

**UEET IMPORTANT QUESTIONS**

1. Radiant efficiency of the luminous source depends on
  - a) Shape of the source
  - b) Temperature of the source
  - c) Wavelength of light rays
  - d) All of the above
2. Carbon arc lamps are commonly used in
  - a) Domestic lighting
  - b) Street lighting
  - c) Cinema projectors
  - d) Photography
3. The unit of solid angle is
  - a) Solid angle
  - b) Radian
  - c) Steradian
  - d) Candela
4. Candela is the unit of
  - a) Luminous flux
  - b) Luminous intensity
  - c) Wavelength
  - d) None of the above
5. The unit of luminous flux is
  - a) Steradian
  - b) Candela
  - c) Lumen
  - d) Lux
6. Which of the following will need the highest level of illumination?
  - a) Proof reading
  - b) Bed rooms
  - c) Hospital ward
  - d) Railway platforms
7. Which of the following will need lowest level of illumination?
  - a) Displays
  - b) Fine engraving
  - c) Railway platform
  - d) Auditoriums
8. The illumination level in houses is in the range
  - a) 10-20 lumen/m<sup>2</sup>
  - b) 30-50 lumen/m<sup>2</sup>
  - c) 40-75 lumen/m<sup>2</sup>
  - d) 100-140 lumen/m<sup>2</sup>
9. Luminous efficiency of a fluorescent tube is
  - a) 5-10 lumen/watt
  - b) 15-20 lumen/watt
  - c) 30-40 lumen/watt
  - d) 60-65 lumen/watt
10. One lumen per square meter is the same as
  - a) One lux
  - b) One candela
  - c) One foot candle
  - d) One lumen meter
11. Standard wattage of 3 ft. fluorescent tube is
  - a) 10 W
  - b) 40 W
  - c) 65 W
  - d) 100 W
12. For the save wastage which lamp is cheapest
  - a) Sodium vapour lamp
  - b) Mercury vapour lamp
  - c) Fluorescent tube
  - d) GLS lamps
13. Light is produced in electric discharge lamps by
  - a) Heating effect of current
  - b) Magnetic effect of current
  - c) Ionization in a gas or vapour
  - d) Carbon electrodes
14. Lumen / watt is the unit of
  - a) Light flux
  - b) Luminous intensity
  - c) Brightness
  - d) Luminous efficiency
15. Which gas is sometimes used in filament lamps
  - a) Argon
  - b) Krypton
  - c) Nitrogen
  - d) Carbon dioxide
16. Which bulb operates on lowest power
  - a) Night bulb
  - b) Neon bulb
  - c) GLS bulb
  - d) Torch bulb
17. The output of a Tungsten filament lamp depends on
  - a) Size of lamp
  - b) Size of shell
  - c) Temperature of filament
  - d) All of the above
18. A zero watt lamp consumes
  - a) Non power
  - b) About 5 to 7 W power
  - c) About 15 to 20 W power
  - d) About 25 to 30 W power
19. Melting temperature of tungsten is
  - a) 2000 K
  - b) 2500 K
  - c) 2655 K
  - d) 3655 K
20. The life of incandescent lamp is expected to be
  - a) 100 hour
  - b) 200 hour
  - c) 1000 hour
  - d) 10000 hour
21. The source of illumination for a cinema projector is
  - a) Incandescent lamp
  - b) Mercury vapour lamp
  - c) Sodium lamp
  - d) Carbon arc lamp
22. Sodium vapour lamps need ionization potential of about
  - a) 5 volt
  - b) 50 volt
  - c) 100 volt
  - d) 112 volt
23. When a sodium vapour lamp is switched on, initially the colour is
  - a) Pink
  - b) yellow
  - c) Green
  - d) Blue
24. In a sodium vapour lamp the discharge is first started in the
  - a) Neon gas
  - b) Nitrogen gas

