WCS

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Q. ID: ITISKILL91188G

April 2026 | **Govt ITI Tagaduru** | Question Paper

Duration: 30 Mins | **Total Marks: 413** | **ID: ITISKILL91188G**

Student Name: _____ Roll No: _____

1. What is the unit of co-efficient of linear expansion?

A) Number / Degree C / cm length
B) Number / Degree C / mm length
C) Number / Degree C / meter length
D) Number / Degree C

2. What is the expanded form of S.P?

A) Selected Price
B) Selling Price
C) Super Price
D) Special Price

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

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

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

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

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

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

6. Which instrument is used to measure temperatures of red hot metals up to 3000 Degree C?

A) Bimetal thermometer
B) Radiation pyrometer
C) Thermoelectric pyrometer
D) Alcohol thermometer

7. Which refers the temperature?

A) It tells specifie heat of substance
B) It tells the state of heat
C) It is a form of energy
D) It is measured by calorie meter

8. What is the compound interest on a principal of Rs.25000/- after 3 years at the rate of 12% per annum?

A) Rs.10123.20
B) Rs.9720
C) Rs.10483.20
D) Rs. 9000

9. What is the velocity ratio of a simple machine of a mass 120 kg is lifted to a height of 5 metres by a force of 60 kg moving 15 metre. Calculate velocity ratio?

A) 3
B) 4
C) 2
D) 1

10. What is the name of heat treatment process done to relieve strain and stress?

A) Hardening
B) Annealing
C) Tempering
D) Normalising

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

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

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

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

13. Which is equal to (a+b)²-(a-b)²

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

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

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

15. What is the total wattage in a room if 2 tube lights of 50W rating, 2 fans of 80W rating, 2 numbers of light points of 60W rating, one fan point of 60W rating and one 3 pin socket of 100W rating?

A) 440 W
B) 640 W
C) 340 W
D) 540 W

16. Which is mineral insulator

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

17. What force will be required to punch a hole of 10 mm dia in a 1 mm thick plate, if the allowable shear stress is 50N/mm²? (Pi = 22/7)

A) 1575 N
B) 1757 N
C) 1577 N
D) 1571.4 N

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

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

19. What is the ratio between lateral strain and longitudinal strain?

A) Poisson's ratio
B) Young's modulus
C) Bulk modulus
D) Hooks law

20. What is the ratio between stress and strain?

A) Poisson's ratio
B) Youngs Modulus
C) Yield point
D) Factor of safety

21. What is the ratio of shear stress to shear strain?

A) Bulk modulus
B) Modulus of rigidity
C) Modulus of elasticity
D) Yield point

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

A) 42
B) 12
C) 18
D) 36

23. What is the value of tan θ if sin θ = 4/5 ?

A) (3/4)
B) (4/3)
C) (5/3)
D) (4/5)

24. Which instrument is used to measure heat?

A) Pyrometer
B) Barometer
C) Calorie meter
D) Thermometer

25. What is the value of x if 13+x =20?

A) 8
B) 13
C) 9
D) 7

26. What is the other term used for reference table?

A) Biography
B) Dictionary
C) Information Table
D) Bibliography

27. Which state of equilibrium's example is A cone resting on its tip?

A) Horizontal
B) Stable
C) Unstable
D) Neutral

28. What are the various stages of heat treatment?

A) Quenching, Cooling and Heating
B) Heating, Soaking and Quenching
C) Soaking, Quenching and Cooling
D) Heating, Cooling and Quenching

29. Which is the short form of profit and loss statement?

A) L & P
B) PRO & LOS
C) PR & LS
D) P & L

30. What is the centre of gravity of a sphere?

A) At the centre
B) At the diameter
C) At the radius
D) On the circumference

31. Where the centre of gravity of a circle lies?

A) Any where on its circumference
B) At its centre
C) Any where on its radius
D) Any where on its diameter

32. What is the quantity of heat required to raise the temperature of 1 gram of water through 1 Degree Centigrade is called?

A) Centigrade heat unit
B) Specific heat
C) Colorie
D) British thermal unit

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

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

34. How much is 8% of 40 kg?

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

35. What is the matured amount for the deposit of Rs.5000/- and the simple interest earned for Rs.500/-?

A) Rs.5500
B) Rs.4500
C) Rs.6500
D) Rs.6000

36. What is the area of the sector, if the diameter is 12 cm and the angle is 60 Degree?

A) 19.00 cm²
B) 18.84 cm²
C) 17.75 cm²
D) 18.0 cm²

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

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

38. What is the value of any number raised to the power of

0?

