

? $7 \times (3/7)$

- A) "7/52" B) "28/7"
C) (52/7) D) "7/28"

20. Which is the unit electrical power?

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

21. What will be the rpm of smaller gear if a 180 mm dia meshes with 60 mm dia gear and the bigger gear makes 60 rpm?

- A) 180 rpm B) 120 rpm
C) 160 rpm D) 140 rpm

22. Which cast iron cannot be welded?

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

23. Which metal contains iron as a major content?

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

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

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

25. What is called if a body posses only magnitude or size alone?

- A) Vector quantity B) Speed
C) Scalar quantity D) Velocity

26. What metals contained in brass alloy?

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

27. Which is brittle metal?

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

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

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

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

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

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

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

31. What is the unit for velocity?

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

32. Which machine converts mechanical energy into electrical energy?

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

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

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

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

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

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

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

36. What is the ratio of power output to power input?

- A) Efficiency B) Work
C) Energy D) Acceleration

37. How many newtons for 1 kilogram?

- A) 98.1 Newtons B) 9.81 Newtons
C) 981 Newtons D) 0.981 Newtons

38. Which metal cannot be forged?

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

39. 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

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

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

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

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

42. Which law states about electromagnetic induction?

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

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

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

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

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

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

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

46. What denotes letter M in MKS system?

- A) Meter B) Micron
C) Mile D) Millimeter

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

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

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

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

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

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

50. What maximum height a stone will reach if it is thrown upwards with a velocity of 20m/sec? $(g = 10\text{m/sec}^2)$

- A) 20 m B) 10 m
C) 30 m D) 40 m

51. 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) 7 grams
C) 9 grams D) 8 grams

52. Which alloy used in electric lamp as filament?

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

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

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

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

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

55. How much is 8% of 40 kg?

- A) 4.2 kg B) 5.2 kg
C) 2.2 kg D) 3.2 kg

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

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

57. Which is very good conductor?

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

58. What is called if a force of 1Newton acts on a body and moves it through a distance of 1 metre?

- A) 1 Joule B) 10 dynes
C) 1 dyne D) 10 Joules

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

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

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

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

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

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

62. What is the current flow in the bulb? $P = 550$ watts
 $R = 22$ Ohms $I =$ _____ Amps

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

63. What is the unit of acceleration of an object?

- A) Metre/minutes²
B) Metre/minutes
C) Metre/second
D) Metre/second²

64. What is the square root of 0.017?

- A) 0.00001
B) 0.001
C) 0.000001
D) 0.13

65. What is the HCF of 18, 42, 24?

- A) 2
B) 6
C) 24
D) 18

66. What is the speed of a train of 80 metre long train passes a railway station platform of 120 metres length in 20 seconds?

- A) 34 km/hour
B) 32 km/hour
C) 36 km/hour
D) 30 km/hour

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

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

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

- A) 3 W
B) 12 W
C) 10 W
D) 1.2 W

69. What is the product of 0.003×0.5 ?

- A) 0.15
B) 0.00015
C) 0.0015
D) 0.015

70. What is the potential energy, if a body of mass 250 kg is at a height of 30 metre?

- A) 74.57 KJ
B) 72.57 KJ
C) 75.57 KJ
D) 73.57 KJ

71. What is the work done in unit time?

- A) Energy
B) Force
C) Power
D) Acceleration

72. Simplify: $(17.49 \times 5.2) / (6.5)$

- A) 13.79
B) 13.69

- C) 13.99
D) 13.89

73. What is the length of each part is a copper wire of 225 metre long is cut into 900 equal parts?

- A) 0.23 metre
B) 0.25 metre
C) 0.29 metre
D) 0.28 metre

74. Which among the following is an insulator?

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

75. Simplify: $(3/4) + (2/5) - (5/20)$

- A) $(3/10)$
B) $(12/10)$
C) $(9/10)$
D) $(13/10)$

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

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

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

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

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

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

79. What does EMF stands for?

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

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

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

81. What is the formula for kinetic energy?

- A) $(2/3) mv^2$ joule
B) $(1/2) mv$ joule
C) $(2/3) mv$ joule
D) $(1/2) mv^2$ joule