- c) Argon gas      d) Krypton gas
25. An auto transformer used with sodium vapour lamp should have
- High efficiency
  - High steps-up ratio
  - High step-down ratio
  - High leakage reactance
26. A mercury vapour lamp gives
- Pink light
  - Yellow light
  - Greenish blue light
  - White light
27. The capacitor used in auto transformer circuit for sodium vapour lamps, is for
- Protection against accidental power failure
  - Controlling illumination level of the lamp
  - For regulating discharge voltage
  - For improving the power factor of the circuit
28. Under the influence of fluorescent lamps sometimes the wheels of rotating machinery appear to be stationary. This is due to the
- Fluctuations
  - Luminescence effect
  - Stroboscopic effect
  - Low power factor
29. The solid angle subtended at the centre of a hemisphere of diameter  $D$  will be
- $4\pi D$
  - $2\pi D$
  - $2\pi$
  - $4\pi$
30. In a mercury vapour lamp light red objects appear black due to
- High wavelength of red objects
  - Colour mixing
  - Absence of red from lamp radiation
  - Absorption of red light by the lamp radiation
31. The flicker effect of fluorescent lamp is more pronounced at
- Lower voltages
  - Higher voltages
  - Lower frequencies
  - Higher frequencies
32. Wave length of green colour is nearly
- $4000 \text{ \AA}$
  - $4500 \text{ \AA}$
  - $5000 \text{ \AA}$
  - $5500 \text{ \AA}$
33. The purpose of providing a choke in a tube light is
- To climate corona effect
  - To avoid radio interference
  - To improve power factor
  - To limit current to appropriate value
34. The vacuum inside an incandescent lamp is of the order of
- $10^{-2} \text{ mm Hg}$
  - $10^{-3} \text{ mm Hg}$
  - $10^{-4} \text{ mm Hg}$
  - $10^{-5} \text{ mm Hg}$
35. When using ultra-violet lamps the reflector for maximum should be made of
- Aluminium
  - Copper
  - Leaf
  - Glass
36. A gas filled filament bulbs, the gas used is
- Oxygen
  - Helium
  - Nitrogen
  - Ozone
37. In a fluorescent tube circuit choke acts as
- Starter
  - Power factor improving device
  - Source of heat
  - Current limiting device
38. Luminous flux is
- Rate of energy radiation in the form of light waves
  - Light energy radiated by sun
  - Part of light energy radiated by sun which is received on earth
  - None of above
39. The melting point of carbon is
- $1800^\circ \text{ C}$
  - $2200^\circ \text{ C}$
  - $3500^\circ \text{ C}$
  - $5500^\circ \text{ C}$
40. Which of the following filament material has the lowest melting point?
- Carbon
  - Tungsten
  - Tantalum
  - Osmium
41. Wave length for blue colour
- $4400 \text{ \AA}$
  - $5250 \text{ \AA}$
  - $6150 \text{ \AA}$
  - $5950 \text{ \AA}$
42. A substance which change its electrical resistance when illuminated by light is called
- Photo voltaic
  - Photo electric
  - Photo conductive
  - None of the above
43. High pressure mercury vapour lamps are generally used in
- Factories
  - Railway yards
  - Shopping centre's
  - All of the above
44. The average life high pressure mercury vapour lamps is
- 500 hour
  - 1000 hour
  - 9000 hour
  - 20000 hour
45. High pressure mercury vapour light contains
- Yellow colour
  - Bluish white colour
  - Red colour
  - White colour
46. The average life of sodium lamps is around
- 1000 hour
  - 2500 hour
  - 6000 hour
  - 12000 hour
47. Sodium lamps are used for

- a) Reading rooms      b) Street lights  
c) Auditoria          d) Libraries
48. The colour of sodium lamp is  
a) Blue                  b) Yellow  
c) Red                  d) White
49. A Fluorescent tube can be operated on  
a) AC only              b) DC only  
c) Both AC as well as DC  
d) None of these
50. Radio interference generally results due to  
a) GLS lamps  
b) Halogen lamps  
c) Fluorescent lamps  
d) Sodium lamps
51. Blinking of a fluorescent tube may be due to  
a) Low circuit voltage  
b) Low ballast rating  
c) Low temperature  
d) Any of the above
52. The colour of light depends on  
a) Wave length  
b) Frequency  
c) Wavelength and frequency  
d) Wavelength , frequency speed and intensity
53. The normal life span of a fluorescent lamp is  
a) 500 hour              b) 1000 hour  
c) 1500 hour              d) 7500 hour
54. In arc welding the temperature of the arc is of the order of  
a) 100° C                b) 1000° C  
c) 3500° C                d) 35000° C
55. The arc has  
a) Linear resistance characteristics  
b) Positive resistance characteristics  
c) Negative resistance characteristics  
d) High inductive characteristics
56. Arc can be produced by  
a) AC current only  
b) DC current only  
c) Either AC or DC current  
d) All of the above
57. The resistance of arc  
a) Decrease with increase of the current  
b) Increase with increase of the current  
c) Does not depend on current  
d) None of these
58. In arc welding the voltage on AC supply system is in the range  
a) 1000-1200 V          b) 400-500 V  
c) 200-250 V              d) 70 – 1000 V
59. In arc welding by DC supply the voltage required is  
a) 10 to 20 V              b) 50 to 60 V  
c) 100 to 120 V          d) 200 to 250 V
60. The transformer used for AC welding sets is  
a) Booster type  
b) Steps up transformer  
c) Step down transformer  
d) None of these
61. As the thickness of the part to be welded increase which of the following parameter (s) for AC welding should also increase  
a) Voltage              b) Current  
c) Frequency          d) All of these
62. Gray iron is usually welded by  
a) Arc welding          b) Gas welding  
c) TIG welding          d) MIG welding
63. Which of the following has the highest value of thermal conductivity?  
a) Water                  b) Steam  
c) Solid ice                d) Melting ice
64. In ultrasonic welding the frequency range is generally  
a) 100-4000 cps  
b) 4000-20000 cps  
c) 20000-80000 cps  
d) 80000-200000 cps
65. Wound rotor and squirrel-cage motors with high slip which develop maximum torque at stand still are used for  
a) Presses band punches  
b) Machine tools  
c) Elevators  
d) All of these
66. Which of the following devices is necessarily required for automatic temperature control in a furnace  
a) Thermocouple  
b) Thermostat  
c) Auto-transformer  
d) Heating elements of variable resistance material
67. Which of the following site will be preferred for earthing?  
a) Wet mashy ground  
b) Clay soil  
c) Loam mixed with small quantities of sand  
d) Damp and wet sand pit
68. Which of the following heating elements can give highest temperature in resistance heating?  
a) Copper                b) Nickel copper  
c) Nichrome              d) Silicon carbide
69. Utilization factor depends upon  
a) Size of the room  
b) Space height ratio of the lamps  
c) Colour of walls/ ceiling  
d) All the above

70. The DC series motor is most suitable for traction services but more particularly for urban/ suburban services because