A) Alpha (?) B) (-1)
C) 1 D) 0

39. What is the name called biggest chord of the circle?

A) Radius B) Diameter
C) Diagonal D) Arc

40. What is the area of the circle, whose diameter is 50 cm?

A) 1962.5 cm² B) 1900 cm²
C) 1950 cm² D) 1960 cm²

41. What effort required to lift a load of 150 kg in a wheel and axle, if the velocity ratio is 2.5 and the efficiency of the machine is 75%?

A) 100 kg B) 80 kg
C) 70 kg D) 90 kg

42. What is the length of arc of the sector whose radius is 15 cm and the intended angle is 30 Degree?

A) 7.85 cm B) 7.25 cm
C) 6.85 cm D) 6.75 cm

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

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

44. How many millimetres are there in 1 inch?

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

45. What is the relative permittivity of rubber?

A) Between 8 and 10 B) Between 12 and 14
C) Between 2 and 3 D) Between 5 and 6

46. Which affects the centre of gravity of the object?

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

47. Convert 45 Degree C (Centigrade) into Degree F (Fahrenheit)

A) 111 Degree F B) 113 Degree F
C) 110 Degree F D) 112 Degree F

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

A) 75 kg.m/sec B) 76 kg.m/sec
C) 77 kg.m/sec D) 78 kg.m/sec

49. Which insulating material is used for making switches?

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

50. What is the x value for x² + 62 = 126?

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

51. What maximum height a stone will reach if it is thrown upwords with a velocity of 20m/sec?(g = 10m/sec²)

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

52. 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) 10
C) 15 D) 25

53. Which hand book referred by machine engineer?

A) Parry's cheorikal B) Oxford Dictionary
C) Mark standard D) CRC

54. Where the centre of gravity of a circle lies?

A) Any where on its radius B) Any where on its diameter
C) Any where on its circumference D) At its centre

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

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

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

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

57. Which is equal to sin θ?

A) Hypotenuse/Adjacent side B) Hypotenuse/Opposite side
C) Opposite Side/Hypotenuse D) Adjacent Side/Hypotenuse

58. What is the product of 0.003 x 0.5?

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

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

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

60. 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) 1/17 ohms
D) 11 ohms

61. 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) 659 Joules
D) 669 Joules

62. How much heat is absorbed by a copper ingot weighing 400 Kg is heated from 40 Degree C to 72 Degree C for the purpose of forging? (sp.heat of copper is 0.09)

A) 1251 Kcal
B) 1521 Kcal
C) 1215 Kcal
D) 1152 Kcal

63. Which cast iron cannot be welded?

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

64. Which law states about electromagnetic induction?

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

65. What is the value of x, if x*(120) = 960?

A) 8
B) 7
C) 6
D) 10

66. What is the maximum percentage of stretch of its original length is allowable for elastic materials?

A) 300%
B) 200%
C) 100%
D) 400%

67. Which is the unit of resistance?

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

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

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

69. What is the boiling point of mercury?

A) 357 Degree C
B) 759 Degree C
C) 280 Degree C
D) 767 Degree C

70. How the 'Principal' is denoted in simple interest calculation?

A) 'I'
B) 'R'
C) 'n'
D) 'P'

71. What is the length of arc of a sector, whose radius is 15 cm and angle is 40 Degree?

A) 10.60 cm
B) 9.75 cm
C) 10.4 cm
D) 9.8 cm

72. What is the total construction cost of a house construction area of 3000 sq.ft. (cost of construction Rs.2000/- per sq.ft including material and labour)?

A) Rs.60,00,000
B) Rs.6,000,000
C) Rs.6,00,000
D) Rs.30,000,000

73. What denotes letter M in MKS system?

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

74. Which state of equilibrium's example is, A cone resting on its base?

A) Bothe A and B
B) Stable
C) Un-stable
D) Neutral

75. What is the centre of gravity of a right circular cone from its base?

A) h/2
B) h/3
C) h/4
D) h/5

76. 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) 0.69 m/sec²
B) 0.59 m/sec²
C) 0.059 m/sec²
D) 0.069 m/sec²

77. Which is example for third order lever?

A) Common balance
B) Forceps
C) A pair of scissors
D) Lime squeezer

78. How many newtons for 1 kilogram?

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

79. What is the value of x if (x + 2) / 2 = 19?

A) 33
B) 36
C) 35
D) 38

80. What is the centre of gravity of a solid hemisphere from

its base?

