

Duration: 90 Mins

Total Marks: 106

Q.ID: ITISKILL2102UB

1. What is the area of a circle of diameter 50 cm?

- A) 1952.5 cm^2 B) 1962.5 cm^2
C) 1942.5 cm^2 D) 1932.5 cm^2

Answer: B) 1962.5 cm^2

2. What is the volume (V) of mercury in cm^3 , if mass (m) of mercury is 1 kg and density (r) is 13.6 g/cm^3 ?

- A) 73.43 cm^3 B) 73.53 cm^3
C) 73.33 cm^3 D) 73.23 cm^3

Answer: B) 73.53 cm^3

3. Which is mineral insulator

- A) Mica B) Quartz
C) Porcelain D) Glass

Answer: A) Mica

4. What is the area of a (A) semicircle whose dia is 20 cm (d)?

- A) 147.1 cm^2 B) 177.1 cm^2
C) 157.1 cm^2 D) 167.1 cm^2

Answer: C) 157.1 cm^2

5. What is the block weighs (W) in kg, if volume (V) is 320 cm^3 and density 8.9 g/cm^3 ?

- A) 2.948 kg B) 2.648 kg
C) 2.448 kg D) 2.848 kg

Answer: D) 2.848 kg

6. Which is brittle metal?

- A) Alloy steel B) Steel
C) Cast iron D) Mild steel

Answer: C) Cast iron

7. What is the perimeter of scalene. Triangle having sides of 40mm, 20mm and 28mm?

- A) 88 mm B) 98 mm
C) 78 mm D) 68 mm

Answer: A) 88 mm

8. What is the flow of electrons in any conductor?

- A) Current B) Power
C) Voltage D) Resistance

Answer: A) Current

9. What is the area of a square whose side is 18 cm?

- A) 36 cm^2 B) 324 cm^2
C) 72 cm^2 D) 26 cm^2

Answer: B) 324 cm^2

10. Which one of the following properties is the mechanical properties of metal?

- A) Structure B) Ductility
C) Corrosion D) Fusibility

Answer: B) Ductility

11. What is the ore of aluminium?

- A) Mallatite B) Bauxite
C) Lemonite D) Hematite

Answer: B) Bauxite

12. Which property of metal has its power of returning to its original shape after the applied force is released?

- A) Elasticity B) Plasticity
C) Malleability D) Tenacity

Answer: A) Elasticity

13. What is the current? $R = 50 \text{ Ohms}$ 220 Volts
 $I = \text{_____ Amps}$

- A) 4.3 Amps B) 4.2 Amps
C) 4.1 Amps D) 4.4 Amps

Answer: D) 4.4 Amps

14. What is the volume of mercury in cm^3 , if the mass (m) of mercury is 136 grams (g) and density (r) of mercury is 13.6 g/cm^3 ?

