega ohms
2. Kilo ohms d) Giga ohms

259. The instrument used to measure the insulation resistance of an electric

Circuit relative to earth and one another is.......

1. Tangent galvanometer
2. Megger
3. Potential Transformer
4. Current Transformer

260. When megger is not in use, pointer position.........

1. Comes back to zero
2. Remains anywhere on the scale
3. Goes to infinity
4. None of these

**FILL IN THE BLANKS :**

261. In a transformer, the winding connected to the source of supply is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_and that connected to the load is called

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

262. A transformer that changes the available voltage into a high voltage is called

a\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_transformer and conversely to it a\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Transformer.

263. In the short circuit attest for a transfer, the wattmeter indicates\_\_\_\_\_\_\_\_\_\_\_

264. The \_\_\_\_\_\_\_\_\_\_\_\_\_ can be reduced by winding the primary and secondary

on the same limb.

265. The moisture effect the insulation of a transformer \_\_\_\_\_\_\_\_\_\_\_\_.

266. The voltage developed in the secondary of a transformer stands proportional

to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

267. The efficiency of transformers operated in parallel remains\_\_\_\_\_\_\_\_\_\_\_.

268. O.C. test is conducted to measure\_\_\_\_\_\_\_\_\_\_\_\_\_ loss and S.C. test is conducted

to measure\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_loss.

269. The overall efficiency of a transformer stands high when copper-loss to become\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

270. In a transformer, the reduction of load ato half causes the copper-loss

to become\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**STATE TRUE OR FALSE :-**

271. The magnetic-flux linking through primary and secondary windings is called

Mutual-flux.

272. The frequency of the e.m.f induced in the secondary remains the same as

Of the e.m.f applied to the primary.

273. The e.m.f s. Induced in the primary and secondary windings oppose the applied e.m.f

274. By using silicon-steel cores, the size of a transformer gets increased.

275. When transformer works at its maximum efficiency then its copper-loss is

Equal to its iron-loss.

**MULTIPLE CHOICE QUESTIONS** :-

276. The transformer oil used in transformers provides:

1. Cooling and lubrication
2. Insulation and lubrication
3. Insulation and cooling
4. Insulation, cooling and lubrication.

277. A good transformer oil should be free from:

1. Sulphur c) moisture
2. Alkali d) all the above.

278. The two transformers operated in parallel will share the load

Depending upon their:

1. Rating in kVA c) leakage reactance
2. Efficiency d) per unit impedance

279. Which type of connection in 3 phase transformers is used for the sub-station?

end of the transmission lines ?

1. Star-star c) Delta-Delta
2. Star-Delta d) Delta-star

280. In three phase transformer, different methods of connections are

Possible. Which type of connection used in distribution transformer?

1. Star-star c) Delta-Delta
2. Star-Delta d) Delta-star

281. How to find out fuse rating a) Ѵ3.kVA X 1000 b) kVA x1000

` v v

c) 3.V.I.cos O d) none of these

282. Generally a transformer has the efficiency of.......

1. 40% c) 80%
2. 60% d) 97%

283. What is the cause for producing humming noise in the transformer core?

1. Overload of the transformer
2. Low rated voltage
3. Insufficient clamping of laminated core
4. Misalignment of stamping

284. Which material is used for the construction of the power transformer core?

1. Mild steel c) Silicon steel
2. High carbon steel d) Stainless steel.

285. Which type of transformer does not isolate the secondary?

1. Potential transformer
2. Auto transformer
3. Distribution transformer
4. Current transformer

286. Which one of the following can be increased by using a step-up transformer?

1. Power c) Current
2. Voltage d) Frequency

287. When two transformers are operating in parallel, they will share the

Load depending upon their...............

1. Leakage reactance c) per unit impedance
2. Magnetising current d) kVA rating

288. The transformers are rated in.......

1. kW c)\_ lWH
2. kVA d) kVAR

289. What is the material used inside the breather to prevent moisture

Entering the transformer?

1. Sodium chloride c) silica gel
2. Sodium silicate d) copper sulphate

290. What principle makes the instrument transformer working?

1. Self induction c) Mutual induction
2. Lenz’s law d) Fleming’s right hand rule

291. Current transformers are classified into five types. Which type of Current

Transformer (C.T) principle is used in clip-on or clamp on Ammeter?

1. Oil immersed C.T c) Ring type C.T
2. Dry type C.T d) Wound type C.T

292. What is the standard rating of secondary of potential transformers?

a)` 110 V c) 330 V

b) 220 V d) 440 V

293. The function of a breather in a transformer is to................

1. Provide cooling air to the winding
2. Arrest the flow of moisture into the tank
3. Control the level of oil in the tank
4. Allows the moisture.

294. The application of the auto transformer is.......

1. Series lines boosters c) eliminators
2. Commercial buildings d) long tester

295. What will be colour of the silicon get after it absorbs moisture. From air?

1. Blue c) Violet
2. Brown d) Pink

296. The function of conservator in a transformer is....

1. to prevent flow of moisture into the tank.
2. To prevent flow of air into the tank
3. to regulate the expansion and contraction of oil
4. to improve power factor.

297. `A transformer is used to --

1. Change A.C to D.C.
2. Change D.C to A.C.
3. Step up or down D.C. voltage
4. Step up or down A.C voltages

298. The primary and secondary winding of a transformer are..........coupled.

1. Electrically c) Magnetically
2. Mechanically d) Electrically and magnetically

299. In transformer, electrical energy is transferred from one circuit

to another without change in ...............

1. Voltage c) Frequency
2. Current d) Turns

300. Which of the following does not change in a transformer?

1. Current c) Frequency
2. Voltage d) All of these

301. Which of the following does not change in transformer?

1. Current c) Both (a) & (b)
2. Voltage d) Frequency

302. Core of transformer is made up of......

1. Aluminium ` c) Carbon
2. Lead d) Silicon steel

303. Primary winding of transformer.....

1. Is always a low voltage winding
2. Is always a high voltage winding
3. Could either be a low voltage or high voltage winding
4. None of the above.

304. Which winding in a transformer has more number of turns?

1. Low voltage winding
2. High voltage winding
3. Windings does not depend on number of turns
4. All of the above

305. IN a transformer, the energy is con eyed from primary to secondary----

1. By the flux c) Through cooling
2. Through air d) None of these

306. Transformer action requires...........................

1. Constant magnetic flux
2. Increasing magnetic flux
3. Alternating electric flux
4. Alternating magnetic flux

307. Core of a transformer is laminated to reduce...........

1. Hysteresis losses c) copper losses
2. Eddy current losses d) Hysteresis loss

308. Open circuit test on transformer give information of.....

1. Core loss at rated voltage and frequency
2. Core loss resistance and magnetizing reactance
3. Turns ratio of the transformer
4. All of these

309. When load on the transformer is decreased .a losses decrease.

1. Eddy current c) copper
2. Hysteresis d) Friction

310. The copper losses in transformer can be reduced.......

1. By changing the core materials
2. By laminating the core
3. By reducing the resistance of the windings
4. All of these

311. Transformer efficiency is more because...............

a) No copper losses

b) No iron losses

c) No wind age and friction losses

d) No thermal losses

312. At maximum efficiency is more because....

1. Iron loss is zero
2. Copper loss is zero
3. Iron loss equals copper loss
4. Iron loss is half the copper loss

313. Power transformer secondary side neutral is earthed due to :

1. For testing the phase at any point
2. For the safety of the machine
3. For balancing the load on transformer
4. All of these

314. Tap changer of a transformer is given on the.......

1. H.V. side c) Both (a) and (b)
2. L.V. side d) None of these

315. Current Transformer and Potential transformer are used to increase

the range of :

1. AC Ammeter and AC voltmeter respectively
2. DC Ammeter and AC voltmeter respectively
3. DC Ammeter and DC voltmeter respectively
4. AC Ammeter and DC voltmeter respectively

316. For measuring high A.C current with low range Ammeter, the

Device used is.......

1. Potential transformer c) Current transformer
2. Auto transformer d) Instrument transformer

317. Current transformer works on the principle of.....

a) Ohm’s law

b) Fleming’s left hand rule

1. Faraday’s law of electromagnetic induction
2. None of these.

318. Primary current in a current transformer is determined by:

1. Load on the system
2. Load on the primary
3. Load on the secondary
4. None of these

319. In which of the transformer is the secondary nearly short

Circuited under normal operat5ing condition?

1. CT c) Distribution Transformer
2. PT d) Power Transformer

320. Transformer oil is used for....

1. Cooling ,insulation c) Heating, cooling
2. Cooling, breathing d) All of these

321. Applications of Auto Transformer is /are........

1. As starter of induction motor/synchronous motor
2. Continuously variable supply in electrical/testing laboratories
3. As regulating booster transformers
4. All of these

322. Regulation of transformer means....

1. Change in terminal voltage
2. Change of power factor
3. Change in secondary voltage from the load to full load
4. Change of current due to load variations

323. In a distribution transformer, voltage ratio can be adjusted to

Suit as the loading conditions as............

1. On load tap changing
2. Off load tap changing
3. Controlled by an AVR
4. All of these

324. A common method of cooling a power transformer is –

1. Natural air cooling c) Oil cooling
2. Air blast cooling d) Any of these

325. Breathers are connected between –

1. Conservator and air outlet
2. Conservator and transformer oil
3. Explosion vent and transformer winding
4. Conservator and silica gel

326. The material filled in breather of transformer is...

1. Silica get c) SF6
2. Sulphuric acid d) Mineral oil

327. The function of conservator in a transformer is...

1. To protect against internal fault
2. To reduce copper as well as core losses
3. To cool the transformer oil
4. To take care of the expansion and contraction of transformer oil due to

Variation of temperature of surroundings

328. The purpose of conservator tank in a transformer is to...........

1. Monitor the oil level
2. Top up the oil level
3. Both (a) & (b)
4. None of these

329. Buchholz’s relay senses –

1. One fault c) Three faults
2. Two faults d) Four faults

330. Buchholz’s relay is used with:

1. Air cooled transformers having rating higher than 100 KVA
2. Oil immersed transformer having rating higher than 750 KVA
3. Oil immersed transformers having rating higher than 750kw
4. Oil immersed transformer having rating higher than 1 MVA

331 Buchholz’s relay gives warning and protection against –

1. Electrical fault inside transformer itself
2. Electrical fault outside the transformer in outgoing feeder
3. For both outside and inside faults
4. None of the above

332. The delta connected secondary of a transformer is. Connected to a

Delta connected load. Any unbalanced current will.............

1. Return back through neutral link
2. Disconnect the load automatically
3. Automatically vanish after some time
4. Circulate a round delta connected load

333. To operate 2 or more transformers in parallel, the following conditions need to be

Fulfilled..............

1. Voltage a ratings of the transformer must be same
2. Current ratings of the transformer must be same
3. Power ratings of the transformer must be same
4. None of the above

334. Condition to be fulfilled for connecting transformers in parallel

An operation is/are................

1. Same voltage ratio c) same phase sequence
2. Same polarity d) all of these

**FILL IN THE BLANKS** :-

335. The maximum length of a neon-sign tube is\_\_\_\_\_\_\_\_\_\_\_\_ meters.

336. The colour of a neon sign lamp is obtained by using different\_\_\_\_\_\_\_\_\_\_ of\_\_\_\_\_\_\_.

337. The average working life of a fluorescent tube is about \_\_\_\_\_\_\_\_\_\_\_\_hours.

338. When the starter contacts are closed a strong electric current flows through the circuit.

It \_\_\_\_\_\_\_\_ up the filaments.

339. Sodium vapour lamp gives\_\_\_\_\_\_\_\_\_ colour light.

340. The life of a sodium vapour lamp is approximately \_\_\_\_\_\_\_\_\_ hours.

341. Sequential switching of decorative lamps can be achieved mechanically by using

a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ switch.

342. When a rotating object is observed under a discharge lamp light, the object appears

to be moving with a different speed or looks stationary. This effect is called\_\_\_\_\_\_\_\_\_\_.

343. In Industrial parallel twin-tube fittings, a capacitor is inserted in \_\_\_\_\_\_\_\_\_ with one of

The chokes so as to improve the P.F of the circuit.

344. The lamp filament operates at a very high temperature of \_\_\_\_\_\_\_\_\_\_.

345. Hot resistance (when the lamp is ON) is nearly\_\_\_\_\_\_\_\_\_\_\_\_\_more than the cold

Resistance (when the lamp is OFF).

346. The actual life of a fluorescent lamps may vary from\_\_\_\_\_\_\_\_\_\_\_ depending upon the

Operating conditions.

347. Lift out of fluorescent lamps is reduced by\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_after 4000 hours operation.

348. Power factor is highest in case of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ lamp.

349. The lamp which gives nearly monochromatic light is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ lamp.

350. The lamp that causes radio interference is \_\_\_\_\_\_\_\_\_\_\_\_\_.

351. The lamp that does not have separate choke is \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**STATE TRUE OR FALSE** :-

352. Low voltage lamps are mainly used in automobile vehicles.

353. A flasher lamp is used for making ON and OFF a serial of low voltage lamps and it is

Always connected in series with a serial.

354. An instrument start fluorescent tube starts to emit light within fraction of a second.

355. The recent development in fluorescent lighting is the rapid start lamp and it requires

a special type of ballast which consists of a separate winding to heat the cathodes

Continuously.

356. A sodium vapour lamp emits red light.

357. The current flow through a low pressure gas is called discharge.

358. H.P.M.V lamp consists of two tubes, one inner tube in which mercury vapour and argon gas are filled and the other outer tube in which either argon-nitrogen mixture is filled or it is kept vacuum.

**CHOOSE THE CORRECT ANSWER :-**

359. Low pressure in a fluorescent tube is obtained by :

1. High starting voltage. C) low current density
2. High current density d) low starting voltage

360. When fluorescent lamps are used to replace incandescent bulbs usually:

1. Greater illumination occurs c) only one colour can be obtained.
2. Less illumination occurs. d) More shadow occurs, but there is less eye strain.

361. If starter of a glowing tube-light is withdrawn then the tube-light.

1. Will become OFF c) filaments will be damaged
2. Will continue to glow d) will glow intermittently

362. The inner tube of a H.P.M.V lamp is filled with:

1. Argon gas c) helium gas
2. Halogen gas d) nitrogen gas

363. H.P.M.V. lamps are available in a rating of:

1. 40, 60 watts c) 80, 125 watts
2. 100, 200 watts d) 150, 300 watts.

