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Q. ID: ITISKILL2102UB

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Duration: 90 Mins **Total Marks: 106** **ID: ITISKILL2102UB**

Student Name: _____ Roll No: _____

1. Which is very good conductor?

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

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

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

3. What is the side of a square whose area is 625 mm²?

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

4. Which law states about electromagnetic induction?

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

5. What is the density (r) in g/cm3 of an iron cube, if it weighs (W) 4.8 kg and volume (V) is 640 cm,³?

A) 7.5 g/cm³ B) 6.6 g/cm³
C) 7.2 g/cm³ D) 6.9 g/cm³

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

A) 90 cm² B) 75 cm²
C) 85 cm² D) 80 cm²

7. What is the formula for speed?

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

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

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

9. What is the resistance?
 I = 11.5 Amps
 V = 380 Volts
 R = _____Ohms

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

10. What is the cross sectional area of a circular ring of D = 38 mm d = 32mm?

A) 330 mm² B) 350 mm²
C) 340 mm² D) 320 mm²

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

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

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

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

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

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

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

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

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

A) 157.1 cm² B) 147.1 cm²
C) 177.1 cm² D) 167.1 cm²

16. How much watt second in 1 watt hour?

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

17. Which is the unit electrical power?

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

18. Which is the example for dynamicallly induced Emf?

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

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

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

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

A) 3740 cm² B) 3750 cm²
C) 3755 cm² D) 3745 cm²

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

A) 26 cm² B) 72 cm²
C) 36 cm² D) 324 cm²

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

A) High carbon steel B) Stainless steel
C) Midium carbon steel D) Low carbon steel

23. Which is mineral insulator

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

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

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

25. Which one is non-metal?

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

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

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

27. What is the unit of speed?

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

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

A) 11 m³ B) 41 m³
C) 21 m³ D) 31 m³

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

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

30. Which metal cannot be forged?

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

31. What does EMF stands for?

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

32. 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

33. What is the formula for velocity?

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

34. What is the voltage of the immersion heater?
P = 500 watts
 I = 2.27 Amps
 V = _____Volts

A) 200.3 volts B) 220.3 volts
C) 210.3 volts D) 230.3 volts

35. What is the volume (V) of mercury in cm3, if mass (m) of mercury is 1 kg and density (r) is 13.6 g/cm³?

A) 73.53 cm³ B) 73.43 cm³
C) 73.23 cm³ D) 73.33 cm³

36. Which insulating material is used for making switches?

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

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

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

38. Which alloy used in electric lamp as filament?

A) Vanadium B) Tungsten
C) Cobalt D) Silicon

39. Which law states that at constant termperature the

current passing through a closed circuit is directly proportional to the potential difference and inversely proportional to the resistance?

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

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

A) 47 cm²
B) 27 cm²
C) 57 cm²
D) 37 cm²

41. What is the power required?
 I = 0.455 Amps
 R = 484 Ohms
 P = _____Watts

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

42. What is the block weighs (W) in kg, if volume (V) is 320 cm3 and density 8.9 g/cm³?

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

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

A) 1346 cm³
B) 1463 cm³
C) 1636 cm³
D) 1436 cm³

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

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

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

A) 1952.5 cm²
B) 1962.5 cm²
C) 1942.5 cm²
D) 1932.5 cm²

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

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

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

A) Pi rh
B) 2 Pi r (h + r)
C) Pi r (h + r)
D) 2 Pi rh

48. Which among the following is an insulator?

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

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

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

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

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

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

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

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

A) Plasticity
B) Ductility
C) Elasticity
D) Brittleness

53. Which machine converts mechanical energy into electrical energy?

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

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

A) 866.82 cm²
B) 856.82 cm²
C) 886.82 cm²
D) 876.82 cm²

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

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

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

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

57. What is the formual for induced emf?

A) B²V sinq volts
B) B²L sinq volts
C) BLV sinq volts
D) BL sinq volts

58. How many hours will take for a 100 watts bulb to consume 1 kwh energy?
 W = 1 Kwh
 P = 100 Watts
 t = _____Hours

A) 24 hours
B) 18 hours
C) 12 hours
D) 10 hours

59. Which is the unit of resistance?

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

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

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

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

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

62. What is the voltage?
 R = 250 Ohms
 I = 0.44 Amps
 V = _____Volts

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

63. What is the density of aluminium?

A) 4.7 g/cm³ B) 2.7 g/cm³
C) 5.7 g/cm³ D) 3.7 g/cm³

64. Wha is the mass if the density of a body is 7.6 g/cm³ and its volume is 25 cm³?

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

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

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

66. Which is brittle metal?

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

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

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

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

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

69. What is the mass in gram, if a force of 15 dyres acting on a mass m producing an acceleration of 2.5 cm/sec²?

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

70. Which is the unit of current?

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

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

A) 90 sq.metre B) 86 sq.metre
C) 88 sq.metre D) 92 sq.metre

72. What is the weight force of a car has a mass of 800 kg?(Take g = 9.81m/sec)

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

73. What is the specific gravity of the solid, if density of the solid is 19.5 g/cm³?

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

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

A) 1440 m² B) 1340 m²
C) 1640 m² D) 1540 m²

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

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

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

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

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

A) 2/3 Pi (R² - r²) h B) Pi (R² - r²)h
C) 4/3 Pi (R² - r²)h D) Pi/3 (R² - r²) h

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

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

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

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

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

its angle is 96 Degree?

A) 20.98 cm² B) 20.39 cm²
C) 20.93 cm² D) 20.89 cm²

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

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

82. Which is the example for statically induced emf?

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

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

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

84. What is the volume of mercury in cm3, if the mass (m) of mercury is 136 grams (g) and density (r) of mercury is 13.6 g/cm3?

A) 136 cm³ B) 10.0 cm³
C) 13.6 cm³ D) 10.6 cm³

85. Which cast iron cannot be welded?

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

86. 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

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

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

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

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

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

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

90. What is the ore of aluminium?

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

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

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

92. What metals contained in brass alloy?

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

93. Which is equal to electric power?

A) I²R watts B) RI
C) IRA D) R²I watts

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

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

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

A) 0.25% to 0.5% B) 0.05% to 0.15%
C) 0.5% to 1.5% D) 0.15% to 0.25%

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

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

97. What is the current?
 R = 50 Ohms
 220 Volts
 I =_____Amps

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

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

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

99. Which insulator is used in over head lines?

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

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

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

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

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

102. 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) 3.166
C) 2.166
D) 6.166

103. Which metal contains iron as a major content?

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

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

A) 6000 m³
B) 5900 m³
C) 6200 m³
D) 6100 m³

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

A) 620 cm²
B) 630 cm²
C) 638 cm²
D) 628 cm²

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

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