- A) 136 cm^3 B) 10.0 cm^3
C) 10.6 cm^3 D) 13.6 cm^3

Answer: B) 10.0 cm^3

15. What is the resistance of an electric iron if the rating of electric iron is 220 V and 500 watts?

- A) 94.8 ohms B) 95.8 ohms
C) 96.8 ohms D) 97.8 ohms

Answer: C) 96.8 ohms

16. What is the filament resistance if a 6 volt bulb draws a current of 0.5 Amps?

A) 1.2 W

B) 3 W

C) 12 W

D) 10 W

Answer: C) 12 W

A) Motor bike

B) Generator

C) Car

D) Motor

Answer: B) Generator

17. What is the name of furnace to obtained cast iron?

A) Steel - Rever battery

B) Mild steel - Blast furnace

C) Cupola

D) Alloy metal - Electric furnace

Answer: C) Cupola

26. What is the voltage? $R = 250 \text{ Ohms}$ $I = 0.44 \text{ Amps}$ $V = \text{ ____ Volts}$

A) 105 Volts

B) 100 Volts

C) 108 Volts

D) 110 Volts

Answer: D) 110 Volts

18. Which property of material enables to formation of permanent deformation without fracture?

A) Ductility

B) Brittleness

C) Elasticity

D) Plasticity

Answer: D) Plasticity

27. Which is same in series connection of resistors in a circuit?

A) Current

B) Power

C) Voltage

D) Resistance

Answer: A) Current

19. What is the cross sectional area of a circular ring of $D = 38 \text{ mm}$ $d = 32 \text{ mm}$?

A) 340 mm^2

B) 350 mm^2

C) 320 mm^2

D) 330 mm^2

Answer: D) 330 mm^2

28. Which one is non-metal?

A) Mercury

B) Brass

C) Iron

D) Graphite

Answer: D) Graphite

20. What is termed as the quantity of matter contained in a body?

A) Mass

B) Volume

C) Specific gravity

D) Density

Answer: A) Mass

29. Which is very good conductor?

A) Cast iron

B) Steel

C) Copper

D) Wrought iron

Answer: C) Copper

21. Which mechanical property of a metal offers resistance to elastic deformation in a cutting tool?

A) Hardness

B) Toughness

C) Malleability

D) Ductility

Answer: A) Hardness

30. Which is equal to electric power?

A) RI

B) I^2R watts

C) R^2I watts

D) IRA

Answer: B) I^2R watts

22. Which alloy used in electric lamp as filament?

A) Tungsten

B) Cobalt

C) Vanadium

D) Silicon

Answer: A) Tungsten

31. How many hours will take for a 100 watts bulb to consume 1 kwh energy? $W = 1 \text{ Kwh}$ $P = 100 \text{ Watts}$ $t = \text{ ____ Hours}$

A) 12 hours

B) 24 hours

C) 10 hours

D) 18 hours

Answer: C) 10 hours

23. What is the formula for total surface area of a cylinder?

A) $2 \pi r (h + r)$

B) $\pi r (h + r)$

C) $2 \pi rh$

D) πrh

Answer: A) $2 \pi r (h + r)$

32. Which rubber is used as insulator for power cables and control wires?

A) Silicon

B) Nitrite butadiene

C) Butyl

D) Hypalone

Answer: A) Silicon

24. Which metal cannot be forged?

A) Alloy steel

B) Mild steel

C) Cast iron

D) Steel

Answer: C) Cast iron

33. What is the voltage of the immersion heater? $P = 500 \text{ watts}$ $I = 2.27 \text{ Amps}$ $V = \text{ ____ Volts}$

A) 220.3 volts

B) 210.3 volts

C) 200.3 volts

D) 230.3 volts

Answer: A) 220.3 volts

25. Which is the example for dynamically induced Emf?

34. What is the area of a sector of a circle of radius 5 cm and

its angle is 96 Degree?

- A) 20.93 cm^2 B) 20.39 cm^2
C) 20.89 cm^2 D) 20.98 cm^2

Answer: A) 20.93 cm^2

35. Which is the unit of current?

- A) Ampere B) Volt
C) Watt D) Ohm

Answer: A) Ampere

36. What is the formula for speed?

- A) Change in momentum/Time B) Distance covered/Time
C) Distance in definite direction /Time D) Change in velocity/Time

Answer: B) Distance covered/Time

37. What is the rated power if an adjustable resistor bears the following label $1.5 \text{ k ohms} / 0.08\text{A}$?

- A) 9.8 watts B) 9.2 watts
C) 9.4 watts D) 9.6 watts

Answer: D) 9.6 watts

38. What is the unit of speed?

- A) Metre/minute B) Metre/second²
C) Metre/hour D) Metre/second

Answer: D) Metre/second

39. What is the name of the property of an insulation that should brake down or puncture on application of high voltage?

- A) Specific resistance B) Mechanical strenth
C) Non absorption D) Di-electric strength