364. Voltage required to operate a neon-sign tube depends upon:

1. Diameter of the tube c) length of the tube
2. Gasses in the tube d) thickness of the tube

365. Sodium vapour lamps are particularly suitable for:

1. Street light c) foggy areas
2. Storage yards d) all the three stated above

366. When a fluorescent lamp shows a dense blackening at each end , it could

Possibly mean that the:

1. Gas filled in the lamp was wrong (b) Lamp was started infrequently
2. Starter is working improperly (d) Lamp is new

367. The type of fluorescent lamp that can be used in flashing circuits is the:

1. Blast lamp c) instant start lamp
2. Preheat lamp d) rapid start lamp.

368. In a H.P.M.V. lamp, the mercury vapour discharges at:

1. A higher pressure c) a lower pressure
2. Medium pressure d) none of the above

369. Most recent development in fluorescent lighting is the:

1. Rapid start lamp c) glow lamp
2. Pre-heat lamp. d) instant start lamp

370. If on removing a defective starter, the fluorescent tube lights up, the fault lies in the:

1. Choke c) stator
2. Tube d) line switch

371. A separate starter and socket is required for a fluorescent lamp. What is

Called as?

1. Instant start c) rapid start
2. Ballast d) Preheat

372. There is some vibrating sound from the choke when a tube lamp is switched ‘on’ .Which

One of the following is the reason for this.

1. Loose connection in the choke
2. Loose core
3. Loose winding turns
4. Loose cover screw

373. The function of choke in tube light is to induce............

1. low voltage and limit current
2. low voltage and increase current
3. high voltage and limit current
4. High voltage and increase current.

374. The function of choke in tube light is to induce............

1. low voltage and limit current
2. low voltage and increase current
3. surge voltage and limit current
4. surge voltage and increase current

375. If a choke is not connected to an A.C tube’s circuit that the tube:

1. will continue to glow c) will not glow
2. will get fused d) will glow intermittently

376. If the starter is withdrawn from the circuit after glowing the tube then:

1. the tube will be fused c) the tube will continue to glow
2. the tube will not emit light d) the tube will start flickering

377. As per IE regulations when calculating the incandescent lamp power for load

Purpose, every lamp holder is taken as.....................

1. 40 watts c) 75 watts
2. 60 watts d) 100 watts

378. When two 250 V, 100 W bulbs are connected is series to 250 V supply, they

Will give..................

1. Bright light c) one dim and the other bright light
2. Dim light d) no light

379.` Gas discharge lamps lights up to full brightness after a time delay.

`Which one of the lamps mentioned below has more time delay when compared

To other lamps?

1. Tube lamps c) Sodium vapour lamp
2. Mercury vapour lamp d) neon lamp

380. Which one of the lamps mentioned below has more time delay when compared to

Other lamps ?

1. Tube lamp c) sodium vapour lamp
2. Mercury vapour lamp d) neon lamp

381. In mercury vapour lamp, a resistor is connected in series with auxiliary electrode.

What is the purpose of resistor connected to it.

1. To limit the power factor
2. To limit the starting current
3. To limit the voltage
4. To limit the energy.

382. Which one of the basic fluorescent power is used i neon sign lamp to get

Blue colour?

1. Cadmium silicate c) Calcium tungstate
2. Calcium silicate d) Zinc silicate

383. The average life of sodium vapour lamp is about................

1. 1000 hours c) 3000 hours
2. 2000 hours d) 6000 hours

384. CFL’s are replacing incandescent lamps due to..................

1. Energy savings c) short life
2. Longer life time d) energy saving and longer life

385. Carbon filament lamps give..................

1. Bluish light c) pinkish light
2. Reddish light d) greenish light

386. Glow type starter switch contains electrodes is...................

1. 1 c) 3
2. 2 d) 4

387. The purpose of providing a choke in a tube light is................

1. To eliminate corona effects
2. To avoid radio interference
3. To improve power factor
4. To limit current to appropriate value.

388. The main applications of arc lamp are...........

1. Cinema projects. C) Heating & Illumination
2. Search light d) (a) and (b) of the given

389. Carbon arc lamps are commonly used in..................

1. Domestic lighting c) Cinema projectors
2. Street lighting d) photography.

390. The best material of making filament of incandescent lamp is...........

1. Carbon c) Tungsten
2. Tantalum d) Molybdenum

391. The output of a tungsten filament lamp depends on:

1. Size of lamp c) Temperature of filament
2. Size of shell d) all of these.

392. A mercury vapour lamps gives:

1. Pink light c) Greenish blue
2. Yellow light d) white light

393. LED lamp has a power factor..................

1. Unity c) lagging
2. Leading d) None of these

**FILL IN THE BLANKS :-**

394. The direction of dynamically induced e.m.f is determined by applying Fleming’s\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .

395. A negative sign (-) is used with the induced e.m.f which was suggested by \_\_\_\_\_\_\_\_\_\_\_.

396. When conductor is perpendicular to the magnetic lines of force then the e.m.f induced

In the same will be\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

397. In magnetic hysteresis, the flux density (B)\_\_\_\_\_\_\_\_\_\_\_\_ the magnetising force (H) .

398. \_\_\_\_\_\_\_\_\_\_\_\_\_magnetism is necessary for self-excited generators.

399. The cores of electrical machines are generally made of perm alloy or of\_\_\_\_\_\_\_\_.

400. Eddy current losses are proportional to the\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the laminations.

401. A commentator converts A.C into \_\_\_\_\_\_\_\_\_\_\_\_\_.

402. A generator converts mechanical energy into \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

403. In a self-excited generator, the most necessary thing for producing the e.m.f

Is\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

404. A commutator is made of \_\_\_\_\_\_\_\_\_\_\_\_\_.

405. For battery charging work, a d.c.\_\_\_\_\_\_\_\_\_\_\_\_\_ generator is preferred.

406. The generator used for transmitting electrical power up to long

Distance is\_\_\_\_\_\_\_\_\_\_\_\_ generator.

407. The brushes are usually made of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

408. In a separately excited d.c .generator, the field is connected to \_\_\_\_\_\_\_\_\_\_\_.

409. In a cumulative compound generator, the series field and shut field produce such

Flux which acts in \_\_\_\_\_\_\_\_\_\_\_\_\_\_direction.

410. Interpoles are used to reduce\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**STATE TRAUE OR FALSE ;**

411. When a toroidal steel right is magnetised by passing a current through its coil

Then no magnetic poles develop in the same.

412. .Air, vacuum, wood paper and plastic have practically no effect on the

Magnetic flux.

413. The ratio of total flux to the useful flux for an electromagnet is referred as flux-

Leakage factor.

414. The direction of induced e.m.f is always such that its increases the magnitude

of applied e.m.f.

415. The magnitude of statically induced e.m.f is proportional to the no. of turns in

The coil.

416. An electromagnet is a temporary magnet whose most of the magnetism can be removed

Simply by switching ‘off’ the flow of current through its coil.

417. The unit of flux-density is Weber.

418. The force acting on the current-carrying conductor depends on the field strength, current and length of the conductor.

419. A.d.c. generator employs commutator and brushes for supplying e.m.f to the load.

420. In large size d.c. generators, field poles are made of solid mild-stell.

421. Carbon is the most suitable material for making brushes as it wears off by itself and does not allow the wearing of the commutator.

422. A series generator can be used as a ‘booster’ generator.

423. For arc-welding work a cumulative compound generator is suitable.

**CHOOSE THE CORRECT ANSWER** :

424. If the axis of a moving coil is kept parallel to the flux then the e.mcf induced in the

Coil will be:

1. Minimum c) nil
2. Maximum d) one volt

425. By rotating a conductor in a magnetic field, the induced e.m.f will be:

1. Static c) induced e.m.f
2. Dynamic d) none of the above

426. For inducing an e.m.f of 1 volt in 1 second time, a conductor will have to cut :

8

1. 10 Maxwell lines c) 10 lines
2. 1 Weber magnetic flux d) none of the above

427. In order to reduce hysteresis losses, the cores of electrical machines are

Generally made of:

1. tungsten steel c) high carbon steel
2. Cast iron d) silicon steel.

428. Whenever a conductor cuts magnetic flux, an e.m.f is induced in the same.

The statement refers to:

1. Joule’s law c) Faraday’s law
2. Coulomb’s law d) Lenz’s law

429. The given figure shows a coil when a closed iron core .What do the dotted

Line represent?

1. Magnetic potential
2. Magnetic motive force
3. Magnetic field strength
4. Magnetic flux

430. The law which states that the induced e.m.f and current always opposes the cause

Producing it was presented by:

1. Lenz c) Maxwell
2. Faraday d) Ohm

431. In which type of d.c. machine-poles is residual magnetism necessary?

1. Shunt generator c) Separately excited generator
2. Motor d) Permanent magnet type generator

432. The output voltage of a single loop generator is a:

1. Steady d.c. c) Pulsating a.c.
2. Steady a.c. d) Pulsating d.c.

433. In any d.c..Generator, the e.m.f generated in the armature is maximum when:

1. Rate of change of flux is minimum (c) flux linked with conductors is maximum
2. Rate of change of flux is maximum (d) flux linked with conductors is minimum

434. Generators are run in parallel for achieving the advantage of.

1. High reliability c) meeting higher load demands
2. High efficiency d) all the above.

435. Shunt generators are used where the main requirement is a constant:

1. Voltage of current c) voltage over a wide load range
2. Current d) voltage over a narrow load range.

436. Interpoles are normally connected in:

` a) parallel with the field windings (c) parallel with a load

1. Series with the filed windings (d) series with the load

437. In d.c. generator, which loss varies with the load?

1. Copper loss c) hysteresis loss
2. Eddy current loss d) wind age loss

438. The armature of d.c. generator is laminated to:

1. Reduce the overall mass c) reduce the eddy current loss
2. Insulate core d) all the above

439. In d.c. generators, the cause of rapid brush wear may be :

1. Imperfect contact c) rough commutator surface
2. Serve sparking d) any one of the above

440. In d.c. generators, lap winding is used for:

1. Low voltage, low current c) low voltage, high current
2. High voltage, high current d) high voltage, low current

441. D.C generator preferred for charging automobiles batteries is:

1. Shunt generator c) long shunt compound generator
2. Series generator d) short shunt compound generator

442. For parallel operation the D.C generators normally preferred are:

1. Shunt and over compound c) shunt and under compound
2. Series d) over compound

443. D.C shunt generators are most suited for stable parallel operation because

of their voltage characteristics

1. identical c) linear
2. dropping d) rising

444. In Fleming’s right hand rule, the fore finger indicates.....................

1. the direction of magnetic flux (c) the direction of motion of the conductor
2. the direction of induced e.m.f (d) the direction of induced current

445. The generator works on the principle of......................

1. Lenz’s law c) Faraday’s law of electrolysis
2. Fleming’s left hand rule d) Faraday’s law of electromagnetic

Induction.

446. Fleming’s Right Hand Rule is to identify the..........................

1. Direction of flux c) direction of current in a motor
2. Direction of rotation of a generator d) direction of induced emf

447. A DC generator works on the principle of................

1. Faraday’s law of electrolysis c) Lenz’s law
2. Fleming’s left hand rule d) Faraday’s law of electromagnetic

Induction.

448. The Insulating materials used between the commutator segments of a DC

Generator will be........................

1. Paper c) fibre
2. Wood d) mica

449. Interpoles are providing in DC generator for......................

1. Increasing the emf of the generator
2. Increasing the counter emf
3. Reducing the strength of the main field flux
4. Reducing the sparking at the commutator segment.

450. In a DC generator, sparking at the brush position may be:

1. Due to over commutation c) Both (a) and (b)
2. Due to under commutation d) Neither (a) nor (b)

451. In a DC generator, if the field circuit resistance is more than the field critical

Resistance, then the.................

1. Generator will build up maximum voltage
2. Generator will generate maximum voltage
3. Generator will not build up the voltage
4. Field coils will burn

452. The load characteristic of separated excited generator is between...........

1. Armature current and emf (c) armature current and terminal voltage
2. Load current and terminal voltage (d) field current and terminal voltage

453. Which type of D.C. generator is used for welding generator set ?

1. D.C shunt generator
2. D.C series generator
3. D.C differential compound generator
4. D.C cumulative compound generator

454. How many parallel paths in simplex wave winding armature of the DC generator

Which is having 8 poles?

1. 2 c) 6
2. 4 d) 8

455. A pulley of DC generator is found to have completed 2000 revolutions within 1.25 minutes. The speed of the DC generator in R.P.M will be:

1. 1200 r.p.m. c) 1600 r.p.m
2. 1400 r.p.m d) 2000 r.p.m

**FILL IN THE BLANKS :**

456. A series motor always be started on\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

457. .A starter protects a motor against the damages caused by\_\_\_\_\_\_\_\_\_\_\_current flow.

458. The units of (i) Torque,(ii)Flux are (i)\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (ii)\_\_\_\_\_\_\_\_\_\_\_\_respectively.

459. In a 4 point starter, the coil used for hold-on (NVC) is connected to\_\_\_\_\_\_\_\_\_\_\_\_\_.

460. The magnitude of back e.m.f always remains \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_than .the applied

e.m.f in a d.c. motor

461. The armature voltage drop. is equal to the product of \_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_.

462. In Fleming’s laeft hand rule, the thumb indicates the direction of\_\_\_\_\_\_\_\_\_\_\_\_\_.

463. The speed of a d.c. motor is inversely proportional to the\_\_\_\_\_\_\_\_\_\_\_\_\_.

**TRUE OR FALSE :-**

464. The speed of a d.c. shunt motor can be increased by connecting a resistance in

Series with the shunt filed.

465. The speed of a d.c. series motor can be increased by tapping its filed winding.

466. The speed of a d.c. shunt motor is not considered constant for practical purposes.

467. In general a d.c. shunt motor can be started on load.

468. In a resistor is connected in series with armature winding, the speed of the

Motor will be increased.

469. The direction of rotation of a d.c. motor can be reversed by interchanging the supply

Connection.

470. A commutator should be cleaned with carbon tetrachloride.

**CHOOSE THE CORRECT ANSWER :-**

471. A force will act on a conductor placed in a magnetic field when:

1. A current is flowing in the conductor
2. The conductor is rotating
3. The conductor is placed in the magnetic field and it is not carrying a current.
4. It is placed at right angle to the field.

472. The back e.m.f opposes:

1. Current c) torque
2. Applied e.m.f d) terminal voltage

473. IN a series motor, the magnetic field-flux stands:

1. Proportional to armature current (c) inversely proportional to armature current
2. Equal to armature current (d) constant.