- DC series motors are suitable for regenerative braking
- DC series motors are capable of withstanding rapid fluctuations in supply voltage
- DC series motors are capable of developing high torque at start
- DC series motors are capable of withstanding temporary interruption of supply without undue rush of current

71. For 600 V d.c. line for tram cars

- Track is connected to negative of the supply
- Track is connected to positive of the supply
- Track is connected to mid voltage of 300 V
- None of these

72. Which of the following statements about illumination is true?

- If the distance from the source doubles, the illumination becomes half
- If the distance from the source doubles, the illumination reduces to one fourth
- The greater the illumination, the better one sees
- The finer the work, the less the required illumination

73. Motor used for elevators is generally

- Synchronous motor
- Induction motor
- Capacitor start single-phase induction motor
- Any of these

74. A single phase reluctance motor

- Has salient pole rotor structure and runs at sub synchronous speed
- Has salient pole rotor structure and runs at super-synchronous speed
- Has salient pole rotor structure and runs at synchronous speed
- Has non-salient pole rotor structure and runs at synchronous speed

75. Belted slip ring induction motor is almost invariably used for

- Centrifugal blowers
- Water pumps
- Jaw crushers
- Heavy load

76. Electric traction in comparison to other traction systems has the advantage (s) of

- Higher acceleration and braking retardation
- Cleanest system and so ideally suitable for the underground and tube railways
- Better speed control

d) All of the above

77. The device necessarily used for automatic temperature control in a furnace is

- Thermostat
- Auto-transformer
- Thermo-couple
- Any of the above

78. Inside the earth of pit, the ear thing electrode should be placed

- Vertical
- Horizontal
- Inclined at 45°
- None of these

79. The amount of energy returned to the line during regeneration depends on

- The initial and final speeds during regenerative braking
- Efficiency of the system
- The train resistance and gradient of track also in case the train is moving down the gradient
- All of the above

80. Applied voltage across the motor terminals during starting is not reduced in case of

- Star-delta starting
- Rotor –resistance starting
- Auto-transformer starting
- Stator resistance starting

81. The power factor at which the direct arc furnace operates is

- Low lagging
- Low leading
- Unity
- high leading

82. The basic elements of an electric drive are

- Electric motor and the transmission system
- Electric motor , the transmission and control system
- The transmission and control system
- Electric motor and conversion equipment

83. The load power factor using welding transformer depends on

- Arc length
- Material to be welded
- Type of electrode to be used
- All of the above

84. Luminous flux is

- The rate of energy radiation in the form of light waves
- The part of light energy, radiated by sun that is received on earth
- Measured in flux
- None of the above

85. The motor used in motor –generator set is

- D.C. series motor
- Plain-squirrel cage induction motor
- 3-phase synchronous motor
- Pole-changing induction motor

86. For power factor correction of welding transformer, a capacitor is usually connected on
- Primary side
  - Secondary side
  - Parallel to arcing electrodes
  - Parallel to mains
87. The load taken by a welding transformer is
- Purely inductive
  - Non-inductive
  - Highly inductive
  - None of these
- 88.
89. Method of speed control used on 25 kV, 50 Hz single-phase traction is
- Tap changing control of transformer
  - Reduced current method
  - Series parallel operation of motors
  - Any of these
90. The speed can be controlled by injecting emf in the rotor circuit in case of
- Squirrel-cage induction motor
  - Wound rotor induction motor
  - Synchronous motor
  - Schrage motor
91. In case of travelling cranes, the motor preferred for boom hoist is
- Slip ring induction motor
  - Squirrel cage induction motor
  - Synchronous motor
  - Single phase motor
92. In star-delta starting
- Applied voltage across motor terminals is reduced
  - Starting current is reduced
  - Operation speed is reduced
  - Both (a) and (b)
93. The transformer used for A.C. welding sets is
- Booster type
  - Step-up transformer
  - Step-down transformer
  - None of these
94. Steel rails are welded by
- Resistance welding
  - Thermit welding
  - Argon arc welding
  - Gas welding
95. In ultrasonic welding, the frequency range is generally
- 100-4000 Hz
  - 4000-20,000 Hz
  - 20,000-80,000 Hz
  - 80,000-200,000 Hz
96. The welding load
- Is always intermittent load
  - Is always continuous and constant
  - Is always continuous but varying
  - May be any one of the above
97. In electric discharge lamps, light is produced by
- Magnetic effect of current
  - Heating effect of current
  - Cathode ray emission
  - Ionization in a gas or vapour
98. In induction heating, the depth up to which the current will penetrate is proportional to?
- Frequency
  - (Frequency)<sup>2</sup>
  - 1/(frequency)
  - $\frac{1}{\sqrt{\text{frequency}}}$
99. For regenerative braking, the regenerated power should have
- The same frequency as that of the main supply
  - Frequency 1/3 that of the main supply
  - Frequency 1/2 of that of the main supply
  - Any frequency
100. For rheostatic braking of two series motors connected in parallel
- Equalizer connection is better
  - Cross-connection is better
  - Both are equally good
  - None of these
101. A pony motor is used for starting a
- Slip-ring induction motor
  - Squirrel cage induction motor
  - Synchronous motor
  - Schrage motor
102. Induction furnaces of castings
- Heat treatment of castings
  - Heating of insulators
  - Melting of aluminum
  - All of the above
103. In dielectric heating current flows through
- Air
  - Dielectric
  - Metallic conductor
  - Ionic discharge between dielectric medium and metallic conductor
104. In induction heating, which of the following is of high value?
- Frequency
  - Current
  - Voltage
  - Power factor
105. In induction heating, the depth up to which current will penetrate is proportional to
- $\frac{1}{(\text{frequency})^{1/2}}$
  - $\frac{1}{(\text{frequency})}$
  - Frequency
  - (Frequency)<sup>2</sup>
106. The advantage of a synchronous motor in addition to its constant speed is
- High power factor
  - Better efficiency