A) 3r/8 B) r/2
C) 3r/4 D) 4r/5

81. What is the total cost to assemble 10 personal computer systems, spares cost as given for one system: 1 TB hard disc Rs.4500/-, Intel i3 mother board Rs.7000/-, SMPS Rs.2500/-, monitor Rs.6000/-, keyboard Rs.1000/-, other material cost (Switches, USB, Cabl

A) Rs.250000/- B) Rs.265000/-
C) Rs.225000/- D) Rs.275000/-

82. What is the area of the semicircle, if the diameter is 14 cm?

A) 76.93 cm² B) 75.06 cm²
C) 86.93 cm² D) 70 cm²

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

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

84. What is called for the amount of heat required to raise the temperature of unit mass of a substance through 1 Degree C?

A) Latent heat B) Specific heat
C) Sensible heat D) Mixing of heat

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

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

86. 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

87. Which is a kind of surface hardening process?

A) Nitriding B) Tempering
C) Ferrite D) Cementide

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

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

89. What is the co-efficient of linear expansion of a rod if it is found to be 100 m long at 20 Degree C and 100.14 m long at 100 Degree C?

A) 1.75 x 10-5 / Degree C B) 1.75 x 10-4 / Degree C
C) 1.75 x 10-7 / Degree C D) 1.75 x 10-6 / Degree C

90. How much time is allowed normally in soaking zone for a 10mm thick metal piece while hardening?

A) 15 minutes B) 20 minutes
C) 5 minutes D) 10 minutes

91. Which among the following is an insulator?

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

92. What is the name of a booklet, the rates of various terms are indicated?

A) Price bank B) Price tag
C) Price catalogue D) Price bunch

93. What is the maturity amount if Rs.20000 is deposited at 5% compound interest per annum for 2 years?

A) Rs.22000 B) Rs.25000
C) Rs.22500 D) Rs.22050

94. Which one is the ratio of stress?

A) Load and direction B) Load and diameter
C) Load and area D) Load and time

95. What is the ratio of change in length to original length?

A) Volumetric strain B) Lateral strain
C) Linear strain D) Poisson's ratio

96. What is colour of a metal piece when heated to 250 Degree C while doing the tempering process?

A) Blue B) Pale
C) Brown D) Purple

97. What are the three consecutive numbers if there sum is 42?

A) 13,14,15 B) 12,13,14
C) 11,12,13 D) 14,15,16

98. Simplify: (17.49x5.2)/(6.5)

A) 13.79 B) 13.89
C) 13.69 D) 13.99

99. 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%

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

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

101. What is called if a body posses both magnitude and direction of velocity?

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

102. What is the formula to find Loss %?

A) (Loss+100)/(S.P)
B) (Lossx100)/(C.P)
C) (CP)/(Lossx100)
D) (S.P)/(Loss+100)

103. Which is thermosetting plastic?

A) Polystyrenes
B) Melamine resins
C) Vinyl polymers
D) Celluloid

104. What is the interest earned, if the principal is for Rs.12500/- maturity becomes to a amount of Rs.17500/-?

A) Rs.5500
B) Rs.5000
C) Rs.30000
D) Rs.25000

105. 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) 12 hours
C) 10 hours
D) 18 hours

106. What is the formula for a^m x aⁿ?

A) a^{mn}
B) a^{m+n}
C) a^{m-n}
D) n.a^m

107. What is the subtracted value of 3x - 4x² +2y² from 4y²-2x + 8x²?

A) (-2y²-5x + 12x²)
B) 2y²+ 5x -12x²
C) 2y² - 5x -12x²
D) 2y²- 5x + 12x²

108. What is known for the temperature at which any solid melts into liquid?

A) Latent heat of vaporisation
B) Latent heat of fusion
C) Boiling point
D) Melting point

109. Which one of the following geometrical shapes centre of gravity lies from its base is 1/3 of its height?

A) Square
B) Rhombus
C) Cone
D) Triangle

110. Which metal contains iron as a major content?

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

111. What is the change in length per unit original length per degree rise in temperature is called?

A) Co-efficient of linear expansion
B) Co-efficient of cubical expansion
C) Co-efficient of friction
D) Co-efficient of superficial expansion

112. What describes the detailed specification for the item of work?

A) Quality, Quantity, Workmanship, Method of execution
B) Tax, Transport, Overhead expenses
C) Colour
D) Maintenance, Stock, Cost

113. What is the cost price if the product is sold at Rs. 572 with a profit of Rs. 72?

A) Rs. 472
B) Rs. 500
C) Rs. 1000
D) Rs. 644

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

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

115. What is the safe stress if the ultimate stress of a material is 35 kg/mm² and factor of safety is 5?

A) 0.7
B) 1.43
C) 7
D) 0.143

116. What is the height of the wall where the ladder touches the wall if the ladder is 2.5 m long makes an angle of 60 Degree with the ground?