474. The speed of a series motor is very high at no-load because in such state :

1. Back e.m.f is larger (c) armature voltage is lesser
2. Flux is very low (d) armature current is very low

475. A series motor is wound with:

1. Fine wire winding (c) thick wire winding
2. Nichrome wire winding (d) double wire winding

476. In a shunt motor, a starter is used for:

1. speed control (c) applied e.m.f control
2. back e.m.f. control (d) current control in the start

477. The power written on the name plate of a d.c. motor is always:

1. the power drawn in KVA (c) the output power available at the shaft
2. the power drawn in kW (d) the gross power

478. The efficiency of an electrical machine will be high if:

1. its losses are minimum (c) the applied e.m.f is minimum
2. its current drainage is minimum (d) the load is minimum

479. The speed of a series motor at no-load is :

1. Zero (c) 3600 r.p.m.
2. 3000 r.p.m (d) infinity

480. Which of the following motors is suitable for high starting torque?

1. Shunt motor (c) series motor
2. Cumulative compound motor (d) compound motor

481. Which of the following statement is more appropriate?

1. Shunt motor is suitable for electric trains
2. Series motor is suitable for machine tools
3. Series motor is suitable for belt driven machines
4. Compound motor is suitable for fly-wheel drive

482. Which of the following motors is used to drive the constant speed line-shafting?

Lathes, blowers and fans?

1. D.C shunt motor (b) D.C series motor

c) Cumulative compound motor (d) Differential compound motor

483. You notice that a d.c. motor starts with jerk when starting the motor.

What may be the fault for this effect?

1. Line voltage too high (c) Pitted starter contact terminals
2. Short-circuit in the field winding (d) Wrong grade of carbon brushes

484. If the current in the armature of a d.c. series motor is reduced by 50%, the torque

of the motor will become :

1. 50% (c) 150%
2. 25% (d) 200%

485. If the load and flux of a D.C. motor are held constant, the voltage applied across

It armature is increased by 5 percent, the speed of the motor will..........

1. Increase by 5 percent (c) not change
2. Decrease by 5 percent (d) infinity

486. You have to change the defective motor of an electric locomotive.

Which type of motor would you choose?

1. DC differential compound motor (c) DC series motor
2. DC shunt motor (d) separately excited motor

487. You have to change the defective motor of an electric Locomotive.

Which type of motor would you choose?

1. Differential compounded D.C motor (c) D.C series motor
2. D.C. shunt motor (d) Cumulatively compound DC motor

488. Motor used in electric traction is..........

1. DC compound c) DC series
2. DC shunt d) DC long shunt compound

489. Which type of motor would your chose for starting the transport vehicles?

1. D.C Series motor c) cumulatively compounded DC motor
2. D.C shunt motor d) differentially compounded DC motor

490. Which type of motor would you choose for starting the transport vehicle?

1. DC series motor c) Separately excited DC motor
2. DC shunt motor d) DC differentially compound motor

491. The back e.m.f of a DC motor depends on the..............................

1. Shape of the conductor c) commutator segments
2. Field flux d) brush material

492. To start a DC shunt motor the type of starter used is..................

1. 2 point c) 4 point
2. 3 point d) Drum type.

493. The connection of NVC in DC 3 point starter is across DC supply in series with.............

1. Armature c) overload relay
2. Starting resistor d) shunt field

494. In a 3 point starter the No volt coil (NVC) is connected in series with.............

1. Armature c) starting resistor
2. Supply d) field

495. For which one of the following applications, D.C. shunt motor is used?

1. Electric trams or trains c) Drives with high starting torque
2. Electric hoist and cranes d) Machine tool drives

496. The series field diverter speed control method is mainly used in..........

1. Fan motors c) food mixers
2. Electric trains d) printing machines

497. In the Fleming’s left hand rule, the thumb represents:

1. The direction of motor of the conductor
2. The direction of flux
3. The direction of current flow in the conductor
4. The voltage in the conductor

498. Which rule is to be applied to find the direction of magnetic flux?

1. Fleming’s Right hand rule (c) Fleming’s left hand rule
2. End rule (d) Cork’s screw rule

499. Which rule is applied to identify the direction of motor of the conductor in DC motor?

1. Fleming’s left hand rule (c) Right hand palm rule
2. Fleming’s right hand rule (d) Cork’s screw rule

**FILL IN THE BLANKS :-**

500. Very high speed alternators of large capacity use \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ rotors.

501. Low voltage \_\_\_\_\_\_\_\_\_\_ supply is required for field excitation in alternators.

502. The frequency of a 2-pole, 3-phase alternator rotating at 1500 r.p.m. is\_\_\_\_\_\_\_\_\_\_\_.

503. Alternators are mainly of two types; one is rotating armature type and the other

is\_\_\_\_\_\_\_\_\_\_\_\_ type.

504. The speed of prime-mover driving an alternator determines the voltage and\_\_\_\_\_\_\_\_

of the output.

505. The portion of rotating field type alternator in which 3-phase armature windings are

Wound is called\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

506. The voltage regulation of an alternator is poorest when the load circuit has a

Low and\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ power factor.

507. At a fixed speed of rotation, the frequency of the generated e.m.f by an alternator

Depends on the number of\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

508. In large alternators, hunting effect can be reduced by \_\_\_\_\_\_\_\_\_\_\_\_\_.

509. The alternator shown in the given figure is of\_\_\_\_\_\_\_\_\_\_\_\_\_ type.

**STATE TRUE OR FALSE :-**

510. The synchronous speed of a 9-pole, 50 Hz alternator is 1500 r.p.m.

511. A delta-connected, rotating field type alternator has three slip-rings.

512. Salient pole rotor construction is used in alternators driven by steam turbine.

513. The voltage regulation of an alternator expressed as a percentage.

514. Alternators are rated in kW.

515. If the rotational speed of an alternator is given in r.p.st then its frequency can be

Calculated by using the formula:

P.N

F = 120

516. In no-load state, the e.m.f generated by an alternator is equal to its terminal voltage.

517. If the two sides of an armature foil are placed at less than 180 degree apart then the

Same is called short pitch coil.

518. The e.m.f generated by an alternator depends on the field current E 1

519. A 4 pole, 50 Hz alternator will have a rotation speed of:

1. 750 r.p.m c) 3000 r.p.m.
2. 1500 r.p.m. d) 1440 r.p.m.

520. An exciter used for field excitation of an alternator will be a:

1. Series generator c) series motor
2. Shunt generator d) shunt motor

521. The reason of using laminated cores in the stator of an alternator is to:

1. Reduce the weight of the machine (c) increase the magnetic flux
2. Reduce the eddy current loss (d) increase the eddy current loss

522. D.C and A.C generators are similar in one important respect, that is:

1. the generated e.m.f. is D.C (c) the generated e.m.f.is A.C
2. the generated ae.m.f.is pulsating (d) the generated e.m.f is oscillating

523. A 8-pole alternator rotates at 750 r.p.m. its per cycle periodic time will be:

1. 10 ms (c) 30 ms
2. 20 ms (d) 50 ms

524. Alternators designed to be driven by steam-turbines are built for:

1. High speed operation (c) Medium speed operation
2. Low speed operation (d) both low and medium speed operations.

525. An alternator supplies electric power to various kinds of loads of a factory.

If the phase sequence of the alternator is changed it will affect the:

1. 3-phase heating circuits (c) single phase motor circuit.
2. 3-phase motor circuits (d) lighting circuit.

526. The values of pitch factor and distribution factor for an alternator are 0.9 and 0.8 respectively .The will develop an e.m.f lesser than an alternator having full pitch coil and

Concentrated winding by:

1. 0.7 (c) 0.88
2. 0.72 (d) 0.92

527. The number of slip-rings used in a 3-phase, star connected alternator having a rotating armature will be:

1. 2 (c) 4
2. 3 (d) 6

528. In large sized alternators, dampers are used to:

1. Reduce current fluctuations (c) increase stability
2. Reduce voltage fluctuations (d) increase output e.m.f.

529. The waveform of the e.m.f generated by an alternator should be:

1. Pulse shaped wave (c) sine wave
2. Square wave (d) triangular wave

530. The field circuit of a hydro alternator is supplied with:

1. An a.c. (c) an oscillating current
2. A pulsating current (d) a d.c.

531. The frequency generated by a 8-pole alternator rotating at 600 r.p.m will be:

1. 20 Hz (c) 60 Hz
2. 40 Hz (d) 80 Hz

532. The frequency of voltage generated by an alternator having 4 poles and rotating at

1800 R.P.M. is

1. 60 Hz (c) 7200 Hz
2. 120 Hz (d) 450 Hz

533. A 50 Hz alternator will run at the greatest possible speed if it is would for\_\_\_\_\_\_\_ poles.

1. 8 (c) 4
2. 6 (d) 2

534. When speed of an alternator is changed from 3600 R.P.F to 1800 R.P.M , the generated e.m.f

Per phase will become.

1. One-half (c) four times
2. Twice (d) one-fourth

535. The power factor of an alternator is determined by its:

1. Speed (c) load
2. Excitation (d) prime mover

536. For proper parallel operation, polyphone alternators must have the same.

1. KVA rating (c) speed
2. voltage rating (d) excitation

537. The number of poles in turbo alternator is:

1. 2 (c) 8
2. 6 (d) 10

538. The frequency of e.m.f generated by an alternator depends upon the speed N and No. of

Poles are given by:

1. **PN**  (c) **PN**

**60 120**

1. **60 N (d) 120N**

**P p**

539. The current from the stator of an alternator is taken out to the external load circuit through

1. Slip rings (c) solid connections
2. Commutator segments (d) carbon brushes

540. In a synchronous machine, the stator frame is made of:

1. Stainless steel (c) Cast iron or welded steel plates
2. Aluminium (d) Laminated silicon steel

541. The stator of an alternator gets overheated due to:

1. Open phase (c) improper alignment of the rotor
2. Unbalanced currents in the phases (d) any one or more of the above

542. Which type of alternator is used in hydro electric power stations?

1. Non salient pole alternator (c) Salient pale alternator
2. Turbo generator (d) steam turbine alternator

543. The armature reaction effect in a synchronous machine depends on:

1. Load current (c) speed of the machine
2. Power factor of the load (d) both A and B

544. Skew of rotor bar eliminates

1. the effect of space harmonics (c) magnetic noise
2. the entire effect of crawling (d) variation due to unequal force

Developed on rotor

545. The alternators are rated in..............

1. kW (c) KVA
2. KVAR (d) H.P

546. The generated frequency in India is.....................

1. F = 65 Hz (c) F = 55 Hz
2. F= 60 Hz (d) F= 50 Hz

547. The relation between frequency speed and number of poles in

Alternator is given as.....

PN P x N

1. F= 60 (c) f = 2

PN

1. F = 120 (d) f = Px 60

N

548. A 10 pole alternator rotates at a constant speed of 1200 rpm. The periodic time of

Voltage in seconds per cycle will be

1. 0.01 c) 0.04
2. 0.02 d) 0.08

549. The field circuit of an alternator is supplied with.......

1. An oscillating current c) an alternating current
2. A direct current d) a pulsating current

550. The D.C and A.C generators are similar in one important function. That is the.......

1. Generated emf is a direct current
2. Generated emf is an alternating current
3. Generated emf is a pulsating current
4. Generated emf is an oscillating current.

551. Adjusting the speed of the prime mover of an alternator is primary

Necessary. Which one of the following is the reason for this?

1. To get constant frequency c) to get increase polarity
2. To get constant voltage d) none of the above.

552. Which one of the following is the reason for using dampers in large alternator work?

1. To increase stability c) To decrease output
2. To increase output d) To reduce voltage fluctuation

553. The speed of a 6 pole 50 Hz of an alternator is...................

1. 1800 rpm c) 1000 rpm
2. 1200 rpm d) 600 rpm

554. A large diameter of alternator is running at slow speed will be having.........

1. Rotating alternator
2. Rotating field with a smooth cylindrical rotor
3. Rotating field with a salient pole rotor
4. Rotating armature with field

555. A 3 –phase star connected alternator having a rotating armature will have....

1. 2 slip rings c) 4 slip rings
2. 3 slip rings d) 2 slip rings

556. A 3 –phase star connected alternator having a rotating armature will have....

1. 2 slip rings c) 4 slip rings
2. 3 slip rings d) 2 slip rings

557. A- 3 phase, star connected alternator having a rotating armature will have 4 slip

Rings but 3-phase, delta connected alternator having armature will have.

1. 6 slip rings c) 3 slip rings
2. 4 slip rings d) 2 slip rings

558. When the coil moves at right angle to the magnetic flux, the induced emf will be.....

1. Oscillating c) zero
2. Minimum d) maximum

559. The alternators are rated in.....

1. KVA c) KVAR
2. KW d) ampere hour

560. The most common generated frequency in India is......

1. 60 Hz c) 50 Hz
2. 55 Hz d) 45 Hz

561. Find the number of cycles per second of a 6 pole alternator, running at 1000 RPM

1. 75 Hz c)50 Hz
2. 60 Hz D)40 Hz

562. An alternator is running at a speed of 1500 rmp0, at the frequency of

50 Hz, calculate the number of poles?

1. 50 cycles/sec c)70 cycles/sec
2. 60 cycles/sec d)75 cycles/sec

563. In alternator the factor by which the full pitch voltage is multiplied to get

Voltage generated in fractional pitch is called as......

1. Form factor c)pitch factor
2. Distribution factor d)multiplication factor

564. An alternator is also called ---

1. AC Generator c)Asynchronous generator
2. Turbo generator d)Generator

565. The power factor of an alternator depends on.....

1. Load c) Core losses
2. Speed of rotor d) Armature losses

566. Under short-circuit conditions; the power factor of an alternator is --

1. Unity c) Almost zero leading
2. Almost zero Lagging d) Same as normal condition

567. A three phase alternator has a phase sequence of RYB for its three outputs

Voltages for clockwise rotation. Now if the alternator is rotated anticlockwise

The phase sequence will be ....

1. RYB c) BYR
2. RBY d) None of these

568. The advantage of salient poles in an alternator is.....

a)Reduced noise c) Adoptability of low and medium speed operation

b) Reduced wind age loss d) Reduce bearing loads and noise

569. Salient pole type rotors are generally used in Hydro generation power plants.

The limiting factor for size of rotor is....

1. Rotating field construction (c)Centrifugal force acting on the rotating members
2. Rotating armature construction (d) All of these

570. Active power of an alternator can be varied by....

1. Changing field excitation c) Charging the load
2. Changing of prime cover speed d) None of these

571. In alternators fractional pitch coil are used to reduce the effect of.....

1. Hunting c) Armature reaction
2. Harmonics d) Power factor

572. Practically in most of the alternators which type of construction is preferred..

1. Rotating field type c) Both are equally important
2. Rotating armature type d) None of these

573. In a synchronous generator, if the mechanical input is increased with

Constant excitation, the load angle will.....