- c) Lower cost  
d) All of these
107. Blinking of a fluorescent tube may be on account of  
a) Low circuit voltage  
b) Loose contact  
c) Defective starter  
d) Any of the above
108. The luminous flux reaching the working plane least depends on  
a) Proportion of the room  
b) The lumen output of the lamps  
c) Color of the working plane surface  
d) Reflectance of internal surfaces
109. In resistance welding, the magnitude of current is controlled  
a) By varying the primary voltage of the welding transformer using an auto transformer using an auto transformer between supply and welding transformer  
b) By changing the primary turns of the welding transformer  
c) By varying the magnitude and wave form of the primary as well as secondary current by using thyatron or ignitron  
d) Any of the above
110. Radiant heating is used for  
a) Melting of ferrous metals  
b) Annealing of metals  
c) Drying of paints and varnishes  
d) Any of the above
111. In case of 3-phase slip ring induction motor, as the rotor resistance is increased, the starting torque  
a) Increase  
b) Decrease  
c) Increase up to certain value of resistance and remains constant  
d) Increase up to certain value of resistance and then decreases
112. Ward-Leonard controlled D.C. drives are generally used for  
a) Light duty excavators  
b) Medium duty excavators  
c) Heavy duty excavators  
d) All of these
113. Which electromagnet is preferred for noiseless operation?  
a) DC operated      b) AC operated  
c) Any of these      d) None of these
114. The motor suitable for a reciprocating pump required to start under load is  
a) Plain squirrel cage induction motor  
b) Double-squirrel cage induction motor  
c) Synchronous motor  
d) DC shunt motor
115. For automatic drives the preference is for  
a) Synchronous motors  
b) Ward- Leonard controlled dc shunt motors  
c) Plain squirrel cage induction motors  
d) Any of the above
116. A reluctance motor  
a) Is a self –starting synchronous motor  
b) Operates as an induction motor when overloaded  
c) Has power factor between 0.3 and 0.4 and operation efficiency of the order of 70%  
d) All of the above
117. Which of the following motors has series characteristics?  
a) Capacitor start induction motor  
b) Repulsion motor  
c) Shaded-pole motor  
d) Reluctance motor
118. The squirrel cage induction motor cannot be started by using  
a) Resistance in rotor circuit  
b) Resistance in stator circuit  
c) Both of these  
d) None of these
119. In Kando system  
a) Single-phase supply is converted into three-phase system  
b) Single –phase A.C. is converted into D.C.  
c) Three-phase A.C. is converted into D.C.  
d) D.C. supply is to run D.C. motors
120. Nichrome wires can be safely used for heating upto  
a) 2000°C      b) 1600°C  
c) 1450°C      d) 1050°C
121. Chipping hammers are used  
a) To remove slag from welding  
b) To align the pieces to be welded  
c) For tag welding  
d) For marking spots to be welded
122. The eyes of welding operator must be protected against  
a) Ultra violet radiations  
b) Infra red radiations  
c) Both (a) and (b)  
d) Solar radiations
123. The danger of electric shock is maximum.  
a) During arcing  
b) After arcing  
c) Before welding  
d) While inserting electrode into the holder
124. In a resistance welding, the SCR contactor will close during

- a) Squeeze time  
b) Weld time  
c) Squeeze and weld time  
d) Squeeze, weld and hold time
125. TIG welding is  
a) Temperature Insulated Gas Welding  
b) Tungsten Inert Gas Welding  
c) Thermally Induced Gas Welding  
d) Thorium Iodine Gas Welding
126. Electrode is not consumed in case of  
a) DC arc welding    b) AC arc welding  
c) Gas welding        d) TIG welding
127. In arc furnace the function of choke is  
a) To stabilize the arc  
b) To improve power factor  
c) To reduce severity of the surge  
d) None of the above
128. Hysteresis loss and eddy current loss are used in  
a) Induction heating of steel  
b) Dielectric heating  
c) Induction heating of brass  
d) Resistance heating
129. During resistance welding heat produced at the joint is proportional to  
a)  $I^2R$                     b) kVA  
c) Current                d) Voltage
130. Gray iron is usually welded by  
a) Gas                      b) Arc  
c) Resistance            d) MIG
131. For arc welding, DC is produced by which of the following  
a) Motor-generator  
b) Regulator  
c) Transformer  
d) None of the above
132. Which of the following equipment is generally used for arc welding?  
a) Single phase alternator  
b) Two phase alternator  
c) Three phase alternator  
d) Transformer
133. Which of the following is not an inert gas?  
a) Argon                    b) Carbondioxide  
c) Helium                  d) All of these
134. Electronic components are joined by which of the following methods?  
a) Brazing                b) Soldering  
c) Seam welding        d) Spot welding
135. Resistance welding cannot be used for  
a) Dielectrics  
b) Ferrous materials  
c) Non-Ferrous metals  
d) Any of the above
136. Electric arc welding process produces temperature up to  
a)  $1000^\circ\text{C}$             b)  $1500^\circ\text{C}$   
c)  $3500^\circ\text{C}$             d)  $5550^\circ\text{C}$
137. For arc welding current range is usually  
a) 10-15 A                b) 30-40 A  
c) 50-100 A              d) 100-350 A
138. Spot welding is used for  
a) Thin metal sheets  
b) Rough and irregular surfaces  
c) Costing only  
d) None of the above
139. In atomic hydrogen welding the electrode is made of  
a) Carbon                b) Graphite  
c) Tungsten              d) Mild steel
140. Steel pipes are manufactured by  
a) Argon arc welding  
b) Thermit welding  
c) Resistance welding  
d) Arc welding
141. The welding load is always  
a) Continuous but varying  
b) Continuous and Constant  
c) Intermitted  
d) None of the above
142. Steel rails are welded by  
a) Gas welding  
b) Thermit welding  
c) Resistance welding  
d) Argon arc welding
143. The welding load is always  
a) Continuous and constant  
b) Continuous but varying  
c) Intermittent  
d) None of the above
144. MIG welding is  
a) Mild steel Inert gas welding  
b) Medium Inert Gas welding  
c) Maximum Inner Depth Gas welding  
d) Metal Inert Gas welding
145. Nichrome wires can be safely used for heating up to  
a)  $2000^\circ\text{C}$             b)  $1600^\circ\text{C}$   
c)  $1450^\circ\text{C}$             d)  $1150^\circ\text{C}$
146. Induction hardening is possible  
a) On ferrous materials only  
b) On magnetic materials only  
c) On DC supply only  
d) On AC supply only
147. Thermal conductivity is least for  
a) Air                      b) Water