A) 4.13 m
B) 4.43 m
C) 4.23 m
D) 2.165 m

117. What is the definition of ratio?

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

118. Which one is heat insulator?

A) Aluminium
B) Brass
C) Copper
D) Thermocole

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

A) 1340 m²
B) 1640 m²

C) 1440 m² D) 1540 m²

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

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

121. Which type of levers is bell cranked lever?

A) 1st order lever B) Curved lever
C) 3rd order lever D) 2nd order lever

122. A motor cycle tyre is sold for Rs 300/- what is the purchase price if 25% profit is added to it.

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

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

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

124. Convert 52% into fraction?

A) (9/25) B) (17/25)
C) (11/25) D) (13/25)

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

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

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

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

127. What is the area of a circular surface if the radius is 14 cm?

A) 615.44 cm² B) 612.25 cm²
C) 614.5 cm² D) 612.44 cm²

128. What is the expansion of (a+b+c)²?

A) a² + b² + c² + 2ab - 2bc + 2ca
B) a² - b² - c² + 2ab + 2bc + 2ca
C) a² + b² + c²- 2ab + 2bc + 2ca
D) a² + b²+ c²+ 2 (ab + bc + ca)

129. What is a under estimate?

A) An estimate perfectly matches with actual
B) An estimate is exceeded the actual estimate
C) No work started as per estimate
D) An estimate is fell short of the actual estimate

130. 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) 7847 Newton D) 7848 Newton

131. What is the height of the building if a ladder at 45 Degree touches the building placed 16 m from the base of the building?

A) 18 m B) 15 m
C) 17 m D) 16 m

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

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

133. What is the square root of 0.017?

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

134. What is term used for 2 x linear expansion?

A) Co-efficient of friction
B) Co-efficient of linear expansion
C) Co-efficient of cubical expansion
D) Co-efficient of superficial expansion

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

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

136. What is the name of the point at which all the weight of the body concentrated?

A) Central point B) Centre of gravity
C) Initial point D) Centroid

137. Which law states that within elastic limit stress is directly proportional to strain?

A) Hooks law B) Charles law
C) Newtons law D) Joules law

138. How the profit / gain is expressed?

A) $ B) %
C) * D) Rs.

139. What is the selling price, if the profit is 5% for a

computer table bought at Rs.1150/- with Rs.50/- as a transport charge?

A) 1260 B) 1060
C) 1160 D) 1620

140. Which is elastic material?

A) Celluloid B) Nylon
C) Polystyrenes D) Polycarbonates

141. Which one is the most reliable estimate?

A) Detailed estimate B) Cube rate estimate
C) Preliminary estimate D) Plinth area estimate

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

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

143. Which is example for second order lever?

A) Bottle opener B) Common balance
C) Human forearm D) A pair of scissors

144. What is called if a body changes its position with respect to its surroundings?

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

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

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

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

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

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

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

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

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

149. Who prepares the cost of estimation?

A) Estimator B) Operator
C) Draughts man D) Quality Inspector

150. What is the estimation of milling cost of a rectangular block size 100 X 80 X60 mm, if cost of the milling is Rs.2/sq.cm?

A) Rs.652/- B) Rs.572/-
C) Rs.752/- D) Rs.960/-

151. Convert 0.456 decimal fraction into percentage?

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

152. 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/sec² B) 0.20 m/sec²
C) 0.10 m/sec² D) 0.30 m/sec²

