

Duration: 90 Mins

Total Marks: 104

Q.ID: ITISKILL0856WX

1. 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) 73.53 cm^3 B) 73.43 cm^3
C) 73.33 cm^3 D) 73.23 cm^3

Answer: A) 73.53 cm^3

2. What is the formula for induced emf?

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

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

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

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

Answer: C) Hardness

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

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

Answer: B) 33 ohms

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

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

Answer: C) 100.2 watts

6. 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) 167.1 cm^2 D) 157.1 cm^2

Answer: D) 157.1 cm^2

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

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

Answer: A) 0.50% to 1.50%

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

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

Answer: A) 25 mm

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

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

Answer: D) 80 cm^2

10. Which is mineral insulator

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

Answer: C) Mica

11. 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

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

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

Answer: D) 3750 cm^2

13. 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) 37 cm^2
C) 57 cm^2 D) 27 cm^2

Answer: A) 47 cm^2

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

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

Answer: D) 96.8 ohms

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

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

Answer: C) 324 cm^2

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

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

Answer: B) 2.4

17. What metals contained in brass alloy?

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

Answer: C) Copper and zinc

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

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

Answer: D) Mild steel

19. Which is the unit electrical power?

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

Answer: B) Watts

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

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

Answer: B) 88 mm

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

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

Answer: C) $I = V/R$

22. 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) 10.6 cm^3
B) 13.6 cm^3
C) 136 cm^3
D) 10.0 cm^3

Answer: D) 10.0 cm^3

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

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

Answer: C) Ductility

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

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

Answer: D) 1962.5 cm^2

25. Which rubber is used as insulator for power cables and

control wires?

- A) Hypalone
B) Butyl
C) Silicon
D) Nitrite butadiene

Answer: C) Silicon

26. What is the ore of aluminium?

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

Answer: D) Bauxite

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

- A) 320 mm^2
B) 330 mm^2
C) 350 mm^2
D) 340 mm^2

Answer: B) 330 mm^2

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

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

Answer: B) 1 watt

29. 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) 7487 Newton
C) 7847 Newton
D) 7848 Newton

Answer: D) 7848 Newton

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

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

Answer: A) Invar steel

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

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

Answer: A) Density

32. Which is the example for dynamically induced Emf?

- A) Generator
B) Motor
C) Car
D) Motor bike

Answer: A) Generator

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

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

Answer: A) Weight

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

its angle is 96 Degree?

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

Answer: D) 20.93 cm^2

35. 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) Non absorption
C) Mechanical strenth D) Di-electric strength

Answer: D) Di-electric strength

36. Which is very good conductor?

- A) Copper B) Cast iron
C) Wrought iron D) Steel

Answer: A) Copper

37. Which one is non-metal?

- A) Iron B) Mercury
C) Graphite D) Brass

Answer: C) Graphite

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

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

Answer: D) Elasticity

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

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

Answer: A) Mass

40. What is the voltage? $R = 250 \text{ Ohms}$ $I = 0.44 \text{ Amps}$ $V = \text{___Volts}$

- A) 110 Volts B) 108 Volts
C) 100 Volts D) 105 Volts

Answer: A) 110 Volts

41. 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) 230.3 volts D) 200.3 volts

Answer: A) 220.3 volts

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

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

Answer: D) Specific gravity

43. What is the formula for speed?

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

Answer: A) Distance covered/Time

44. Which is the unit of resistance?

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

Answer: B) Ohm

45. Which is the example for statically induced emf?

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

Answer: C) Transformer

46. 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) 18 hours B) 12 hours
C) 24 hours D) 10 hours

Answer: D) 10 hours

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

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

Answer: D) 21 m^3

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

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

Answer: B) 39.59 cm

49. 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) 8 grams B) 9 grams
C) 6 grams D) 7 grams