- c) Glass                      d) Copper
148. If  $f$  be the frequency then dielectric loss is proportional to
- a)  $f$                               b)  $f^2$
- c)  $\frac{1}{f}$                               d)  $\frac{1}{f^2}$
149. When  $E$  is the voltage impressed on a dielectric the dielectric the dielectric loss will be proportional to
- a)  $E$                               b)  $E^2$
- c)  $\frac{1}{E}$                               d)  $\frac{1}{E^2}$
150. For heating of plywood, the frequency should be
- a) 100 Hz                      b) 1000 Hz
- c) 10-20 kHz                      d) 1-2 mHz
151. For arc heating the electrodes are made of
- a) Copper                      b) Aluminium
- c) Graphite                      d) None of these
152. High frequency for induction heating can be generated by
- a) Motor generator set
- b) Sparke gap oscillator
- c) Vacuum tube oscillator
- d) None of these
153. A metal bar may be heated electronically by
- a) Emission heating
- b) Dielectric heating
- c) Induction heating
- d) Conductive heating
154. In induction heating, the oscillator tube operates as
- a) Class A                      b) Class B
- c) Class AB                      d) Class C
155. In induction heating skin depth of penetration is proportional to
- a)  $\sqrt{\text{frequency}}$                       b)  $\frac{1}{\sqrt{\text{frequency}}}$
- c)  $\frac{1}{\text{frequency}}$                       d) frequency
156. A freshly painted layer may be dried electronically by
- a) Convective heating
- b) Induction heating
- c) Dielectric heating
- d) None of these
157. The capacity of a cell is measured in
- a) Amperes                      b) Ampere-hours
- c) Watts                      d) Watt-hours
158. The active materials of a nickel-iron battery are-
- a) Nickel hydroxide
- b) Powdered iron and its oxide
- c) 21% solution of KOH
- d) All of the above
159. The output voltage of a charger is
- a) Less than the battery voltage
- b) Higher than the battery voltage
- c) The same as the battery voltage
- d) None of these
160. The watt-hour efficiency of a lead-acid cell varies between
- a) 25 to 35%                      b) 40 to 60 %
- c) 70 to 80%                      d) 90 to 50 %
161. The capacity of a lead-acid is measured in
- a) Ampere                      b) Ampere-hour
- c) Watts                      d) Watt-hour
162. The e.m.f. of an Edison cell, when fully charged is nearly
- a) 1.4 V                      b) 1 V
- c) 0.9 V                      d) 0.8 V
163. Life of the Edison cell is at least
- a) Five years                      b) Seven years
- c) Eight years                      d) Ten years
164. Electrolyte used in an Edison cell is
- a) NaOH                      b) KOH
- c) HCl                      d) HNO<sub>3</sub>
165. Negative plate of an Edison is made of
- a) Copper                      b) Lead
- c) Iron                      d) Silver oxide
166. The specific gravity of electrolyte is measured by
- a) Manometer
- b) A mechanical guage
- c) Hydrometer
- d) Psychrometer
167. The lead-acid cell should never be discharged beyond
- a) 1.8 V                      b) 1.9 V
- c) 2V                      d) 2.1 V
168. 48 ampere-hour capacity would deliver a current of
- a) 48 ampere for 1 hour
- b) 24 ampere for 2 hours
- c) 8 amperes for 6 hours
- d) 6 amperes for 8 hours
169. The internal resistance of a dry cell is of the order of
- a) 0.01 to 0.0 4  $\Omega$                       b) 0.2 to 0.5  $\Omega$
- c) 2 to 5  $\Omega$                       d) 10 to 30  $\Omega$
170. A typical output of a solar cell is
- a) 0.1 V                      b) 0.20 V
- c) 1.1 V                      d) 2 V
171. A constant voltage generator has
- a) Minimum efficiency
- b) Minimum current capacity