Answer: D) Di-electric strength

40. Which property of a substance is opposing the flow of electric current?

- A) Current B) Voltage
C) EMF D) Resistance

Answer: D) Resistance

41. What is the current Flow in the bulb? $P = 550 \text{ watts}$
 $R = 22 \text{ Ohms}$ $I = \text{_____Amps}$

- A) 5 Amps B) 3 Amps
C) 4 Amps D) 2 Amps

Answer: A) 5 Amps

42. What is the total surface area of a cylinder having radius 2 metres and height 5 metres?

- A) 88 sq.metre B) 92 sq.metre

- C) 90 sq.metre D) 86 sq.metre

Answer: A) 88 sq.metre

43. What is the side of a square whose area is 625 mm^2 ?

- A) 30 mm B) 15 mm
C) 25 mm D) 20 mm

Answer: C) 25 mm

44. What is called the ratio between the density of a substances density of water at 4 Degree Centigrade?

- A) Mass B) Density
C) Weight D) Specific gravity

Answer: D) Specific gravity

45. Which alloy steel is used to make permanent magnets?

- A) Silicon steel B) Cobalt steel
C) Vanadium steel D) Manganese steel

Answer: B) Cobalt steel

46. Which insulator is used in over head lines?

- A) Porcelain B) P.V.C
C) Rubber D) Mica

Answer: A) Porcelain

47. What is the power required? $I = 0.455 \text{ Amps}$ $R = 484 \text{ Ohms}$ $P = \text{_____Watts}$

- A) 101.2 watts B) 98.2 watts
C) 99.2 watts D) 100.2 watts

Answer: D) 100.2 watts

48. What is the weight force of a car has a mass of 800 kg?(Take $g = 9.81\text{m/sec}$)

- A) 7748 Newton B) 7847 Newton
C) 7848 Newton D) 7487 Newton

Answer: C) 7848 Newton

49. How much power does it consumes if an electric heater draws a current of 10 amps at 200 volts?

- A) 2010 watts B) 2020 watts
C) 2030 watts D) 2000 watts

Answer: D) 2000 watts

50. Which among the following is an insulator?

- A) Silver B) Mica
C) Copper D) Aluminium

Answer: B) Mica

51. What is the carbon percentage in medium carbon steel?

- A) 0.5% to 1.5% B) 0.15% to 0.25%

C) 0.25% to 0.5% D) 0.05% to 0.15%

Answer: C) 0.25% to 0.5%

52. Find the curved surface area of a cylinder 10 cm dia and 20 cm height?

- A) 628 cm^2 B) 638 cm^2
C) 630 cm^2 D) 620 cm^2

Answer: A) 628 cm^2

53. Which furnace is used to get pig iron from iron ore?

- A) Electric furnace B) Blast furnace
C) Mild steel - Rever battery D) Cupola

Answer: B) Blast furnace

54. Which is the example for statically induced emf?

- A) Transformer B) Generator
C) Refrigerator D) Motor

Answer: A) Transformer

55. Which cast iron cannot be welded?

- A) Grey cast iron B) Nodular cast iron
C) Malleable cast iron D) White cast iron