1. Increase c) Either increase or decrease
2. Decrease d) None of these

574. In which of the following loads, armature reactance is magnetising in nature /

1. Pure resistance load c) Pure capacitive load
2. Pure inductive load d) F.L.C. load

575. Three phase alternator are generally.....

1. Star connected c) Open circuited
2. Delta connected d) short circuited

576. What is/are the necessary conditions for parallel operation of alternators?

1. Terminal voltage is same (c) Speed of alternators should be same
2. Speed of alternators should be same (d) Terminal voltage and frequency should be same.

577. What are the advantages of parallel operation of alternators?

1. Increase in reliability
2. Increases in efficiency under light condition
3. Continuity in supply is maintained
4. All of these

578. The reason of drawing high current at the time of starting by an induction motor is ;

1. High voltage c) zero back e.m.f
2. Low power factor d) none of these.

579. The principle of operation of an induction-motor is:

1. Faraday’s law c) Fleming’s right-hand rule
2. Rotating magnetic field d) Ohm’s law

580. The speed of rotor of an induction-motor is:

1. the same as the synchronous speed (c) lesser than the synchronous speed
2. higher than the synchronous speed (d) determined by the frequency and the

Number of poles.

581. Squirrel-cage induction-motor differs from a slip-ring induction-motor

as it has no :

1. slip=rings c) stator windings
2. rotor windings d) rotating part

582. Squirrel-cage induction-motor has:

1. Zero starting torque c) very high stating torque
2. Very small starting torque d) highest starting torque amongst all

Types of induction motors.

583. A thermal overload relay is provided in a starter to protect motor against:

1. Short-circuit c) excess current
2. Open-circuit d) low voltage

584. When squirrel cage induction-motor is started directly by a D.O.L. starter,

The starting current will be:

1. Equal to the full-load current
2. twice the full-load current
3. 3 times the full-load current
4. 5 to 7 times the full-load current.

585. When we connected an induction-motor in star through a starter, the applied

Voltage across each winding becomes:

1. Zero (b) 415V (C) 230V (D) None of these.

586. The starting torque of a squirrel cage induction motor is low because of :

1. Low starting current, low starting P.F.
2. Low starting current, high starting P.F.
3. High starting current, high starting P.F
4. High starting current, low starting P.F.

587. If a 3 – phase motor runs with two phases only, it is called single

Phasing. It will ultimately:

1. Carry no load c) run with triple speed
2. Burn out d) not run efficiently

588. Thermal overload relays are\_\_\_\_\_ than magnetic overloads relays.

1. Faster c) much bigger
2. Slower d) very smaller.

589. The purpose of back-up fuse is to provide protection against:

1. Overload c) excess current
2. over voltage d) short circuit

590. The rotor current frequency of a slip-ring induction motor depends on:

1. rotor conductor c) amount of slip
2. rotor inductance d) inductive reactance

591. If the load on a motor is increased beyond its full-load point, the greatest

Effect of the increase in slip is in:

1. increasing the power factor c) increasing the current
2. decreasing the power factor d) decreasing the current

592. The principle of operation of a 3-phasea induction motor is similar to that of a:

1. synchronous motor (c) transformer with a shorted secondary
2. repulsion start induction motor (d) capacitor start, induction run motor

593. The effect of increasing the length of air gap is an induction motor will

be to increase the :

1. power factor c) magnetising current
2. speed d) air gap flux

594. in a 3-phase induction motor ,the rotor field rotates at synchronous speed

With respect to :

1. Stator C) stator flux
2. Rotor d) None of the above

595. The power factor of a squirrel cage induction motor is:

1. Low at light loads only c) low at light and heavy loads both
2. Low at heavy loads only d) low at rated load only

596. The torque developed by a 3-phase induction motor depends on the following

Three factors;

1. Speeds, frequency, number of poles
2. Voltage, current and stator impedance
3. Synchronous speed, rotor spe3ed and frequency
4. Rotor e.m.rotor current and rotor power factor

597. The syncathronous speed of an induction motor refers to the sped of the....

1. Rotor c) rotating magnetic field
2. Armature d) value marked on the name plate.

598. In a 3-phase motor the rotating magnetic field is displaced at an angle of.....

1. 30 degree c) 90 degree
2. 60 degree d) 120 degree

599. For a small capacity induction motor, the type of starter used is.....

1. Star delta starter c) Auto transformer starter
2. DOL starter d) Rotor resistance starter

600. On switching ON the starter the magnetic contactor vibrates heavily, the

Cause may be.....

1. High voltage (c) low voltage and single phasing
2. Dirt in the armature contact surface (d) low voltage and dirt on the

Armature contact surface.

601. In the manual star delta starter, the stop button connection is in series with the.....

1. No-volt coil c) no-volt and load relay contacts
2. Overload relay contacts d) no-volt coil and start button.

602. Which type of 3 phase motor starter is suitable for the 3 phase slip ring

Induction motor?

1. D.O.L c) ` Rotor-resistance starter
2. Star delta starter d) Auto transformer starter

603. What is full form of DOL?

1. Direct on load c) Direct only line
2. Direct on line d) Direct over load

604. What is the fuse rating that can be selected for a 10 H.P (metric?)

Squirrel cage induction motor?

(Assume the speed of motor is 2877 R.P.M)

1. 24.4 Nm c) 25.42 Nm
2. 24.75 Nm d) 26.35 Nm

605. Stator of an induction motor contains a three phase winding placed at.....

1. 60 electrical degrees c) 120 electrical degrees
2. 90 electrical degrees d) 180 electrical degrees

606. What is the fuse rating that can be selected for a 10 H.P?

Induction motor?

1. 10 amperes c) 20 amperes
2. 15 amperes d) 25 amperes

607. What is the phase angle difference between each phase, winding of

3 phase induction motor?

1. 90 degree c) 180 degree
2. 120 degree d) 360 degree

608. the most common type of A.C. motor is the....

1. Single phase induction motor c) three phase induction motor
2. Two phase induction motor d) two phase squirrel cage motor

609. Most commonly used motor types in today’s industry are....

1. D.C. motor c) Synchronous motor
2. Induction motor d) All of these

610. The frequency of the induction e3.m.f in an induction motor is.....

1. Greater than the supply frequency
2. Lesser than the supply frequency
3. Same as the supply frequency
4. None of these

611. Induction motor runs at......

1. Synchronous speed c) Above synchronous speed
2. Below synchronous speed d) None of these

612. The sequence of induction motor is RYB, then the direction of the

Induction motor can be changed by the following sequence;

1. BYR c) BRY
2. RBY d) None of these

613. The frame of induction motor and generator is usually made of:

1. Silicon steel c) Aluminium
2. Cast iron d) Mild steel

614. The shaft of an induction motor is made from....

1. High speed steel c) Carbon steel
2. Stainless steel d) cast iron

615. Slip rings are usually made of...

1. Copper c) Phosphor bronze
2. Carbon d) Aluminium

616. In an induction motor, no load slip is generally.....

1. Less than 1 percent c) 5 percent
2. 2 percent d) 4 percent

617. Slip ring induction motor has....

1. `Low starting torque c)` High starting torque
2. Medium starting torque d) None of these

618. Rotor resistance starting can be applied to which of the following motors?

1. Double cage c) Medium duty squirrel cage
2. Heavy duty squirrel cage d) Slip ring

619. A three phase slip ring induction motor can be started using....

1. Direct on line starting c) Auto transformer starting
2. Rotor resistance starting d) Star delta starting

620. A wound rotor is conveniently started by:

1. D.O.L starting method c) Auto transformer starting method
2. Star delta starting method d) Increasing rotor resistance method

621. A three phase 7.2 kW, 440 V, 50 Hz starter uses...

1. D.O.L starter c) Auto transformer starter
2. Star delta starter d) Oil immersed starter

622. The star delta starter is used in.......

1. Flour mills c) Machine tool drive
2. Pumps d) All of these

623. In the star delta starter method the voltage applied across the stator winding is...

1. Equal to the supply c) 1/ times the supply voltage
2. 1.732 times the supply voltage d) None of these

624. In star delta starting of induction motor, the current drawn from lines is reduced to....

1. 1/10 times c) 1/5 times
2. 1/7 times d) 1/3 times

625. Which one of the following is the application of synchronous motor?

1. Cranes c) Power factor correction device
2. Hoists d) Welding generator set

626. Synchronous motor can operate at –

1. Lagging power factor only c) Unity power factor only
2. Leading power factor only d) Lagging, leading and unity power factor only

627. Synchronous motor can be used as power factor improvement device when.....

1. Running at lagging power factor c) Running at leading power factor
2. Running unity power factor d) None of these

628. In case the field of synchronous motor is under excited, the power factor will be...

1. Leading c) Zero
2. Lagging d) Unity

629. A synchronous motor can be started by :

1. Pony motor c) By providing damper winding
2. D.C. compound motor d) any of these

**STATE TRUE OR FALSE :**

630. A single phase induction motor, having single winding will not start when connected to

a suitable supply.

631. A split-phase motor has a high starting torque and takes high starting current.

632. The capacitor connected in series of the starting winding of a capacitor motor improves

the power factor of the motor.

633. The efficiency of a capacitor=start-capacitor-run motor is lesser than that of

That of capacitor-start induction-run motor.

634. The direction of rotation of a repulsion motor can easily be reversed by changing the

Position of the brushes.

635. A repulsion motor takes high starting current for producing a high starting torque.

636. Domestic mixer-grinders employ a universal motor because of its high speed.

637. Universal motors used in railway engines are made in 2200 H.P. rating.

638. The direction of rotation of a shaded pole motor can be changed easily.

639. A single-phase, slip-ring induction motor is a variable speed type motor.

**FILL IN THE BLANKS** :

640. In a split-phase motor, one winding is called running winding and the other is called

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Winding.

641. In a capacitor-start –capacitor-run motor the capacity of the starting capacitor is kept

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Than that of the running capacitor

642. A Universal D.C motor is also called a\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

643. To create a rotating magnetic field in the stator of a motor, at least\_\_\_\_\_\_\_ windings

Are essential.

644. The name of the device which is used for disconnecting the starting winding in a

Single phase induction-motor after the rotor attains 75% speed as\_\_\_\_\_\_\_\_\_\_\_

645. A shaded – pole motor has a very\_\_\_\_\_\_\_\_\_\_\_\_\_ starting torque.

646. The direction of rotation of a capacitor-start-capacitor-run motor can be reversed by

Reversing the connections of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

647. The running torque of a capacitor-start-capacitor-run motor is\_\_\_\_\_\_\_\_\_\_\_ a than

That of a capacitor-start-induction-run motor of the same capacity.

648. The type of motor used in A.C.ceiling fans is\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

649. A universal motor\_\_\_\_\_\_\_\_\_\_\_\_ be operated without load for a long time

**CHOOSE THE CORRECT ANSWSERS**:

650. The type of the motor that does not have a commutator is:

1. Repulsion motor c) d.c.shunt motor
2. Induction motor d) a.c.series motor

651. The rotor of a split-phase motor receives its power from:

1. the line voltage c) a centrifugal switch
2. slip-rings d) magnetic induction

652. The induction motors are designed for:

1. three phases c) single phase
2. two phase d) all the above

653. The direction of rotation of a repulsion motor can be changed by changing:

1. supply connections c) bush positions
2. stator connections d) rotor winding connections

654. Which one of the following motors will have the lowest stating torque?

1. universal motor c) capacitor-start capacitor-run motor
2. shaded pole motor d) repulsion-induction motor

655. Which one of the following motors can reverse its direction or rotation by simply?

Reversing the supply connections?

1. Capacitor-start capacitor-run-motor (c) Shaded pole motor
2. Split phase motor (d) none of the above.

656. Capacitor-start and capacitor-start –capacitor-run motors employ:

1. Ceramic capacitors c) Paper or non-polarised electrolytic capacitors
2. Mica capacitors d) styroflex capacitors

657. Which one of the following single-phase motor perform with better power factor?

1. Universal motor c) Capacitor-start motor
2. Repulsion motor d) Capacitor-run-motor

658. Which type of motor is generally used in a portable electric blower?

1. Repulsion motor c) Capacitor-run-motor
2. Universal motor d) Hysteresis motor

659. A capacitor-start, single phase motor will usually have a P.F. of :

1. 0.8 leading c) unity
2. 0.6 lagging d) none of the stated above.

660 The most economical method of starting a single-phase motor is :

1. Split-phase method c) capacitance start method
2. Inductance start method d) resistance start method

661. Which of the following motors will give highest starting torque?

1. Capacitor-start motor c) Shaded pole motor
2. Universal motor d) Reluctance motor

662. When a universal motor is operated on no load, its speed is limited by.....

1. Armature c) Wind age and friction
2. Armature weight d Supply voltage frequency

663. One of the reasons for noise in a single-phase capacitor motor is:

1. Short-circuit main winding c) loose connection in overload relay circuit
2. Short-circuit starting winding d) loose rotor bars

664. A single-phase universal motor fails to start because:

1. There is no supply voltage c) the bush length is reduced by 10%
2. The supply voltage is more than d) there is no load on the motor at the time

of starting.

665. The direction of rotation of a universal motor is changed by:

1. interchanging the field connections only
2. interchanging the armature connections only
3. interchanging either the field or armature connections
4. None of the above

666. A universal motor gives electric shock to the operator. The possible reason is;

1. earthed field winding c) motor is run above its rated speed
2. Short-circuited armature winding d) applied voltage is high.