- c) Low internal resistance  
d) High internal resistance
172. The life of a lead-acid battery is expected to be  
a) Two months  
b) One year  
c) Two to five  
d) Ten to fifteen years
173. Which of the following material is used in solar cells?  
a) Barium                      b) Silicon  
c) Silver                        d) Selenium
174. In electroplating the current efficiency is usually  
a) 40-50%                      b) 60 -70%  
c) 80 -90%                     d) 90-98%
175. The output voltage of a silver oxide cell is  
a) 1.2 V                        b) 1.3 V  
c) 1.5 V                        d) 1.9 V
176. Factors considered in the selection of the type of electric drive for a particular application depends on  
a) Speed control range and its nature  
b) Starting torque  
c) Environmental conditions  
d) All of these
177. Motor preferred for automatic drives is  
a) Synchronous motors  
b) Squirrel Cage Induction motor  
c) Ward Leonard Controlled d.c. motors  
d) All of these
178. The motor normally used for crane is  
a) Slip ring induction motor  
b) Ward Leonard Controlled D.C. shunt motor  
c) Synchronous motor  
d) D.C. differentially compound motor
179. When smooth and precise speed control over a wide range is desired, the motor preferred is  
a) Synchronous motor  
b) Squirrel cage induction motor  
c) Wound rotor induction motor  
d) D.C. motor
180. When quick speed reversal is a consideration, the motor preferred is  
a) Synchronous motor  
b) Squirrel cage induction motor  
c) Wound rotor induction motor  
d) D.C. motor
181. D.C supply can be obtained from A.C. supply by the use of  
a) Motor generator set  
b) Mercury arc rectifier  
c) Silicon diodes  
d) All of these
182. The advantage of a synchronous motor in addition to its constant speed is  
a) High power factor        b) Better efficiency  
c) Lower cost                d) all of these
183. In motor circuit static frequency changers are used for  
a) Improved cooling  
b) Power factor improvement  
c) Reversal of direction  
d) Speed regulation
184. Capacity of a crane is expressed in terms of  
a) Span                        b) Type of drive  
c) Tonnes                      d) any of these
185. The travelling speed of cranes varies from  
a) 1 to 2.5 m/s                b) 5 to 10 m/s  
c) 10 to 20 m/s               d) 20 to 40 m/s
186. Motors preferred for rolling mill drive is  
a) D.C. motors  
b) A.C. slip ring motors with speed control  
c) Both (a) and (b) above  
d) None of the above
187. In case of kiln drives  
a) Starting torque is almost zero  
b) Starting torque and running torque are nearly equal  
c) Starting torque is double of the running torque  
d) Both torques are zero
188. Motor preferred for kiln drives is usually  
a) Slip-ring induction motor  
b) Three phase shunt wound commutator motor  
c) Cascade controlled A.C. motor  
d) All of these
189. In case belt conveyors  
a) Squirrel cage motors with direct-on –line starters are used  
b) Single phase induction motors are used  
c) D.C. shunt motors are used  
d) Induction motors with star-delta starters are used
190. Motor preferred for blowers is  
a) Wound rotor induction motor  
b) D.C. shunt motor  
c) Squirrel cage induction motors  
d) D.C. series motors
191. Centrifugal pumps are usually driven by  
a) D.C. shunt motors  
b) D.C. series motors  
c) Squirrel cage induction motors  
d) All of these
192. Wound rotor and squirrel-cage motors with high slip which develop maximum torque at stand still are used for  
a) Presses and punches

- b) Machine tools  
c) Elevators  
d) All of these
193. Motor used for elevators is generally  
a) Synchronous motor  
b) Induction motor  
c) Capacitor start single phase induction motor  
d) All of these
194. Motor preferred for synthetic fiber mills is  
a) D.C Series motor b) Reluctance motor  
c) D.C. Shunt motor d) Synchronous motor
195. Reluctance motor is a  
a) Self-starting type synchronous motors  
b) Low torque variable speed motor  
c) Variable torque motor  
d) Low noise, slow speed motor
196. A reluctance motor  
a) Is compact  
b) Has high cost  
c) Requires starting gear  
d) Is provided with slip rings
197. Power factor in case of reluctance motor is  
a) Nearly unity b) always leading  
c) 0.8 lagging d) 0.3 to 0.4 leading
198. Ward-Leonard controlled D.C. drives are generally used for  
a) Light duty excavators  
b) Medium duty excavators  
c) Heavy duty excavators  
d) All of these
199. Heat control switches find applications in  
a) Three-phase induction motors  
b) Single phase motors  
c) Transformers  
d) Cooling ranges
200. A saturable core reactor is basically a  
a) Variable resistor  
b) Step-down transformer  
c) Thermal relay  
d) Variable impedance
201. A magnetic amplifier can be used for the control of  
a) Current b) Voltage  
c) Speed d) all of these
202. The failure of a thermal relay may occur due to  
a) Motor and relay in different ambient temperatures  
b) Relay previously damaged by short-circuit  
c) Mechanical binding  
d) All of these
203. Site preferred for earthing is  
a) Wet marshy ground  
b) Clay soil  
c) Loam mixed with small quantities of sand  
d) Damp and wet sand pit
204. Resistivity of earth increases sharply if the moisture falls below  
a) 60 % b) 50 %  
c) 40 % d) 20%
205. PVC conduits can be buried on  
a) Lime b) plaster  
c) Concrete d) any of these
206. PVC conduits can be joined by  
a) Solvent cement b) welding  
c) Threading d) all of these
207. Earthing of electric appliances is done  
a) For the safety of human life  
b) To reduce line voltage fluctuation  
c) For protection of electric equipment  
d) All of these
208. Earthing is used as the return conductor for