Answer: C) 6 grams

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

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

Answer: D) 4.4 Amps

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

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

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

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

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

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

B) πrh

C) $2 \pi rh$

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

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

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

A) Non-Insulating metals

B) Ferrous metals

C) Insulating metals

D) Non-ferrous metals

Answer: D) Non-ferrous metals

54. Which law states about electromagnetic induction?

A) Ohm's law

B) Faraday's law

C) Hooke's law

D) Lenz's law

Answer: B) Faraday's law

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

A) 86 mm

B) 56 cm

C) 66 cm

D) 76 cm

Answer: D) 76 cm

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

A) 6

B) 25

C) 15

D) 10

Answer: A) 6

57. Which among the following is an insulator?

A) Silver

B) Mica

C) Aluminium

D) Copper

Answer: B) Mica

58. Which is brittle metal?

A) Cast iron

B) Alloy steel

C) Mild steel

D) Steel

Answer: A) Cast iron

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

A) 1767.25 liters

B) 1766.25 liters

C) 1768.25 liters

D) 1769.25 liters

Answer: B) 1766.25 liters

60. Which is the unit of current?

A) Volt

B) Ohm

C) Ampere

D) Watt

Answer: C) Ampere

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

A) $\frac{1}{17}$ ohms

B) 17 ohms

C) 11 ohms

D) 7 ohm

Answer: B) 17 ohms

62. Which alloy used in electric lamp as filament?

A) Silicon

B) Vanadium

C) Tungsten

D) Cobalt

Answer: C) Tungsten

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

A) Grey cast iron

B) White cast iron

C) Wrought iron

D) Malleable cast iron

Answer: A) Grey cast iron

64. 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

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

A) Power

B) Resistance

C) Current

D) Voltage

Answer: C) Current

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

A) 210 grams

B) 190 grams

C) 220 grams

D) 200 grams

Answer: B) 190 grams

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

A) 6100 m^3

B) 5900 m^3

C) 6000 m^3

D) 6200 m^3

Answer: C) 6000 m^3

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

A) Ductility

B) Structure

C) Fusibility

D) Corrosion

Answer: A) Ductility

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

A) Vanadium steel

B) Manganese steel

C) Silicon steel

D) Cobalt steel

Answer: D) Cobalt steel

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

A) 630 cm^2

B) 620 cm^2

C) 628 cm^2

D) 638 cm^2

Answer: C) 628 cm^2

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

A) 395 volts

B) 390 volts

C) 400 volts

D) 405 volts

Answer: C) 400 volts

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

A) 1846 c.c

B) 1844 c.c

C) 1847 c.c

D) 1842 c.c

Answer: C) 1847 c.c

73. Which metal contains iron as a major content?

A) Ferrous metal

B) Brass metal

C) Bronze metal

D) Zinc

Answer: A) Ferrous metal

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

A) 886.82 cm^2

B) 866.82 cm^2

C) 856.82 cm^2

D) 876.82 cm^2

Answer: D) 876.82 cm^2

75. How much watt second in 1 watt hour?

A) 3600 watt sec

B) 1000 watt sec

C) 2000 watt sec

D) 4000 watt sec

Answer: A) 3600 watt sec

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

A) 10 W

B) 12 W

C) 3 W

D) 1.2 W

Answer: B) 12 W

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

A) Conductivity

B) Tenacity

C) Fusibility

D) Malleability

Answer: C) Fusibility

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

A) 0.15% to 0.25%

B) 0.25% to 0.5%

C) 0.5% to 1.5%

D) 0.05% to 0.15%

Answer: B) 0.25% to 0.5%

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

A) 2.648 kg

B) 2.848 kg

C) 2.948 kg

D) 2.448

Answer: B) 2.848 kg

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

A) Ductility

B) Plasticity

C) Elasticity

D) Brittleness

Answer: B) Plasticity

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

A) Current

B) Resistance

C) Voltage

D) EMF

Answer: B) Resistance

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

A) Cupola

B) Steel - Rever battery

C) Alloy metal - Electric furnace

D) Mild steel - Blast furnace

Answer: A) Cupola

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

A) Coloumb

B) wb/m

C) Hertz

D) m/wb

Answer: B) wb/m

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

A) 1346 cm^3

B) 1463 cm^3

C) 1436 cm^3

D) 1636 cm^3

Answer: C) 1436 cm^3

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

A) Mild steel - Rever battery

B) Electric furnace

C) Blast furnace

D) Cupola

Answer: C) Blast furnace

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

A) 6.166

B) 1.166

C) 2.166

D) 3.166

Answer: C) 2.166

87. What is the current Flow in the bulb?
 P = 550 watts
 R = 22 Ohms
 I = _____Amps

A) 3 Amps

B) 4 Amps

C) 2 Amps

D) 5 Amps

Answer: D) 5 Amps

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

A) Voltage

B) Power

C) Resistance

D) Current

Answer: D) Current

89. What is the rated power if an adjustable resistor bears the following label 1.5 k ohms/ 0.08A?

A) 9.6 watts

B) 9.8 watts

C) 9.4 watts

D) 9.2 watts

Answer: A) 9.6 watts

90. Which machine converts mechanical energy into electrical energy?

A) Generator

B) Iron box

C) Battery

D) Heater

Answer: A) Generator

91. Which is equal to electric power?

A) RI

B) $I^2 R$ watts

C) $R^2 I$ watts

D) IRA

Answer: B) $I^2 R$ watts

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

A) 30 sq.cm

B) 20 sq.cm

C) 35 sq.cm

D) 25 sq.cm

Answer: D) 25 sq.cm

93. Which cast iron cannot be welded?

A) White cast iron

B) Grey cast iron

C) Nodular cast iron

D) Malleable cast iron

Answer: A) White cast iron

94. What is the density of aluminium?

A) 4.7 g/cm^3

B) 3.7 g/cm^3

C) 5.7 g/cm^3

D) 2.7 g/cm^3

Answer: D) 2.7 g/cm^3

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

A) High carbon steel

B) Medium carbon steel

C) Stainless steel

D) Low carbon steel

Answer: A) High carbon steel

96. Which insulating material is used for making switches?

A) PVC

B) Ebonite

C) Porcelain

D) Bakelite

Answer: D) Bakelite

97. What does EMF stands for?

A) Electromotive Force

B) Electro Magnetic Force

C) Electronic Magnetic Force

D) Electro Motive Force

Answer: D) Electro Motive Force

98. 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) 7.2 g/cm^3

B) 7.5 g/cm^3

C) 6.9 g/cm^3

D) 6.6 g/cm^3

Answer: B) 7.5 g/cm^3

99. Which metal cannot be forged?

A) Steel

B) Alloy steel

C) Mild steel

D) Cast iron

Answer: D) Cast iron

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

A) 18.5

B) 19

C) 19.5

D) 8

Answer: C) 19.5

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

A) 2000 watts

B) 2030 watts

C) 2010 watts

D) 2020 watts

Answer: A) 2000 watts

102. Which insulator is used in over head lines?

A) Rubber

B) P.V.C

C) Porcelain

D) Mica

Answer: C) Porcelain

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

A) 0.50% to 1.50%

B) 0.02% to 0.03%

C) 0.15% to 0.25%

D) 0.25% to 0.50%

Answer: C) 0.15% to 0.25%

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) Lenz's law

B) Hooke's law

C) Ohm's law

D) Newton's law

Answer: C) Ohm's law