Answer: D) White cast iron

56. Which machine converts mechanical energy into electrical energy?

- A) Iron box B) Battery
C) Generator D) Heater

Answer: C) Generator

57. Which statement is correct according to ohm's law?

- A) $I = V/R$ B) $I = R$
C) $I = R/V$ D) $I = 1/V$

Answer: A) $I = V/R$

58. What is the specific gravity of the metal, if the weighs 6.5 kgf in air and 3.5 kgf in water?

- A) 1.166 B) 6.166
C) 2.166 D) 3.166

Answer: C) 2.166

59. Which is the unit electrical power?

- A) Ohms B) Volts
C) Watts D) Ampere

Answer: C) Watts

60. Find the total surface area of cube whose side is 25 cm.

- A) 3755 cm^2 B) 3745 cm^2
C) 3750 cm^2 D) 3740 cm^2

Answer: C) 3750 cm^2

61. What is the resistance? $I = 11.5 \text{ Amps}$ $V = 380 \text{ Volts}$ $R = \text{_____ Ohms}$

- A) 13 ohms B) 43 ohms
C) 33 ohms D) 23 ohms

Answer: C) 33 ohms

62. Which alloy steel is using for making precious instrument?

- A) Silicon steel B) Manganese steel
C) Vanadium D) Invar steel

Answer: D) Invar steel

63. How many liters of water a cylindrical tank of radius 75 cm and height 100 cm can hold?

- A) 1767.25 liters B) 1768.25 liters
C) 1769.25 liters D) 1766.25 liters

Answer: D) 1766.25 liters

64. Which property of a metal possessed by it melts when heat is applied?

- A) Conductivity B) Fusibility
C) Malleability D) Tenacity

Answer: B) Fusibility

65. Which insulating material is used for making switches?

- A) Ebonite B) Bakelite
C) PVC D) Porcelain

Answer: B) Bakelite

66. What is the volume of sphere of radius 7 cm?

- A) 1346 cm^3 B) 1463 cm^3
C) 1636 cm^3 D) 1436 cm^3

Answer: D) 1436 cm^3

67. What is the unit of intensity of magnetic field?

- A) m/wb B) Hertz
C) Coloumb D) wb/m

Answer: D) wb/m

68. What is the diagonal of a square plate whose side is 28 cm?

- A) 39.29 cm B) 39.59 cm
C) 39.49 cm D) 39.39 cm

Answer: B) 39.59 cm

69. What is the density (ρ) in g/cm^3 of an iron cube, if it weighs (W) 4.8 kg and volume (V) is 640 cm^3 ?

- A) 6.9 g/cm^3 B) 6.6 g/cm^3
C) 7.5 g/cm^3 D) 7.2 g/cm^3

Answer: C) 7.5 g/cm^3

70. Which metal is widely used for making casting of machinery parts?

- A) Wrought iron B) Grey cast iron
C) Malleable cast iron D) White cast iron

Answer: B) Grey cast iron

71. What is the perimeter of a rectangle whose length and breadth are 20 cm and 18 cm?

- A) 86 mm B) 66 cm
C) 56 cm D) 76 cm

Answer: D) 76 cm

72. Which metal contains iron as a major content?

- A) Zinc B) Ferrous metal
C) Bronze metal D) Brass metal

Answer: B) Ferrous metal

73. What is the capacity of a conical tank of radius 2 m and height 5m?

- A) 31 m^3 B) 11 m^3
C) 21 m^3 D) 41 m^3

Answer: C) 21 m^3

74. What is the mass if the density of a body is 7.6 g/cm^3 and its volume is 25 cm^3 ?

- A) 220 grams B) 210 grams
C) 190 grams D) 200 grams

Answer: C) 190 grams

75. What is the carbon percentage in low carbon steel?

- A) 0.15% to 0.25% B) 0.02% to 0.03%
C) 0.50% to 1.50% D) 0.25% to 0.50%

Answer: A) 0.15% to 0.25%

76. What is the force with which a body is attracted by the earth towards its centre?

- A) Mass B) Density
C) Volume D) Weight

Answer: D) Weight

77. What is the area of an equilateral triangle of side 450 mm?

- A) 886.82 cm^2 B) 866.82 cm^2
C) 876.82 cm^2 D) 856.82 cm^2

Answer: C) 876.82 cm^2

78. What is the other name of low carbon steel?

- A) High speed steel B) Low alloy steel
C) High alloy steel D) Mild steel

Answer: D) Mild steel

79. Which steel is used for making files and cold chisel?

- A) Stainless steel B) Medium carbon steel
C) High carbon steel D) Low carbon steel

Answer: C) High carbon steel

80. What is the specific gravity of the metal, if the piece of metal weighs 150 grams in air and 125 grams in water?

- A) 25 B) 6
C) 10 D) 15

Answer: B) 6

81. Which is the unit of resistance?

- A) Watt B) Volt
C) Ampere D) Ohm

Answer: D) Ohm

82. What is the area of a right angled triangle having a base 10 cm and height 5 cm?

- A) 20 sq.cm B) 35 sq.cm
C) 30 sq.cm D) 25 sq.cm

Answer: D) 25 sq.cm

83. What is the name of the metal which do not contain iron?

- A) Non-ferrous metals B) Ferrous metals
C) Non-Insulating metals D) Insulating metals

Answer: A) Non-ferrous metals

84. Which law states about electromagnetic induction?

- A) Lenz's law B) Faraday's law
C) Ohm's law D) Hooke's law

Answer: B) Faraday's law

85. How much voltage will be required to illuminate a 40 watts fluorescent lamp draws a current of 0.10 amperes?

- A) 390 volts B) 400 volts
C) 405 volts D) 395 volts

Answer: B) 400 volts

86. What is the total resistance if two resistances of 4 ohms and 6 ohms are connected in parallel?

- A) 10 B) 4
C) 2.4 D) 5

Answer: C) 2.4

87. How much watt second in 1 watt hour?

- A) 1000 watt sec B) 3600 watt sec
C) 2000 watt sec D) 4000 watt sec

Answer: B) 3600 watt sec

88. What is the carbon percentage in high carbon steel?

- A) 0.02% to 0.03% B) 0.50% to 1.50%
C) 0.15% to 0.25% D) 0.25% to 0.50%

Answer: B) 0.50% to 1.50%

89. What is the area of an ellipse if the major and minor axes are 5 cm and 3 cm respectively?

- A) 47 cm^2 B) 57 cm^2
C) 37 cm^2 D) 27 cm^2

Answer: A) 47 cm^2

90. What does EMF stands for?

- A) Electromated Force B) Electronic Magnetic Force
C) Electro Magnetic Force D) Electro Motive Force