- a) Telephone lines      b) Telegraph lines  
c) Traction work      d) all of these
209. The resistance of earth wire should be  
a) Infinite      b) High  
c) Reasonable      d) Very low
210. Continuous operation of automobile horn will  
a) Help in charging the battery  
b) Improve mileage  
c) Damage the operating coil  
d) Change the tone
211. Belted wound rotor induction motors are preferred for  
a) Machine tools  
b) Gyrotory crushers  
c) Belt conveyor  
d) Water pumps
212. Electric braking is preferred because it is  
a) Smooth  
b) Maintenance cost is less  
c) Energy is saved in regenerating braking  
d) All of these
213. The various type of electric braking are  
a) Plugging  
b) Rheostatic braking  
c) Regenerative braking  
d) All of these
214. Motor recommended for locomotive drive is  
a) D.C. series motor  
b) D.C. shunt motor  
c) D.C. compound motor  
d) Synchronous motor
215. For a particular type of motor, the heating time constant  
a) Increase with increase in size  
b) Decreases with increase in size  
c) Same for all size  
d) None of these
216. The heating time constant of a totally enclosed motor is relatively  
a) Higher  
b) Lower  
c) Independent of type of enclosure  
d) None of these
217. For a particular motor, the cooling time –constant is usually  
a) Smaller than the heating time constant  
b) Greater than the heating time constant  
c) Equal to the heating time constant  
d) None of these
218. Overall efficiency of streams locomotive system is close to  
a) 5 to 10 %      b) 25 to 30 %  
c) 55 to 60 %      d) 75 to 80%
219. In a steam locomotive, electric power is provided through  
a) Battery system  
b) Diesel engine generator  
c) Overhead wire  
d) Small turbo generator
220. Diesel locomotives are manufactured in India at  
a) Bangalore      b) Ajmer  
c) Jabalpur      d) Varanasi
221. Suburban railways use  
a) 1500 V, DC  
b) 440 V, three-phase AC  
c) 660 V, three-phase AC  
d) 3.3 V, three –phase AC
222. Long distance railways use  
a) 220V, DC  
b) 25kV, single –phase AC  
c) 25kV, two-phase  
d) 25 kV, three- phase
223. The range of horsepower for passenger coaches that can be attached to diesel locomotives on broad gauge is  
a) 100 to 500 hp      b) 500 to 1000 hp  
c) 1500 to 2500 hp      d) 4000 to 5500hp
224. Locomotive which has the highest operational duty is  
a) Diesel      b) Electric  
c) Steam      d) all of these
225. Motor used in tramways is  
a) AC single-phase capacitor –start motor  
b) AC three-phase motor  
c) DC series motor  
d) DC shunt motor
226. A drive suitable for mines where explosive gas exist, is  
a) Diesel engine  
b) Steam engine  
c) Battery locomotive  
d) All the these
227. The advantage of electric braking is  
a) It is instantaneous  
b) More heat is generated during breaking  
c) It avoids wear of track  
d) Motor continue to remain loaded during braking
228. The coasting retardation on trains is approximately  
a) 0.16 km-phps      b) 1.6 km-phps  
c) 16 km-phps      d) 25 km-phps
229. Power supply frequency for 25 kV single-phase system  
a) 50/3 Hz      b) 25 Hz  
c) 50 Hz      d) 60 Hz

230. The difference between fluorescent lamps that produce difference colored light is

- a) The colour of the glass
- b) The composition of the fluorescent material
- c) The pressure of the filled gas
- d) The composition of the filled gas

231. The white matter coated inside the fluorescent lamp?

- a) Reduces the brightness
- b) Provides a proper exterior to the tube
- c) Converts the ultraviolet radiation into visible light
- d) Provides the ions necessary for the gas discharge

232. For tram ways, the return circuit is

- a) Through cables
- b) Through rails
- c) Through neutral wire
- d) Through common earthing

233. Traction systems is latest used in the world is

- a) Three- phase 3.7 kV
- b) 20 kV, 50 Hz , single –phase
- c) 600 V, DC
- d) 3 kV, DC

234. In a long distance electric train, power for lighting in passenger coach is provided

- a) Through locomotive
- b) Directly through overhead electric line
- c) Through individual generator of bogie and batteries
- d) Through rails

235. Unbalanced forces are maximum in case of

- a) Electric locomotive
- b) Diesel locomotives
- c) Diesel and electric
- d) Steam locomotives

236. An ideal traction system should have

- a) The locomotive is to run on broad gauge track
- b) The locomotive is to run on metre gauge track
- c) The locomotive is for shunting duty
- d) The locomotive is for goods trains only