667. Which of the following single phase motors will be cheapest?

1. Capacitor-start motor c) Repulsion-start induction –run motor
2. Capacitor-run motor d) Double capacitor motor

668. What is/are the shortcomings of repulsion motors?

a) Variation of sped with load c) Tendency to produce sparking at the bushes

b) Low power factor d) All of the above

669. In a repulsion motor energy is transferred from stator field winding to the rotor

1. Conductivity c) conductively as well as inductively
2. Inductively d) any of the above

670. A domestic mixer uses the following motor

1. Induction motor c) universal motor
2. Reluctance motor d) permanent magnet synchronous motor

671. The electric motor generally used in house hold food mixers is

1. Universal motor c) capacitor start motor
2. Shaded pole motor d) none of the above

672. For which of the following applications is the universal motor most suitable?

1. Tape recorder c) Hand operated drilling machine
2. Table fan d) Record player

673. Synchronous speed of an induction motor can be increased by

1. Reducing mechanical friction c) increasing number of poles
2. Increasing supply voltage d) increasing supply frequency

674. Rotor resistance speed control is used in

1. Squirrel cage induction motor c) slip ring induction motor
2. Synchronous motor d) D.C. shunt motor

675. Capacitor in a single phase induction motor is used for

1. Improving the power factor c) starting the motor
2. Improving the starting torque d) reducing the harmonics

676. Capacitor start and capacitor run motors are used in

1. Hoists c) mining
2. Rolling mills d) refrigerator

677. A shaded pole single phase induction motor can be used for

1. Wet grinders c) tape recorders
2. food mixes d) personal computers as cooling fan

678. The suitable motor for domestic fans is

1. D.C. shunt motor c) single phase induction motor
2. D.C. series motor d) synchronous motor

679. The type of single phase induction motor having the highest power factor at full load is

1. Shaded pole type c) capacitor start type
2. Split phase type d) capacitor run type

680. An electric motor gets over heated. This may be due to....

` a) over loading c) worn out bearings

b)\_ shorted stator winding d) low or high voltage

681. The permanent capacitor motor is most commonly used in............

1. Compressors c) ceiling fans
2. Blowers d) washing machine

682. The application of resistant start induction run motor is........

1. Refrigerator c) electric clock
2. Hair dryers d) washing machine

683. Which type of single phase motor can be used on both AC and DC supply?

1. Shaded pole motor c) Repulsion motor
2. Universal motor d) Capacitor-start ,induction run motor

684. The universal motor works on the same principle of which type of machine?

1. D.C. generator c) A.C. Induction motor
2. D.C. motor d) A.C. Generator

685. The speed of a universal motor is inversely proportional to......

1. the load c) current
2. voltage d) resistance

686. Universal motor develops full load torque at starting is..........

1. 350 times c) 450 times
2. 400 times d) 500 times

687. The motor which can produce uniform torque from standstill to synchronous speeds is......

1. Universal motor c) Reluctance motor
2. Stepper motor d) Hysteresis motor

688. Following type of motor is preferably used in a computer printer....

1. Universal motor c) Hysteresis motor
2. Split phase motor d) Stepper motor

689. `A stepper motor is ...........

1. A D.C motor c) A multi phase motor
2. A single phase A.C .motor d) A two phase motor

690. The motor used in compressor of house hold refrigerators is:

1. D.C. series motor c) Universal motor
2. Shaded pole motor d) Single phase induction motor

691. Single phase motors are commercially manufactures up to....

1. 1 H.P c) 5 H.P
2. 2 H.P d) 10 H.P

692. A single phase induction motor.........

1. Is self starting c) is less reliable than
2. Operates at a fixed speed d) None of the above

693. In single phase induction motors, phase shift and torque can be provided by......

1. Capacitor only c) Inductors and resistors
2. Shaded poles d) All of these

694. A single phase motor generally used for small air compressor is......

1. Capacitor start capacitor run c) Reluctance type
2. Split phase d) Shaded pole

695. A capacitor start capacitor runs single phase motor, the ratio of starting

Torque T to full load torque T is.........

St FL

1. 1 c) 3
2. 2 d) 4

696. A capacitor start single phase induction motor will usually have a power factor of......

1. Unity c) 0.6 leading
2. 0.8 leading d) 0.6 logging

697. Which of the following motors will operate at high power factor?

1. Universal motor c) Capacitor run motor
2. Capacitor start motor d) Split phase motor

698. The starting capacitor of a single phase motor is...

1. Electrolytic capacitor c) Paper capacitor
2. Ceramic capacitor d) None of the above

699. Which of the following is non-reversible motor?

1. Universal motor c) Resistance start split phase motor
2. Capacitor start split phase motor d) Permanent split capacitor motor

700. The electric motor used in toys which run on A.C. are usually......

1. Capacitor start motor c) Capacitor start capacitor run motor
2. Split phase motor d) Shaded pole motor

701. A universal motor is one which.....

1. Can run on large variations in A.C. supply voltage
2. Has infinitely varying speeds
3. Can operate on D.C.as well as A.C.
4. Can work on single phase or three phase supply.

702. The direction of universal motor can be reversed by:

1. Reversing the supply terminals c) Interchanging the brush loads
2. Switching from single phase to D.C. d) None of these

703. Out of the following motors, which will give the highest starting torque?

1. Universal motor c) Shaded start motor
2. Capacitor start motor d) All have zero starting torque

704. Which motor would you select from vacuum cleaners?

1. Universal motor c) Hysteresis motor
2. Repulsion motor d) Reluctance motor

705. Which of the following applications would need the smallest size of motor?

1. Domestic motor c)\_ Table fan
2. Electric clock d) Sewing machine

706. A reluctance motor.....

1. Is self starting b) needs no D.C. excitation
2. Is constant speed motor d) All of theses

707. The power station that does not require any moving part is

1. Thermionic convertor c) Tidal power plant
2. Wind power generation d) Solar power generation

708. Which of the following power plants is free from environmental problems?

1. Diesel engine c) Hydroelectric
2. Nuclear d) Steam

709. Which of the following plants will take least time in starting from cold condition to

Full load operation?

1. Nuclear power plant c) Hydroelectric plant
2. Steam power plant d) Gas turbine plant

710. Which of the following plants has the maximum capital cost?

1. Steam plants c) Diesel plants
2. Hydro plants d) Nuclear plants

711. Advantage of hydro-electric power station is.......

1. Low operating cost c) No fuel transportation problems
2. Free from pollution problems d) All of the above

712. In a hydro electric plant a conduct system for taking water from the intake works

to the turbine is known as .......

1. Dam c) Pen stock
2. Reservoir d) Surge tank

713 Hydrogenating stations are characterised by which of the following?

1. High capital and high fuel cost c) Low capital and low fuel cost
2. High capital and zero fuel cost d) Low capital and high fuel cost

714. For which of the following reasons are hydrogenating stations sited in mountain region?

1. Large land area is required c) Earthquake free region
2. Safety d) Availability of the required head of water

715. Which of the following is a conventional source of energy?

1. Coal c) Small Hydro
2. Solar d) Wind

716. In a power plant, coal is generally carried from storage place to boiler by means of....

1. Bucket c) Conveyor belts
2. trolleys d) Manually

717. Which type of pollution occurs when a large amount of heat is released by thermal?

Generating stations?

1. Thermal c) Noise
2. Environmental d) All of these

718. which of the following has the highest grid connected installed capacity......

1. Solar c) Wind
2. Biomass d) Small hydro

719. Horizontal axis and vertical axis are the types of........

1. Nuclear reactor c) Biogas reactor
2. Wind mills d) Solar cell

720. The first nuclear power plant installed in India is....

1. Rajasthan (Kota) c) Kalpak am (T.N)
2. Tarapur (Maharashtra) d) Narora (U.P)

721. Which of the following is not a bio-mass source?

a) Gobar gas c) Wood

b) Coal d) Nuclear energy

722. which of the following is not a primary source of energy in alternative/unconventional

Power stations?

1. Wind c) Geothermal
2. Plutonium d) Natural Gas

723. A cable used to supply ‘power’ and ‘light and fan’ electric supply should be of:

1. Two core type c) 31/2 core type
2. Three core type d) four core type

724. The purpose of providing armouring to an underground cable is to prevent:

1. White-ant attack c) mechanical injury
2. Entry of moisture d) brusting

725. If the underground cable has a lead tube as metallic sheath, the cable joint made

Once does not need:

1. Testing with megger c) metallic junction box
2. Separate earthing d) any plumbing work

726. The depth of a pole below the ground level in case of normal soil should be

1. 1/4th of its full height c) 1/6th of its full height
2. 1/5th of its full height d) 1/8th of its full height

727. While connecting a copper wire with an aluminium wire, use:

1. Straight sleeve and nut connector (c) standard P.G. clamp
2. Bimetallic universal P.G. clamp (d) compression connector

728. In a service line of a residential colony which type of poles are preferred?

1. Wooden c) R.C.C
2. Steel tubular d) Steel tower.

729. Which type of insulator is used in stay wire?

1. Pin type c) Shackle typ0e
2. Egg type d) Suspension type

730. If a distribution line and street lighting fixtures are installed on the same pole

Then their span should not exceed:

1. 30 m c) 60 m
2. 45 m d) 100 m

731. As per I.E. rules, no service line should be tapped :

1. At the mid span c) at the termination
2. At the beginning d) near to an insulator

732. As per I.E. rules , no conductor of overhead line including service lines be erected

Across a street shall at any part thereof be a height less than..............meters

For low and medium voltage lines.

1. 4 ( 13 feet) c) 5 (16.4 feet)
2. 4.5 (14.7 feet) d) 5.486 (18 feet)

733. As per I.E regulation, when service lines are insulated elsewhere other than along

Or across any street with insulated conductor, the conductor of the line at any part

Small have a height not less than a specified value.

1. 3.963 m c) 5.486 m
2. 4.572 m d) 5.791 m

734. Service connection to consumer premises is provided either through overhead or through

Underground cable by tapping from OH line. Service connection line should be tapped from OH line at....................

1. Mid span only c) a point of support
2. Any point along the span d) a point one meter away from support

735. What is the type of insulator used for holding the H.T. overhead conductor on straight

Running of poles?

1. Post insulators c) Stay insulators
2. Pin type insulators d) Shackle insulators

736. XLPE cable is one type of H.T. cable. The full form of XLPE is.......

` a) Cross lead paper ethylene cable b) Cross linked poly ethylene cable

1. Cross line poly ethylene cable d) Cross linked paper ethylene cable

737. The expansion of XPLE cable is.......

1. X-Line Power Electrical Cable (c) Cross Linked Poly Ethylene Cable
2. Cross Line Polythene Enamelled Cable (d) X-Layers of poly Ethylene cable

738. The higher short circuit rating of PVC cable is 160 degree C but for XLPE cable it is.....

1. 250 degree C c) 180 degree C
2. 200 degree C d) 160 degree C

739. The XLPE cables have insulation with maximum continuous temperature rating as –

1. 60 degree c) 80 degree
2. 75 degree d) 90 degree

740. Main parts of a power system is/are...........

1. Generating stations c) Distributing networks
2. Transmission system d) All of these

741. By which of the following systems, electric power may be transmitted:

1. Overhead system c) Both (a) and (b)
2. Underground system d) None of the above

742. Conductor used for power transmission & distribution is/are:

1. PILC cable c) ACSR conductor
2. AVV cable d) all of these

743. Conductor used for transmission line is.....

1. Copper c) ACSR
2. Aluminium d) G.I

744. The ACSR conductor used for overhead transmission has full form as....

a) Aluminium Conductor Steel Reinforced c) Active Conductor steel Reinforced

b) Active Conductor Sheathed Reinforced d) Aluminium Conductor Steel Restructure

745. Which of the following materials is not used for transmission and distribution of

Electrical power?

1. Copper c) Both (a) and (b)
2. Aluminium d) Tungsten

746. The conductors of the overhead lines are mainly........

1. Solid c) Hollow
2. Standard d) None of these

747. Cables generally used beyond 66 KV are....

1. Oil filled cable c) H-type cable
2. Belted cable d) S.L. type cable

748. Cables generally used beyond 66 kV are.......

1. Red phase conductor c) Blue phase conductor
2. Yellow phase conductor d) Earth conductor

749. Which of the following faults is most likely to occur in cables?

1. Cross or short circuit fault c) Breakdown of cable insulation
2. Open circuit fault d) All of these

750. In the cables, the location of fault is usually found out by comparing.......

1. The resistance of the conductor c) The capacitances of insulated conductor
2. The inductance of conductor d) All above parameters

751. In a cables, sheaths are used to........

1. Prevent the moisture from entering the cable c) Provide proper insulation
2. Provide enough strength d) None of the above

752. Why are inner sheaths are used to.....

1. Provides proper stress distribution (c) Provides protection against moisture, current a

And voltage surges

1. Minimise the stress (d) To improve the insulation

753. In a cable, immediately above metallic sheath...... is provided.

1. Earthling connection c) Armouring
2. Bedding d) None of these

754. Conductors used in H.T. transmission line are standard because of....

1. Increased tensile strength c) Cheaper in cost
2. Flexibility d) Reduced resistivity

755. Underground cable is laid at sufficient depth.....

1. To minimize temperature stresses
2. To avoid being unearthed easily due to removal of soil
3. To minimize the effect of shocks and vibrations due to passing vehicles, etc.
4. For all of the above reasons

756. Armouring provides.....

1. Electrical protection to cables c) good tensile strength
2. Protection from mechanical injury d) reduced voltage drop in the cable

757. Armouring of cable is done in order to.....

1. Insulate the cable from stray capacitance
2. Protect the cable from mechanical injury
3. Use it as inters heath
4. Both (a) and (c)

758. Metal conductors used for substation grounding systems are made of...

1. Steel ,aluminium ,nickel c) Copper , steel , aluminium
2. Steel, Copper , Brass d) Copper, steel , nickel

759. Which material is used for wiring continuous bus bar?

1. Aluminium c) lead
2. Copper d) Brass

760. Which material is used for wiring continuous bus bar?

1. Aluminium c) Both (a) & (b)
2. Copper d) None of these

761. As compared to single Bus bar, a duplicate Bus bar has the drawback of......

1. Poor reliability c) Lesser flexibility of operation
2. Greater cost d) All of these

762. in a power substation sub-system:

1. Power is transmitted
2. Power is distributed
3. Consists of switching between different sub systems
4. Electrical energy is obtained from a prime source of energy

763. Which of the following system is not a sub-system of an electrical energy system?

1. Distributio0n system c) Transmission system
2. Protection and control system d) None of these

764. The power transmitted over a transmission line is a function of transmission

Voltage. It is proportional to.....

1. The transmission voltage c) Cube of the transmission
2. Square of the transmission voltage d) None of these

765. for overhead transmission of high voltage....

1. Steel towers are used c) Steel poles are used
2. Concrete poles are used d) Wooden poles are used

766. Following ET of voltages is allowed or high voltage power transmission commercially

Available in India

1. 220 kV, 400kV, 700kV c) 110 kV, 400 kV, 700 kV.
2. 220 kV,400kV,765 kV d) 110 Kv, 400Kv, 765 kV

767. Voltage produced at the output of a generator at power station is sent to transmission

Line by using:

1. H.V transmission line c) Step up transformer
2. Step down transformer d) Unity isolating transformer

768. Distribution transformer at a local substation will...

1. Step down voltage from 11-33 kV to 0.40 kV
2. Step up voltage from 11-33 kV to 0.40 kV
3. Step down voltage from 400 kV to 0.40 kV
4. Step up voltage from 400 kV to 0.40 kV.