82. 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) Ohm's law
B) Lenz's law

C) Newton's law

D) Hooke's law

83. What is the square root of 529?

A) 43

B) 12

C) 33

D) 23

84. 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) 25 sq.cm

D) 35 sq.cm

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

A) 27 cm^2

B) 47 cm^2

C) 57 cm^2

D) 37 cm^2

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

A) 2020 watts

B) 2000 watts

C) 2010 watts

D) 2030 watts

87. What are fundamental units?

A) Length, Pressure, Volume

B) Length, Mass, Volume

C) Length, Mass, Area

D) Length, Mass, Time

88. How much watt second in 1 watt hour?

A) 3600 watt sec

B) 4000 watt sec

C) 1000 watt sec

D) 2000 watt sec

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

A) EMF

B) Resistance

C) Voltage

D) Current

90. What is the equivalent unit for 1 horse power in metric system?

A) 75 kg.m/sec

B) 77 kg.m/sec

C) 78 kg.m/sec

D) 76 kg.m/sec

91. What is the formula for acceleration?

A) Metre/second

B) Metre/hour

C) Metre/minute

D) Metre/second^2

92. What is the capacity of a body to do work is called?

A) Force

B) Power

C) Energy

D) Acceleration

93. What is the resistance? $I = 11.5 \text{ Amps}$ $V = 380$

Volts $R = \text{_____ Ohms}$

A) 43 ohms

B) 23 ohms

C) 13 ohms

D) 33 ohms

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

A) 0.25% to 0.5%

B) 0.05% to 0.15%

C) 0.15% to 0.25%

D) 0.5% to 1.5%

95. What is the ore of aluminium?

A) Mallatite

B) Lemonite

C) Hematite

D) Bauxite

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

A) Alloy metal - Electric furnace

B) Cupola

C) Mild steel - Blast furnace

D) Steel - Rever battery

97. What is the area of a sector of a circle of radius 5 cm and its angle is 96 Degree?

A) 20.89 cm^2

B) 20.39 cm^2

C) 20.98 cm^2

D) 20.93 cm^2

98. What is the unit of speed?

A) Metre/hour

B) Metre/second^2

C) Metre/minute

D) Metre/second

99. How much work done in one hour, if a pump can raise 100 liters of water through a height of 200 meters in one minutes?

A) $12 \times 10^4 \text{ kg meter}$

B) $12 \times 10^6 \text{ kg meter}$

C) $12 \times 10^7 \text{ kg meter}$

D) $12 \times 10^5 \text{ kg meter}$

100. 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) 330 mm^2

D) 320 mm^2

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

A) Structure

B) Ductility

C) Corrosion

D) Fusibility

102. 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) 24 hours

B) 18 hours

C) 10 hours

D) 12 hours

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

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

104. What is the formula for potential energy?

- A) $\frac{2}{3} mgh$ joule B) mgh^2 joule
C) mgh joule D) $\frac{1}{2} mgh$ joule

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

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

106. 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) 10.0 cm^3 B) 13.6 cm^3
C) 10.6 cm^3 D) 136 cm^3

107. 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) 73.33 cm^3 B) 73.23 cm^3
C) 73.53 cm^3 D) 73.43 cm^3

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

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

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

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

110. How many days a mechanic takes to assemble 64 machines if he assembles 8 machines in 3 days?

- A) 24 days B) 26 days
C) 20 days D) 22 days

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

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

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

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

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

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

114. What is the density of aluminium?

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

115. How many ergs for 1 Joule?

- A) 10^5 ergs B) 10^7 ergs
C) 10^3 ergs D) 10^9 ergs

116. Which is the unit of current?

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

117. Which insulator is used in over head lines?

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

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

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

119. Which is mineral insulator

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

120. Which is the example for statically induced emf?

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

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

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

122. What percentage of 80 is 20?

- A) 0.2 B) 0.25
C) 0.4 D) 0.8

123. What is the ratio of 4 kg to 800 grams?

- A) 05:01 B) 04:08
C) 08:04 D) 02:04

124. What are the two classifications of system of units?

- A) Metric and International B) British and Metric
C) Fundamental and derived D) Gravitational and non-gravitational

125. A motor cycle tyre is sold for Rs 300/- what is the

purchase price if 25% profit is added to it.