237. Flux used in TIG welding is

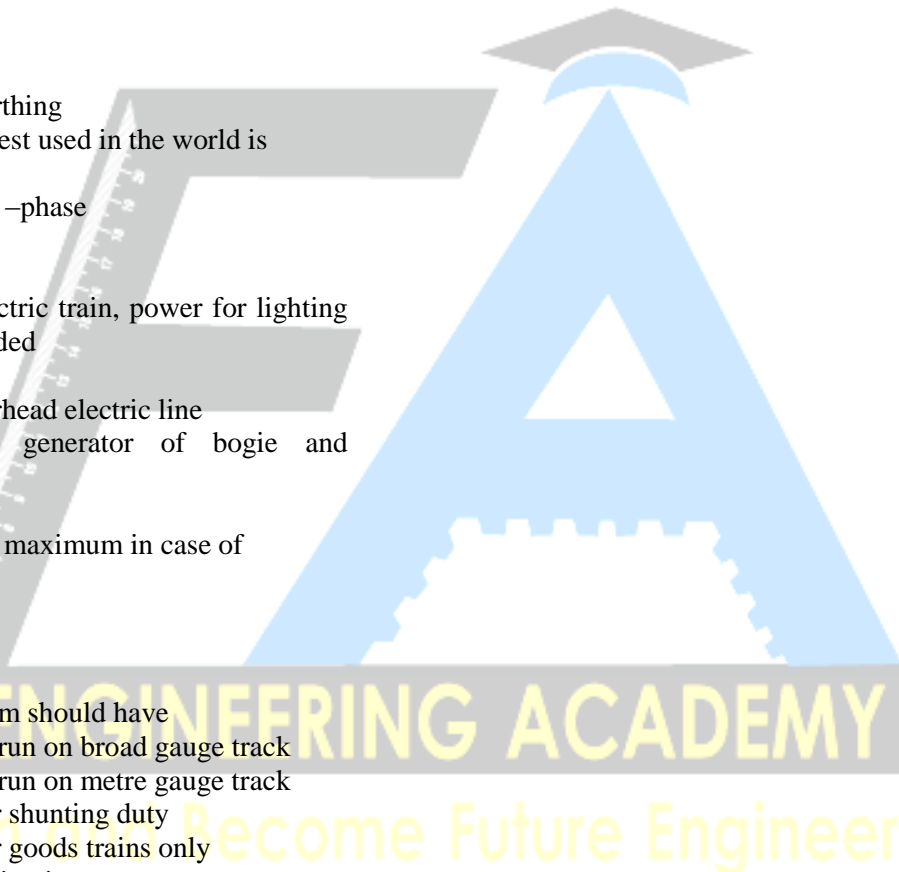
- a) Ammonium chloride
- b) Borax
- c) Ash
- d) None of these

238. The welding load is always

- a) Continuous and constant
- b) Continuous but varying
- c) Intermittent
- d) None of these

239. The highest value of thermal conductivity is for

- a) Solid ice
- b) Melting ice
- c) Water
- d) Steam



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**UEET ANS KEY 2017**

1.	B	26.	C	51.	D	76.	D
2.	C	27.	D	52.	C	77.	A
3.	C	28.	B	53.	D	78.	A
4.	B	29.	C	54.	C	79.	B
5.	C	30.	C	55.	C	80.	B
6.	A	31.	C	56.	C	81.	A
7.	C	32.	D	57.	A	82.	B
8.	D	33.	D	58.	D	83.	B
9.	D	34.	C	59.	B	84.	A
10.	A	35.	A	60.	C	85.	C
11.	B	36.	C	61.	B	86.	A
12.	D	37.	D	62.	B	87.	C
13.	C	38.	A	63.	C	88.	
14.	D	39.	C	64.	B	89.	A
15.	A	40.	C	65.	A	90.	D
16.	D	41.	A	66.	B	91.	A
17.	C	42.	C	67.	A	92.	D
18.	B	43.	D	68.	D	93.	C
19.	D	44.	C	69.	D	94.	B
20.	C	45.	D	70.	C	95.	B
21.	D	46.	C	71.	A	96.	A
22.	A	47.	D	72.	B	97.	D
23.	A	48.	B	73.	B	98.	D
24.	A	49.	C	74.	C	99.	A
25.	D	50.	C	75.	C	100.	B

101.	C	126.	D	151.	C	176.	D
102.	A	127.	A	152.	B	177.	C
103.	B	128.	A	153.	C	178.	A
104.	A	129.	A	154.	D	179.	D
105.	A	130.	A	155.	B	180.	D
106.	A	131.	A	156.	C	181.	D
107.	D	132.	D	157.	B	182.	A
108.	C	133.	B	158.	D	183.	D
109.	D	134.	B	159.	B	184.	C
110.	C	135.	A	160.	C	185.	A
111.	D	136.	D	161.	B	186.	D
112.	C	137.	D	162.	B	187.	C
113.	A	138.	A	163.	A	188.	D
114.	B	139.	C	164.	B	189.	A
115.	B	140.	C	165.	C	190.	C
116.	C	141.	C	166.	C	191.	C
117.	B	142.	B	167.	A	192.	A
118.	A	143.	C	168.	D	193.	B
119.	A	144.	A	169.	B	194.	B
120.	B	145.	D	170.	B	195.	A
121.	A	146.	D	171.	C	196.	A
122.	C	147.	A	172.	C	197.	D
123.	D	148.	A	173.	B	198.	C
124.	A	149.	B	174.	D	199.	D
125.	B	150.	D	175.	C	200.	D

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201.	A	226.	C				
202.	D	227.	C				
203.	A	228.	A				
204.	D	229.	A				
205.	D	230.	B				
206.	D	231.	C				
207.	D	232.	B				
208.	C	233.	A				
209.	D	234.	C				
210.	C	235.	D				
211.	B	236.	D				
212.	D	237.	D				
213.	D	238.	C				
214.	A	239.	A				
215.	A						
216.	A						
217.	B						
218.	A						
219.	D						
220.	D						
221.	A						
222.	B						
223.	C						
224.	B						
225.	C						