769. Circuit isolators and circuit breakers are used, respectively at ...

1. High voltage side of transformer on line, low voltage side of transformer offline
2. High voltage side of transformer offline, low voltage side of transformer online
3. Low voltage side of transformer online, high voltage side of transformer online
4. Low voltage side of transformer offline, high voltage side of transformer offline

770. Which of the following is the function of a transformer at the generator end ?

1. To transmit the power by raising the voltage level
2. To transmit the power by decreasing the voltage level
3. To supply power
4. To convert from one from to another form

771. For power factor correction in substation is done by..

1. Inductor c) Synchronous motor
2. Capacitor d) Bothe(b) & (c)

772. A radial distribution system is not used to supply in....

1. High density load areas c) Low density load area
2. Medium density load areas d) None of these

773. It is desire to supply a large load reliably over a large area .Which of the following

Distribution is recommended?

1. Direct distribution from the grid c) Loop distribution
2. Radial distribution d) Network distribution

774. The operating frequency (AC) of India is....

1. 0 Hz c) 60Hz
2. 50Hz d) 100Hz

775. Low tension cables are generally used up to ......

1. 200 V c) 700 V
2. 500 V d) 1000 V

776. Which of the following distribution system is not normally used?

1. 3 phase 3 wire system c) Single phase 3 wire system
2. 3 phase 4 wire system d) Single phase 3 wire system

777. In transmission line, we usually use cross arms made of .....

1. Aluminium c) Steel
2. Copper d) R.C.C

778. Following is t rue about ring main distribution system –

1. Voltage profile at consumer premises is better compared to radial .system
2. It is similar to two radial systems connected in parallel
3. More conductor is required per consumer
4. Both (a) & (b) are correct

779. Low tension cables are operated below the voltage of....

1. 500 V c) 11 kV
2. 1 kV d) 33 kV

780. The feeder voltage at which distribution of power is undertakes:

1. 66 kV c) 22 kV
2. 33 kV d) 11 kV

781. Pin type insulators are generally not used for voltage beyond...

1. 1 kV c) 22 kV
2. 22 kV d) 33 kV

782. The maximum voltage level up to which pin type insulator can be used is......kV

1. 11 c) 66
2. 33 d) 132

783. The structure of pin type insulator is wavy; it is done to increase......

1. Mechanical strength c) Flash over voltage
2. Puncture strength d) Thermal strength

784. Transmission line string insulators are mainly made of...

1. Glass c) Iron
2. Porcelain d) P.V.C

785. The number of discs in a string of insulator for 400 kV overhead transmissions

Lines are in the rage of....

1. 32-33 c) 15-16
2. 22-23 d) 9-10

786. The strain type insulators are used...

1. At dead end c) for sharp curve
2. For low voltage lines less than 11 kV d) All of these

787. One disc of strain insulator can sustain....

1. 22 kV c) 33 kV
2. 11 kV d) 440 volts

788. Line insulators are made of –

1. Porcelain , glass, P.V.C c) Synthetic resin, glass, porcelain
2. Synthetic resin, P.V.C, teak wood d) Porcelain, glass, bone chine

789. Suspension type insulators are conventionally used for line voltage –

1. Up to 50 kV c) Beyond 50 kV
2. Up to 80 kV d) Beyond 80- kV

790. Safety factor of insulator is the ratio of.....

1. Puncture strength to flash over voltage
2. Flash over voltage to puncture strength
3. Flash over voltage to line voltage
4. Line voltage to flash over voltage

791. In stay wire, the type of insulator used is.....

1. Pin insulator c) Disc insulator
2. String insulator d) Egg type insulator

792. Isolator used in transmissions lines are capable of breaking....

` a) Fault current c) No current

1. Charging current d) Lead current

793. Isolator can be used to open the circuit......

1. On fault c) After opening/disconnection load
2. Any time with load d) None of these

794. For which among the following, the current ratings are not required?

1. Circuit Breaker c) Isolator
2. Relays d) Load break switch

795. An accident is:

1. Unplanned event c) undesirable event
2. Non-controlled event d) all of the above

796. Which one of the following is not the cost due to an accident?

1. Cost due to damage to machine, tools, material and property
2. Cost of lost time of the injured person
3. Cost of compensation and medical ailed
4. Cost due to increase in production

797. The safe way of working is:

1. An effective and right way of working
2. An ancient way of working
3. A way of handling the work in a hurry
4. A way of normal working

798. The best way of avoiding accident is by:

1. Doing work in ancient way
2. Doing work in one’s own way
3. Observing safety rules related to job ,machine and work place
4. Using safety equipment

799. Fire is a combination of:

1. Fuel, light and oxygen c) fuel, heat and carbon dioxide
2. Fuel , heat and oxygen d) fuel, light and nitrogen

800. burning wood is classed as which type of fire?

1. Class A c) Class C
2. Class B d) Class D

801. Which of the following should not be kept in the first-aid kit?

1. Sterile dressing c) Eye dressing
2. Plasters d) Headache tablet’s

802. A person being electrocuted should be removed from the life supply by means of:

` a) a length of metal pipe c) A length of wet timber

b A length of dry timer d) A scaffold pole

803. If your clothes catch fire on the work spot, what will you do first?

1. Run away from the spot (c) Put a thick blanket all over the body
2. Roll over the ground (d) Direct a fire extinguisher towards

The clothe.

804. If a person faints due to suffocation, the first aid to be given is :

1. Give him a warm drink c) Place him on a well ventilated location
2. Sprinkle cold water on the face d)Give him artificial respiration

805. The best method to avoid an accident is...

1. By wearing safety equipment
2. By observing safety precautions related to the job ,machine and working place
3. Doing things in one’s own way
4. Doing things which a highly skilled worker practices.

806. Fire is made to starve by removing....

1. Oxygen c) Heat
2. Water d) Liquefied chemical

807. In ABC of first aid, A stands for Airway, B stands for breathing and C stands for.....

1. Cardio problem c) Cardio arrest
2. Circulation d) Cleaning and dressing

808. The three factors that cause fire are oxygen, fuel and.....

1. Heat c) H2 O
2. CO2 d) Hazardous

809. What is the first action if a colleague (victim) received a heavy electric shock?

1. Pl lathe victim from the live conductor
2. Pour water to avoid burning of victim
3. Fetch the first aid box
4. Switch off the current immediately

810. A fire extinguisher may be used by...............

1. Instructors or principal only of ITI
2. Anyone who is standing nearby
3. Anyone who is trained and authorized to use it
4. Fire preventation professionals only

811. You have to replace a fused lamp or a defective fan, in such a case, the safest

And first action which you can do is to...

1. Stand on a wooden stool or work horse
2. Collect and use rubber gloves
3. Switch off the single pole switch
4. Switch off the main supply

812. What is the first step you would like to take to rescuer a person who is in contact with

Live wire?

1. Call to doctor immediately (c) Isolate him from the live wire
2. Pull him away from live wire holding his hand (d) Shift him to hospital

813. What must be the immediate action, in the case of severe bleeding to victim?

1. Apply pressure to the wound (c) apply clean pad and bandage firmly
2. Avoid direct contact with the victim (d) Put a dressing over the wound

814. Name the method of artificial respiratory resuscitation injury/burns in chest or belly?

1. Holgen-Nelson method c) Mouth to mouth method
2. Schafer’s method d) Resuscitation under cardiac arrest

815. There are different methods of extinguishing of the fire smoothening is the method of:

1. Removing the fuel of the fire c) Pouring of water to the fire
2. Isolating supply of oxygen to the fire d) lowering the temperature of the fire

816. Which artificial resuscitation method is suitable to the victim in the case of burns/injury?

In the back?

1. Mouth to mouth method c) Nelson’s method
2. Schafer’s method d) Holgen-Nelson method

817. Which type of fire extinguisher is to be used on electrical equipment or installation?

Under fire?

1. Foam type c) Gas cartridge water filled type
2. Halon type d) Stored pressure water filled type

818. Which one of the following fire extinguisher is suitable for a live electrical fire?

1. Halon c) Foam
2. Water d) Liquefied chemical

819. Which artificial respiration method is suitable in the case of injuries to the victim?

When his mouth will not open?

1. Nelson’s artificial respiration method
2. Schafer’s artificial respiration method
3. Mouth to Mouth artificial respiration method
4. Mouth to nose artificial respiration method

820. Which artificial resuscitation method is suitable to the victim, in the case of

Injury/burns to chest or belly?

1. Nelson’s method c) Schafer’s method
2. Mouth to mouth method d) Halogen-Nelson method

821. `In which type fire, both foam and dry powder fire extinguishers can be used?

1. Class “A” fire c)`` Class “C” fire
2. Class “B” fire d) Class “D: fire

822. The victim has injury on his chest, which method of artificial resuscitation NOT

To be followed?

1. Schafer’s method c) Nelson’s method
2. Mouth to Mouth method d) Mouth to nose method.

823.`` Which type of fire extinguisher must NOT be used for electrical base fire ?

1. Halon extinguisher c) Foam extinguisher
2. Carbon tetra chloride(CTC)extinguisher d) Dry powder extinguisher

824. Which is the example of mandatory sign form the following safety signs examples?

1. Risk of electric shock c) Corrosive substances
2. Wear head protection d) Smoking prohibited

825. Which artificial resuscitation method is suitable to the victim, whose mouth is

Closed tightly?

1. Schafer’s method c) Nelson’s method
2. Mouth to mouth method d) Holgen-Nelson method

826. What class of fire extinguisher is suitable to extinguish the fire caused by

Liquefied gases?

1. Foam type extinguisher c) Dry powder extinguisher
2. Carbon Tetra Chloride(CTC)extinguisher d) Haloan type fire extinguisher

827. There are several factors that cause for electric shocks. What is the prime

Reasons for severity of electric shock?

1. The magnitude of voltage is more
2. The magnitude of current and duration of contact
3. The magnitude of the body resistance is high
4. The magnitude of the load current of the circuit

828. If person receiving electric shock and getting severe bleeding due to electric burns

The immediate reaction to stop the bleeding is to........

1. Cover the bleeding area with a cloth
2. Apply the pressure to the wound
3. Put a dressing over the wound
4. Send for medical treatment

1. If pump deliver no liquid then probable cause is :
2. Lack of prime c) Gas or air in liquid
3. Moisture in lubricating oil d) Bent shaft
4. If Pump discharge pressure is low then probable cause is:
5. Lack of Prime c) Bent shaft
6. Moisture in lubricating oil d) Gas or air in liquid
7. If there is excessive vibration in Pump, then probable cause is :
8. Lack of Prime c) Bent shaft
9. Gas or air in liquid d) Moisture in lubricating oil.
10. If the bearing of Pump over heats, then probable cause :
11. Lack of prime c) Bent shaft
12. Gas or air in liquid d) Moisture in lubricating oil
13. If pump over load’s the driver, then probable cause is :
14. Packing too tight c) Gas or liquid in air
15. Section line not filled with liquid d) None of the above
16. Which of the following is not a criteria of Pump selection :
17. type of duty required c) Duration of availability of power supply
18. Detail of head d) The look of pump.
19. H.S. Pump works with section head :
20. 15-20 feet head c) 41.80 feet
21. 21-40 feet d) None of the above
22. V.S. Pump works with total head
23. Up to 46 mtrs head c) 70- 100 mtrs head
24. 46 -70 mtrs head d) None of the above
25. Motor of the VS Pump is located :
26. Above the ground level c) Deep in the bore
27. Below the ground level d) None of the above
28. Line shaft of VS Pump is lubricated :
29. Spindle Oil c) Lub Oil SAE -40/30
30. Diesel Oil d) None of the above
31. Priming is required for:
32. HS Pump c) Submersible Pump
33. VS Pump d) Jet Pump
34. RPM of submersible set is :
35. 440 c) 380
36. 1440 d) 2800
37. Which Pump is most suitable for deep bore :
38. H.S. Pump c) Submersible Pump
39. V.S. Pump d) Jet Pump
40. Redevelopment of bore is done :
41. For smooth operation of pump c) To avoid the frequent failure of the pump
42. For taking good yield for bore d) All of the above
43. Capacity of Pump set is selected on the ground of :
44. Yield, static water level working water level `c) Type starter provided
45. Location of bore d) Quantity of water to be used
46. Pump fail , mostly due to :
47. Less working c) Incorrect operation
48. Excessive working d) failure of pump
49. Pump set Motor burns due to :
50. Single phasing c) Over loading for a shorter period
51. Reverse phasing d) none of the above.
52. For a 10 HP Pump set which type of starter is suitable:
53. DOL c) Auto transformer
54. Star Delta d) None of the above
55. A 5 HP Pump set draws current on full load ;
56. 5A c) 7.5 A
57. 10 A d) 6 A
58. Ammeter is provided in control panel of Pump set to measure :
59. Voltage c) Power factor
60. Frequency d) current
61. No. of Contractor provided in star delta starter :
62. 1 c) 3
63. 2 d) 4
64. Pump guard functions to protect the submersible pump set against :
65. Single phasing c) Over loading
66. Reverse phasing d) All of above
67. Automation of Pump set is done to :
68. To limit the working of pumps c) To save the energy and man power
69. To avoid the working of water d) All of the above
70. Centralized control of Pumps means :
71. Operation of Pump from individual Pump house
72. Operation of all pump from a single location
73. Operation of individual and all Pump from single location
74. None of the above
75. The functional head due to flow of water in the pipe line ....... length of piping system
76. Inversely proportional to c)Constant and independent to
77. Directly proportional to d)None of the above
78. The functional head due to flow of water in the pipe line...... diameter of pipe
79. Inversely proportional to c)Constant and independent to
80. Directly proportional to d)None of the above
81. The functional head due to flow of water in pipe line is directly preoperational to.......

of water .

a) Velocity c) I/Velocity 2

b) (Square root of) Velocity d) Velocity

1. The average of velocity of water in the section pipe........ The delivery pipe.
2. Less than in c) same as in
3. More than in d) None of the above
4. Neurotically the maximum section head for ordinary centrifugal pumps should not exceed.
5. 20 feet c) 10 feet
6. 34 feet d) 5 feet
7. For vertical shaft pump and submersible pumps the section head is always........
8. Positive c) Zero
9. Negative d) None of the above
10. The Motor of vertical shaft, 75 HP rating Pump is :
11. Force air cooled c) Water cooled
12. Natural air cooled d) None of the above
13. The specific speed of Pump (in RPM) in the speed at which the impeller would run

To give discharge of..................... against head of..............