- A) Rs 220 B) Rs 200
C) Rs 260 D) Rs 240

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

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

127. What is the kinetic energy of a bullet of mass 5gm travels with a speed of 500 m/sec?

- A) 635 Joules B) 630 Joules
C) 625 Joules D) 620 Joules

128. What is the rate of change of displacement of a body?

- A) Speed B) Velocity
C) Body at rest D) Body at motion

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

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

130. How many watts for 1 horse power in metric system?

- A) 735.5 watts B) 745.5 watts
C) 755.5 watts D) 725.5 watts

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

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

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

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

133. Convert decimal 0.000659 to fraction?

- A) (659/1000000) B) (659/100000)
C) (659/1000) D) (659/10000)

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

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

135. What is the potential energy in a body of mass 10 kg kept on the top of a pole 20 metres height?

- A) 1952 Joules B) 1962 Joules
C) 1942 Joules D) 1972 Joules

136. What is the power required? $I = 0.455$ Amps $R = 484$ Ohms $P =$ _____ Watts

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

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

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

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

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

139. What is the acceleration of an aeroplane taking off from landing field has to run 700 metres if it leaves the ground in 10 seconds from the start?

- A) 10 metre/sec² B) 12 metre/sec²
C) 14 metre/sec² D) 8 metre/sec²

140. What is the x value for $x^2 + 62 = 126$?

- A) 8 B) 4
C) 6 D) 10

141. 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

142. What is the formula for velocity?

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

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

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

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

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

145. What is the acceleration of a car if the speed of the car

has increased from 25 km per hour to 40 km per hour in one minute?

- A) 0.069 m/sec² B) 0.69 m/sec²
C) 0.59 m/sec² D) 0.059 m/sec²

146. What is the length L₂, if total length (L) is 2.75 metre and L₁:L₂ = 2:3?

- A) 1.65 metre B) 1.75 metre
C) 1.1 metre D) 1.25 metre

147. What is the decimal fraction of conversion of 18.5%?

- A) 0.175 B) 0.195
C) 0.185 D) 0.165

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

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

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

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

150. What is the work done in joules if a load of 15.5 kg is lifted through a height of 4.4 metres?

- A) 639 Joules B) 649 Joules
C) 669 Joules D) 659 Joules

151. Which one is non-metal?

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

152. What is the definition of ratio?

- A) Relation of two quantities of the same kind
B) Inequality between two ratios
C) Relation of two quantities of the different kind
D) Equality between two ratios

153. How many millimetres are there in 1 inch?

- A) 2.54 mm B) 25.4 mm
C) 2.45 mm D) 24.5 mm

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

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

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

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

156. Which is equal to electric power?

- A) RI B) IR
C) $R^2 I$ watts D) $I^2 R$ watts

157. What is the work done, if a force of 250 newtons acted upon a body and the body has been moved through a distance of 15 metres?

- A) 3740 Joules B) 3720 Joules
C) 3750 Joules D) 3730 Joules

158. Convert 0.456 decimal fraction into percentage?

- A) 0.000456 B) 0.456
C) 45.6 D) 0.0456

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

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

160. Which is the example for dynamically induced Emf?

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

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

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

162. 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) 8 D) 19

163. What is the percentage of copper if the casting weight of copper 42.3 kg and tin weight 2.7 kg?

- A) Cu 94% B) Cu 92%
C) Cu 98% D) Cu 96%

164. What is called if a body does not change its position with respect to its surroundings?

- A) Velocity B) Body at rest
C) Speed D) Body at motion

165. What is the LCM of 12, 18, 6, 36?

- A) 12 B) 42

C) 36

D) 18

166. What is the retardation of a car moving with a velocity

of 50 km/hr is brought to rest in 45 seconds?

A) 0.40 m/sec^2 B) 0.20 m/sec^2

C) 0.10 m/sec^2 D) 0.30 m/sec^2