Answer: D) Electro Motive Force

91. What is the power if an emf of one volt causes a current flow of 1ampere?

- A) 1 kilowatt B) 1 watt
C) 1 HP D) 1 Kilowatt hour

Answer: B) 1 watt

92. What is volume of the cylinder whose radius is 7 cm and height 12 cm?

- A) 1846 c.c B) 1842 c.c
C) 1844 c.c D) 1847 c.c

Answer: D) 1847 c.c

93. What is the formula for velocity?

- A) Distance covered/Time B) Displacement/Time
C) Change of momentum/Time D) Change in velocity/Time

Answer: B) Displacement/Time

94. Which property of a metal enables it by which it can be drawn out into wires under tension without rupture?

- A) Ductility B) Malleability
C) Brittleness D) Hardness

Answer: A) Ductility

95. What is the total resistance if three resistances of 3 ohms, 9 ohms and 5 ohms are connected in series?

- A) 17 ohms B) 7 ohm
C) 11 ohms D) $1/17$ ohms

Answer: A) 17 ohms

96. Find the total surface area of a cast iron bar whose length, width and height are 20m, 15m and 12m.

- A) 1440 m^2 B) 1340 m^2
C) 1640 m^2 D) 1540 m^2

Answer: A) 1440 m^2

97. What is the formula for induced emf?

- A) $BLV \sin \theta$ volts B) $BL \sin \theta$ volts
C) $B^2 V \sin \theta$ volts D) $B^2 L \sin \theta$ volts

Answer: A) $BLV \sin \theta$ volts

98. What is called mass per unit volume of a substances?

- A) Mass B) Volume
C) Weight D) Density

Answer: D) Density

99. What is the specific gravity of the solid, if density of the solid is 19.5 g/cm^3 ?

- A) 8 B) 18.5
C) 19.5 D) 19

Answer: C) 19.5

100. What is the volume of a rectangular tank of 30 m length, 20m width and 10m height?

- A) 5900 m^3 B) 6100 m^3
C) 6000 m^3 D) 6200 m^3

Answer: C) 6000 m^3

101. What is the density of aluminium?

- A) 2.7 g/cm^3 B) 5.7 g/cm^3
C) 4.7 g/cm^3 D) 3.7 g/cm^3

Answer: A) 2.7 g/cm^3

102. What is the mass in gram, if a force of 15 dyres acting on a mass m producing an acceleration of 2.5 cm/sec^2 ?

- A) 6 grams B) 9 grams
C) 8 grams D) 7 grams

Answer: A) 6 grams

103. What is the area of a rectangle, whose length and breadth are 10cm and 8cm respectively?

- A) 75 cm^2 B) 80 cm^2
C) 85 cm^2 D) 90 cm^2

Answer: B) 80 cm^2

104. Which law states that at constant temperature the current passing through a closed circuit is directly proportional to the potential difference and inversely proportional to the resistance?

- A) Newton's law B) Ohm's law
C) Lenz's law D) Hooke's law

Answer: B) Ohm's law

105. What is the formula for finding volume of a hollow cylinder having outer radius 'R' inner radius 'r' and height 'h'?

- A) $\frac{2}{3} \pi (R^2 - r^2) h$ B) $\frac{\pi}{3} (R^2 - r^2) h$
C) $\frac{4}{3} \pi (R^2 - r^2) h$ D) $\pi (R^2 - r^2) h$

Answer: D) $\pi (R^2 - r^2) h$

106. What metals contained in brass alloy?

- A) Copper and zinc B) Copper and tin
C) Copper and lead D) Copper and aluminium

Answer: A) Copper and zinc