1. 1 GPM 1 foot c) 1 GPM 34 feet
2. 1 GPH 1 foot d) 1 GPH 34 feet
3. The specific speed of pump is directly proportional to ........... where discharge in GPH.

2

1. (Square root)Q c) Q
2. Q d) None of the above
3. The specific speed of pump is directly proportional to .............. Where ’N’ in RPM.

` 2

1. Square root (N) c) N
2. N d) None of the above
3. Positive displacement pumps are generally less efficient than centrifugal pumps, state

Whether the statement is true or false.

1. True b) False
2. Installing larger diameter pipe in pumping system results in reduction in.
3. Static head c) both (a) & (b)
4. Frictional head d) None of the above
5. Generally water pipe line is designed with water velocity of.
6. < 1 M/S c) > 2MS
7. >c up to 2.0 M/S d) None of the above
8. What is the impact on flow and pressure when the impeller of a pump is trimmed?
9. Flow decreases c) Both pressure and flow decreases
10. Both flow and pressure increases d) None of the above
11. For high flow requirement, Pump are generally operated in :
12. Parallel c) any of the above
13. Series d) None of the above
14. In case throttling operation the Pump has to overcome additional pressure in order to

Deliver the reduced flow:

1. True b) False
2. Frictional losses in a Pumping system :

3

1. Proportional to I/Q 3 c) Proportional to I/Q 4
2. Proportional to Q d) Proportional to I /Q
3. For the large capacity centrifugal pumps, designs efficiencies are in the range of.......
4. Around 70% c) around 95%
5. Around 85% d) any of above
6. The moving part is centrifugal pump is..
7. Impeller c) both (a) & (b)
8. Diffuser d) Neither a nor b
9. The most efficient method of flow control in a pumping system is........
10. Trolling the flow c) Impeller trimming
11. Speed control d) None of the above
12. In case of increased section lift from open wells, the delivery flow rate.......
13. Increases c) remain same
14. Decreases d) None of the above
15. Pump efficiency generally increases with specific speed .State whether the statement is

True or False?

1. True b) False
2. Throttling the delivery valve of pump results in increased.......
3. Head c) both (a) and (b)
4. Power d) either (a) or (b)
5. The operating point in a pumping system is identified by;
6. Point of intersection of Pump curve and theoretical power curve
7. Point of intersection of Pump curve and theoretical power curve
8. Point of intersection of pump curve and system curve
9. Cannot be decided by pump characteristic curve is
10. The intersection point of the pump curve and the system curve is called.......
11. Pump efficiency c) system efficiency
12. Best efficiency point d) None of the above
13. If the speed of a centrifugal pump is doubled, its power consumption increases by.....time
14. Two c) eight
15. Four d) no change
16. A D.G. Set fails to start, the probable cause may be :
17. Dirty clogged air cleaner `c) Noggle niddle jammed
18. Fuel tank empty d) All of above
19. If a D.G set starts but stop after some time, the probable caused may be :
20. Air in fuel c) Fuel filter choked
21. Fuel line choke d) All of above
22. If a DG set is not gaining full speed, the probable cause may be :
23. Fuel tank empty c) Fuel filter dirty
24. Governor spring broken d) all of the above
25. If a DG set misses during operation, the probable cause may be
26. Air in fuel line c) water mixed with fuel
27. Nozzle damaged d) All of the above
28. If a DG set lacks power, the probable cause may be.
29. Pump may inject insufficient quantity of fuel c)poor quality of fuel
30. Dirty cooling system d) all of the above
31. If a DG set give excessive smoke at no load, the probable cause may be ;
32. Dirty clogged air cleaner c) faulty fuel lamp
33. Choked fuel injection hole d) all of these
34. If a DG set give excessive smoke at full load the probable cause may be ;
35. One as more cylinder not working c) Nozzle jammed
36. Poor quality of Oil d) All of these
37. If a D.G. set gives out blue smoke, the probable cause may be :
38. Water mixed with fuel c) Warn out liner piston
39. Engine used after a long time d) All of the above
40. If a DG set gives white smoke, the probable cause may be ;
41. Water mixed with fuel c) Warn out liner position
42. Engine used after long time d) All of the above
43. If a DG set over heated, the probable cause may be :
44. High exhaust back pressure c) Damaged main air connecting bearings
45. Engine overloaded d) All of the above
46. If a DG set consume excessive fuel the probable cause may be
47. Injector adjustment disturbed c) incorrect value of fuel timing
48. External/internal fuel d) All of the above
49. If a alternator of DG set is over heats, the probable cause may be :
50. Improper ventilation c) Overloading of machine
51. Misalignment d) All of the above
52. If the armature of DG set over heats, the probable cause may be :
53. Over loading c) Both (a) & (b)
54. Internal short circuit d) all of the above
55. The maximum rated speed for 125 KVA Cummins make DG set is :
56. 1500 rpm c) 21 rpm
57. 1000 rpm d) 2500 rpm
58. The oil temperature gauge of a DG set should normally read between;
59. 8 2-116 deg C c) 100 -=140 deg. C
60. 90 – 125 deg. C d) 122-140 deg. C
61. During warming up, the load should be applied gradually on a DG set until the oil.
62. 40 deg. C c) 80 deg. C
63. 60 deg. C d) 100 deg. C
64. The water temp. of DG set in operation should normally range between :
65. 60 -80 deg. C c) 88 -98 deg. C
66. 74 -91 deg. C d) 95 -110 deg. C
67. The PH value of the coolant in the radiator of a DG set should be maintained between :
68. 6.5 to 8.5 c) 10.5 to 12.5
69. 8.5 to 10.5 d) 12.5 to 14.5
70. The diesel engine should not be operated if the PH value in the radiator is less than
71. 6.5 c) 10.5
72. 8.5 d) 12.5
73. Primary filters in the fuel system of the DG set should be cleaned at every.
74. 150 hrs c) 250 hrs
75. 200 hrs d) 300 hrs
76. Primary filters in the fuel system of DG set should be replaced at every :
77. 500 hrs c) 1000 hrs
78. 800 hrs d) 1500 hrs.
79. The secondary fuel filter of a DG set should be replace when the fuel pressure gauge is below
80. 10 PSI c) 15 PSI
81. 12 PSI d) 20 PSI
82. The exciter in a DG set is :
83. Shunt motor c) Either (a) or (b)
84. Compound Generator d) None of the above
85. The compression ratio in diesel engine is in the range of ;
86. 10:1 to 15:1 c) 5:1 to 10:1
87. 14:1 to 25: 1 d) 1:2 to 3:1
88. Which of the following is the last step in diesel engine operation :
89. Induction stroke c) Ignition stroke
90. Compression stroke d) exhaust stroke
91. The power requirement of the DG set is determined by :
92. Base load c) partial load
93. Maximum load d) Zero load
94. Present specific fuel consumption value of DG set in industries is about :
95. 220g/kwH c) 160g/kwH
96. 100 g/kwH d) 50 g kwH
97. The efficiency of diesel generating set falls in the region of ...
98. 35-45% c) 65 – 70%
99. 50 -60% d) All of the above
100. Auxiliary power consumption of DG set at full load in its operating capacity is about :
101. 1-2 % c) 10 -12%
102. 5 – 6 % d) above 15%
103. The rating required for a DG set with 500 KW connection load and with diversity

Factor of 1.5, 80% loading and 0.8 power factor is...........

1. 520 KVA c) 625 KVA
2. 600 KVA d) 500 KVA
3. The starting current value of DG set should not exceed \_\_\_\_\_\_\_%of full load capacity of DG set.
4. 100 c) 150
5. 200 d) 300
6. The maximum permissible percentage unbalance in phase load on DG set is \_\_\_\_\_\_\_\_\_\_
7. 5% c) 10%
8. 15% d) 1%
9. The permissible percentage over load on DG set for 1 hour in very 12 hours of

Operation is\_\_\_\_\_\_\_

1. 5% c) 10%
2. 15% d) 1%
3. `Designed power factor of a DG set is generally at \_\_\_\_\_\_\_\_\_\_\_\_\_
4. 1.0 c) 0.9
5. 0.9 d) 1.1
6. Lower power factor of a DG set demands :
7. Lower excitation currents c) No change in excitation current
8. Higher excitation currents d) None of the above
9. Which of the following losses is the least in DG sets :
10. Cooling water less c) frictional loss
11. Exhaust loss d) alternator loss
12. The operation efficiency of DG set also depend on :
13. Turbo charger c) % loading
14. Inter air temperature d) all of the above
15. For a DG set, the copper losses in the alternator are proportional to the ;
16. Current delivered by the alternator c) Square root of the current delivered by
17. Square of the current delivered by alternator

The alternator d) none of the above.

1. The jacket cooling water temperature for DG set should be in the range of;
2. 40 -50 degree C. C) 80 -90 degree C
3. 30 -40 degree C. D) 45-60 degree C.
4. The main precaution to be taken care by the waste heat recovery device manufacture to prevent the problem in DG set during operation is :
5. Temperature raises c) over loading of waste heat recovery tubes
6. Back pressure d) Turbulence of exhaust gases
7. What is full form of the following;
8. RRU b) ERRU c) VRLA d) FDB
9. EFT f)MFO g) ET h) RIB i) HRC
10. Draw the symbol of the following;
11. Diode (b) Zenger diode (c) Resister (d) Capacitors (e)Fan
12. Lamp (g) F/L tube (h) Choke (i) Fuse (i)HRC fuse
13. Write the unit of the following :
14. Current (b) voltage (c) power (d) energy (e)resistance

F)Capacitance g) temperature (h) pressure (i)Inductance (j)Speed

**FILL IN THE BLANKS :**

1. Size of V Belt use in TL coach is \_\_\_\_\_\_\_\_\_\_\_\_\_
2. The capacity of battery fuse of TL coach is\_\_\_\_\_
3. The capacity of alternator of TL coach is \_\_\_\_\_
4. The cut in speed of alternator is\_\_\_\_\_-----
5. The MFO of alternator is\_\_\_\_\_\_\_\_\_\_\_\_
6. The gap between the two halves of axe pulley is \_\_\_\_-
7. The capacity of TL Battery is\_\_\_\_\_\_\_\_\_\_\_
8. The acid used in lead acid cell is\_\_\_\_\_\_\_\_\_\_\_\_\_\_
9. The SPG of full charge battery is \_\_\_\_\_\_\_
10. In passenger train, the voltage setting in ARU are \_\_\_\_\_\_\_\_\_\_
11. The method to be used to find out earth leakage are\_\_\_\_\_\_\_\_\_\_
12. The capacity of negative fuse is \_\_\_\_\_\_\_\_\_\_\_
13. The capacity of rotary switch is \_\_\_\_\_\_\_\_\_\_
14. The fuse rating of 4.L2 & fan CVR of RJB are \_\_\_\_\_\_
15. The fan size of TL coach is\_\_\_\_\_\_\_\_
16. The battery voltage & capacity of LED based emergency light is \_\_\_\_\_\_
17. OVP will be trip on \_\_\_\_\_\_\_\_\_\_ voltage.
18. How many (VRLA) batteries are there in normal TL coach\_\_\_\_\_\_\_.
19. Fuse rating of DFB is \_\_\_\_\_\_\_\_
20. How many rotary switches in conventional type TL coach \_\_\_\_\_\_\_.
21. The fuse rating of MCP is \_\_\_\_\_\_\_
22. The permissible and Max. DC voltage is to be applied to regain the

Residual magnetism is \_\_\_\_\_\_\_\_\_.

1. Minimum speed of alternator for full out out is \_\_\_\_\_\_.
2. The main function of inverter is to \_\_\_\_\_\_\_\_.
3. The P.H value of electrolyte is \_\_\_\_\_\_\_
4. Full form of ET is \_\_\_\_\_\_\_\_
5. Full name of BLA is \_\_\_\_\_\_
6. How many type of LHB variant non AC(TL) coaches used in EOG system \_\_\_\_\_
7. LHB variant non AC EOG coaches are equipped with \_\_\_\_\_ step-down

Transformers in General coach.

1. Stepping down 750 V,3Q AC, 4 Wire supply to \_\_\_\_\_\_\_ 3A.C 4 wire
2. In EOG system HT fuse size for 9 KVA transformer is \_\_\_\_\_\_\_
3. In EOG system, LT fuse size for 09KVA transformer is \_\_\_\_\_\_
4. In EOG system, HT fuse size for 15 KVA transformer is \_\_\_\_\_\_
5. In EOG system , LT fuse size for 15 KVA transformer is\_\_\_\_\_\_
6. In LHB type TL coach ,9 moulds of 21 volt battery capacity is \_\_\_\_\_
7. Battery fuse rating of LHB type TL coaches is \_\_\_\_\_\_\_\_
8. In LHB and TL coach self priming mono block pump capacity is \_\_\_\_\_
9. Full name of the following light used in LHB, EOG type non AC GL(LS) coaches.
10. FL (b)DL (c)GL (c)LL (d)AEL (e) PACIL
11. Total lighting load in LHB EOG type non AC GS(LS) coach is \_\_\_\_\_\_
12. Total mobile charging load in LHB EOG non AC GS (LS) coach is \_\_\_\_\_
13. Full farm of PARCIL (in LHB EOG type coaches) \_\_\_\_\_\_.
14. Minimum value of IR of 750 V feeder should be \_\_\_\_\_
15. Minimum value of IR of 415 feeders should be \_\_\_\_.
16. Nos. Of fan use in LHB EOG GL (LS) coaches are \_\_\_\_\_\_\_
17. How many equipment fitting in mini pentry for LHB EOG Non AC chair coach\_\_\_\_\_
18. How many types of feeder junction boxes are provided on the LHB coaches\_\_\_\_
19. Driven Pulley dia of TL coaches is \_\_\_\_\_\_\_\_.

**CHOOSE THE CORRECT ANSWER :**

1. If alternator is not generating voltage the reason would be :
2. Field may be open c) Fuse in regulator had blown
3. Dropping of V belts d) All of the above
4. The size of bus bar recommended to use if 4.5 KW ERRU is
5. 90 Sq mm c) 50 Sq.mm
6. 16 Sq mm d) None
7. Terminal of IGBT are :
8. Base, emitter, collector c) Gate emitter, source drain
9. Gate ,emitter, collector d) None

972 No.of zeners connected across the primary of the stop down transformer of power module.

1. 4 c) 2
2. 3 d) 1

973. Voltage setting in VRLA cells for express of passenger train is :

1. 128 + 0.5V & 127 + 0.5 V c) 127+0.5 v & 128+ 0.5 v
2. 125+0.5v & 127+0.5v D) 124+0.5v & 122 + 0.5v

974 Name of the method to be use to find out Earth leakage:

1. Double attest lamp method c) tong tester method
2. Multi meter method d) Volt meters method

975 Why lead Acid cell are called secondary cells:

1. Since it cannot be charged c) Since it can be charged
2. Since it cannot charge initially d) None

976 Give the tension length of spring used in tension rod of 4.5Kw alternator:

1. 310 mm c) 269 mm
2. 265 mm d) 275 mm

977 Required level of illumination for ordinary sleeper coach;

1. 14 Lux c) 20 Lux
2. 22 Lux d) 16 Lux

978 Trickle charging of VRLA cells

1. 2.3 V/Cell (b) 110V/cell (c) 2.25V/Cell (d) 115V/Cell.

979 Borset charge of VRLS Cell:

1. 2.3V/Cell b)110V/Cell (d) 2.25V/Cell (d) 115V/Cell

980 Cut in speed of BL Alternators in TL application:

1. 21 (b) 20 (c) 19 (d) 18

981 Give the SPg & Voltage of fully charged cells

1. 1220 & 2.2 (b) 1220 & 2.1 (c) 1200 & 2.2 (d) 1200 & 2.1

982 Name the Acid used in Lead Acid Cells

1. Sulphuric Acid (b) Hydrochloric Acid (c) Nitric Acid (d)Phosphoric Acid

983 Size of V belts used 4.5 KW alternator

1. C-121 (b) C-123 (c) C-122 (d) C-124

984 Axle pulley dia of TL coaches :

1. 572.6 mm (b) 572.5 mm (c) 574.5 mm (d) 570.5 mm

**TRUE OR FALSE :-**

985 The advantages of ERRV is to obtain pure DC supply and in built over voltage protection

986 The voltage of alternators in sunning condition cannot be checked at roof junction box.

987 The cell voltage of TL coach is 2.2 V

988 TL coach alternators produce 35 AMP current

989 40 SWG capacity wire is used as fuse wire from find or light

990. Double test lamp method is adopted to detect earth leakage in a TL coach.

991. The maximum permissible voltage drop allowed between the battery and any of the

Farthest light/fans point shall not exceed 3 volts at battery voltage of \_\_\_\_\_ volts

992. Flame retardant law tension tape is used for insulations of cables in TL & AC coaches.

993 Constant voltage method of charging is adopted for charging lead acid cells during POH.

994 The width of alternator pulley of 4.5 KW 110 is 140 mm.

995 Shorting of power diode test to be conducted at full load.

996 Bus bar provided in ERRU shall be made of electrolyte copper

997 Cell covers which covers container having vent plug and level indicator.

998 Positive Plate which is tubular is shape made of Pbo2.

999 VRLA cells are the valve regulated cells which works on oxygen recombination.

**FILL IN THE BLANKS** :

1000 The process of removing heat from low temperature level and rejecting at high temperature

Is called\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1001 Any substances for change of its state at constant temperature absorbs/give up heat

Is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1002 The sum of sensible heat and latent heat of substance in process is called \_\_\_\_\_\_\_\_

1003 The latent heat of fusing ice is \_\_\_\_\_\_\_\_\_\_\_.

1004 The unit of refrigeration is \_\_\_\_\_\_\_\_\_\_\_\_\_.

1005. The temperature measured by ordinary thermometer is called \_\_\_\_\_\_\_\_\_\_ .

1006 What is the boiling point of water\_\_\_\_\_\_\_\_ at atoms pheric pressure?

1007. AT what temperature water starts freezing \_\_\_\_\_\_ at atmospheric pressure.

1008 The unit of heat is \_\_\_\_\_\_\_\_\_.

1009 RMPU means \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1010 The setting of HP cut out in RMPU coaches is \_\_\_\_\_\_\_\_\_.

1011 The setting of LP cut out in under slung coaches is \_\_\_\_\_\_\_\_.

1012 The boiling point of refrigerant R22 \_\_\_\_\_\_\_\_.

1013 The latent heat of evaporation is the heat required to change the liquid into\_\_\_\_\_\_\_.

1014 The temperature maintained in the refrigerator is less than\_\_\_\_\_\_\_.

1015 The dry bulb and wet bulb temperatures equals then the \_\_\_\_\_\_\_ is 100%.

1016 The moisture absorption in refrigeration circuit is done by \_\_\_\_\_\_\_\_\_\_.

1017 Total capacity of AC package Unit of 2 AC coach in RMPU\_\_\_\_\_\_\_\_\_\_.

1018 Capacity of Inverter used for 2 tier AC coach is \_\_\_\_\_\_\_\_.

1019 Axle driven system working on \_\_\_\_\_\_\_ supply.

**TRUE OR FALSE.**

1020 R-12 IS BEING REPLACED WITH R-134A IN LATEST REFRIGERATION SYSTEM.

1021 The commonly used refrigerants are R22 & R 134a.

1022 One watt is 3.412 Btu.

1023 The codal life of VRLS batteries is 04 years.

1024 If cell voltage is found less than 1.9 volts, it should be weed out.

1025 The bulk inverter capacity in AC-2 tire for cell phone charging is 6KVA.

1026. In AC 3 tier, the rating of main positive fuse is 150A.

1027. Compressor works like a pump by drawing refrigerant vapour from evaporator and sends

to conductor.

1028. The change of liquid state in to vapour state is called condensation.

1029.. OL is provided to trip the condenser motor in case of over voltage and single phasing.

1030.. Dew point is the temperature at air at which the moisture present in air stars condensing.

1031. The purpose of contractor provided in the central panel of RMPU to switch on supply to

Condenser motors.

1032. The purpose of TDRI provided in control panel of RMPU to delay compressor II operation

For 2 minutes.

1033. Dry bulb is the temperature of air as measured by an ordinary thermometer.

1034. Humidity is the amount of water vapour present in the air

1035. Relative humidity is ratio of the actual amount of water vapour contained to maximum

Amount for saturation.

1036. Duct are not required in window type AC Unit.

1037. A central plant with full ducting is best suited for AC for large building.

1038. Ducting are required in Split AC Unit.

**CHOOSE THE CORRECT ANSWER :**

1039. The reason of V Belt dropping is

1. Locking of alternator safety chains (c) Misalignments of Axle Pulleys
2. Due to cattle run over (d) all of the above

1040. Matching of V Belt before replacement are ;

1. Same pitch length (b) same grade (c) same made (d) All of the above.

1041 If smoking of V Belts, probable cause may be :

1. Alternator/Axle pulley groove warn out (c) Sudden loading on alternators
2. Unequal tension among the V belts (d) All of the above.

1042 If V belt bottom crakes, the probable course may be :

a)Alternators pulley groove out (c)poor material quality of V belts

b) Axle pulley groove warn out (d) all of the above.

1043. If V Belt turn over and face twisted, the probabale cause may be :

a) Misalignment of alternator (c) Particular V belt loose

(b) Misalignment of Axle Pulley (d) all of the above.

**FILL IN THE BLANKS:**

1044. A belt having designation as c-122/3155 LP having actual length between 3154 mm and 3156 mm shall be called as \_\_\_\_\_\_\_\_.

1045 Any belt between 3154 mm and 3152 mm shall be called as \_\_\_\_\_

1046. Any belt between 3156 mm and 3158 mm shall be called as \_\_\_\_\_\_\_.

1047. .No of turns of spring of 25 KW alternators are \_\_\_\_\_\_\_.

1048. No. of turns of spring of 45 KW alternator are \_\_\_\_\_\_\_\_\_.

**CHOOSE THE CORRECT ANSWER :**

1049. The unit of luminous flux is:

1. Candle power (b) Lux (d) Lumen Flux (d) Metre Candle.

1050. The unit of Luminous intensity is :

1. Candle power (b) steradian (c) Radian (d) Candle

1051. Which lamp is generally used for light purpose:

a)Carbon filament (b) battery charging (c).Projector (d) indicating.

1052. In a Mercury vapour lamp gas is filled;

a)Hydrogen (b) Argon (c) Helium (d) Noon

1053.. The function of auxiliary electrode in a mercury vapour lamp is \_\_\_\_\_\_\_

a) Starting purpose (b) drop the voltage (c) To reduce the current

d) Gives more light.

1054. Mercury lamps are made;

1. M.A.T , MA and A.B.T type (c). M.A.T , B.C.T and A.B.T. type
2. MA, MB and M.A.T.type.

1055. The working temperature of high pressure mercury vapour lamp is:

a)600 degree C (b) 680 degree C (c)800 degree C (d) 120 degree C

1056. The sodium vapour lamp has:

1. Neon gas (b) hilium (c). Nitrogen (d) hydrogen.

1057. Sodium vapour lamp has two electrodes:

1. Oxide coated nichrome (c) b)Oxide coated carbon (c) Oxide coated nichrome (d)Oxide coated eureka.

1058. The colour of sodium vapour lamp light is :

1. Blue (b) RED (c) Yellow (d) White.

1059. The working temperature of sodium vapour is :

1. 250 degree C (b) 300 degree C (c) 450 degree C (d) 60 degree C.

1060. Which lamps take more time for giving full light?

1. Sodium vapour lamp (b) Mercury vapour lamp (c) Tungsten (d) Neon Lamp.

1061. A sodium vapour lamp has ionisation potential:

1. 5.12 V (b) 6.2 V (c) 6.76 V (d) 7.2V

1062. The fluorescent a tube has:

1. Mercury vapour (b) Neon (c).Mercury and organ (d) Helium.

1063. The main function of choke in a fluorescent tube is:

1. Induce surge voltage at the time of starting (c) To improve the PF
2. Drop the voltage (d) To induce high voltage and limit the current

1064. In running condition, voltage across starter is:

1. 110V (b) 180 V (c). 220 V (d).Zero.

1065. The efficiency of Fluorescent tube is:

1. 40 Lumen/watts (b)45 Lumen /watt (c)60 Lumen/watt (d) 75 Lumen/watt

1066. \_\_\_\_\_ Lamp gives direct light when its filament is heated.

1. Incandescent lamp (b) Neon Lamp (c) Gas discharge lamp (d).Arc lamp.

1067. The diameter of 1 40 watt tube is:

1. 12 mm (b) 25 mm (c). 30 mm (d).38 mm.

1068. Gas filled in a tube starter is:

1. Helium (b) Neon (c).Argon (d).None of these.

1069. Condenser is used in tube circuit to:

a) To improve the P.F (b).the improve the voltage (c).to safeguard the tube (d) to give full light.

1070. The inner side colour of the reflection is:

1. Black (b) White (c).Any dark (d) none of the above.

1071. In a power house, illumination should be approximately;

a)20-40 lumen/M2 (b)80—90 Lumen/M2 (c) 100-150 lumen/M2 (d).200-250 Lumen M2

1072. In parking lots, illumination height should be approximately ;

1073. The circuit of tube starter has condenser which:

1. Reduce the spark (b) improve power factor (c) limit the current (d) reduce the stroboscope affect.

1074. The diameter of electrode in a DC are lamp is:

a)Positive electrodes very thick (b).Negative electrodes very thick (c).Positive electrode thin

(d).Both similar.

1075. Voltage used in DC arc lamp is:

a) 40 60 V (b).80-110V (c).180-210 V (d).220-150 V.

1076. The threaded position on the outer side of the Edison screw type lamp holder should be

Connected with:

1. Neutral wire of the circuit (b). Phase wire of the circuit (c) Half wire of the circuit

(d). Earth wire of the circuit.

1077. The working temperature of a gas filled tungsten filament lamp is :

1. 1023 degree C (b).1200 degree C (c).1500 degree C (d).2300 degree C.

**TRUE OR FALSE :**

**1078** One candle power = lumen /BtU (True /False)

1079.The unit of Luminous flux is candle square meter (T/F)

1080 fluorescent tube better to CFL

1081 Incandescent lamp work on the heating effect

1082 The light of incandescent light is better than F/Lamp.

1083 Incandescent lamp is used only in AC supply.

1084 In a mercury vapour lamp argon gas is filled.

1085.Auxiliary electrode of mercury vapour lamp is connected through. 50 Kol

1086 At the starting time, the light of mercury vapour lamp is of yellow colour.

1087 Filaments are filled in sodium vapour lamp.

1088 Sodium vapour lamp gives yellow light.

1089 High voltage is required to start a sodium vapour.

1090 Ohm’s meter is used to measure illumination.

1091 Carbon is lamp is used in Cinema projector.

1092 High Illumination is required for studying.

1093 The third pin a high pressure Mercury vapour is used to protect from over voltage.

1094 Gas discharge lamp can bear high voltage of lactation.

1095 To shop the interference in a radio, condenser is used in F.L tube.

1096 For a Red and Orange coloured light a mixture of Mercury is used.

1097 Incandescent lamp takes more current at the time of starting as compare no when

1098. Ait is in a full running stage.

**PLEASE MATCH THE CURRENT ILLUMIATION LEVEL FOR LOCATION FOR d/E**

**CATEGORY OF STATION.**

1099. Location Name Illumination level

1. Concourse Area 100 lux
2. Circulating area 50 lux
3. F.O.B (covered) 20 Lux
4. Stairs (covered) 50 lux
5. Platform (covered) 50 lux

1100. Please match the correct illumination level for different location

(for A, A1 category of stations)

**Location name Illumination level**

1. Waiting hall 150 lux
2. Retiring room 200 lux
3. Time Table 100 lux
4. Reservation counter 30 lux
5. Plat form (Open) 100 lux

1101. Please match the correct life hour of following type lamps.

**LAMPS.**  **LIFE HOURS.**

1. Incandescent lamp 2000 hrs.
2. Fluorescent Lamp 100000 hrs.
3. CFL 2000 hrs.
4. HPMV 24000 hrs
5. LED 20000 hrs.

1102. Please selection of single phase motors as per job:

**ITEM MOTOR**

1. Gramophone Capacitor start capacitor runs motor

2. Refrigerator Shaded pole motor

3. Sewing machine Capacitor start capacitor run motor

4. Mixer cum Grinder Universal motor

5. Lathe Machine Capacitor start capacitor run motor.

1103. Please choose the correct max earth resistance value for different place:

**PLACE**  **MAX.EARTH RESISTANCE VALUE**

1. Generating substation 8 Ohm
2. Small substation 1 Ohm
3. Large substation 0.5 Ohm
4. Domestic/house wiring 8 Ohm
5. Equipment motor etc. 2 0hm