153. Which affects the centre of gravity of the object

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

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

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

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

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

156. What is the multiplication value of 5a²b x 8a⁵b³?

A) 40a⁷b⁴ B) 40a³b²
C) 40a²b³ D) 40a⁴b⁷

157. What is the velocity ratio of a wheel and axle if the radii of wheel and axle are 375 mm and 75 mm respectively?

A) 4 B) 5
C) 6 D) 3

158. What is the centre of gravity of a semi circle of diameter 12 cm?

A) 2.54 cm B) 3.25 cm
C) 2.75 cm D) 2.24 cm

159. What is the diameter of the semicircle, if the circumference of the semicircle is 21.98 cm?

A) 8.55 cm B) 7 cm
C) 7.55 cm D) 8 cm

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

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

161. What is a hand book?

A) Model book of various works
B) Type of reference work or other collection of instruction
C) Design book of latest works
D) Dictionary of materials

162. What is the value for specific heat of water

A) 1
B) 3
C) 4
D) 2

163. What is the area of the circle, if the circumference of the circle is 44cm?

A) 128 cm²
B) 129 cm²
C) 154 cm²
D) 130 cm²

164. Which is the suitable nitriding process for all alloyed and unalloyed steels?

A) Nitriding in Quenching tank
B) Silver nitriding
C) Gas nitriding
D) Nitriding in salt-bath

165. Which one of the following geometrical shape's centre of gravity lies from its base is 1/3 of its height?

A) Rhombus
B) Square
C) Triangle
D) Cone

166. What is called if the length of the solid expands when heated?

A) Cubical expansion
B) Area expansion
C) Linear expansion
D) Superficial expansion

167. What is the value of (a⁵)⁷?

A) a²²
B) a1²
C) a²1
D) a³⁵

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

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

169. What is the boiling point of water in fahrenheit scale?

A) 212 Degree F
B) 112 Degree F
C) 180 Degree F
D) 100 Degree F

170. 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) 2.448
C) 2.948 kg
D) 2.648 kg

171. What is the formula for (a-b)²?

A) a² + 2ab + b²
B) a² - 2ab - b²
C) (-a² - 2ab - b²)
D) a²- 2ab + b²

172. What is the term used for the method of calculating various quantities and expenditure on a particular job or process?

A) Estimation
B) Drawing
C) Specification
D) Plan

173. What is the minimum permissible area of conductor (U/G cable) for three and half cores cable?

A) 5 sq.mm
B) 100 sq.mm
C) 25 sq.mm
D) 50 sq.mm

174. What is the simplified value of (3x + 15) / 5x + 25)

A) (3/5)
B) (-3/5)
C) (-5/3)
D) (5/3)

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

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

176. What is the compounded annual interest, for a loan amount of Rs.80000/- at 10% per annum for a period of 2 years?

A) Rs.92400/-
B) Rs.96800/
C) Rs.16800/-
D) Rs.94800/-

177. Which machine converts mechanical energy into electrical energy?

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

178. What is the process of heat treatment?

A) The process of cooling to measure the dimensions
B) The process of heating and bending as per our requirement
C) The process of heating to change the dimensions
D) The process of heating and cooling to change the structure and properties

179. What is the formula for speed?

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

180. What is the value of x²-y² if (x+y) = 9, (x - y) = 4?

A) 36
B) 65
C) 13
D) 46

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

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

182. What is the length of arc of a sector whose radius is 3.6 cm and angle is 36 Degree?

A) 2.26 cm
B) 21.0 cm
C) 22.6 cm
D) 2.10 cm

183. 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) 2020 watts
D) 2010 watts

184. Which one is related to estimation of work?

A) Packing
B) Information table
C) Hand book
D) Bill of material

185. What is the boiling point of aluminium?

A) 1897 Degree C
B) 2519 Degree C
C) 2469 Degree C
D) 660 Degree C

186. What is the formula for velocity?

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

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

A) 21 m³
B) 31 m³
C) 41 m³
D) 11 m³

188. Which symbol is used to express change in length?

A) e
B) delta l
C) L
D) l

189. What is the difference between the simple and the compound interest amount at 5% per annum for 2 years on a principal of Rs.20000/-?

A) Rs.55
B) Rs.50
C) Rs.5
D) Rs.25

190. What is the value of a x a² x a³ x a⁴?

A) a⁷
B) a⁹
C) a⁸
D) a¹⁰

191. What is the tensile stress if a square rod of 10 mm side is tested for a tensile load of 1000 kg?

A) 100 kg/mm²
B) 1000 kg/mm²
C) 1 kg/mm²
D) 10 kg /mm²

192. What is the unit of speed?

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

193. What is the name of the point at which all the weight of the body concentrated?

A) Centre of gravity
B) Initial point
C) Centroid
D) Central point

194. What are the various types of heat treatment processes?

A) Annealing, Normalising, Hardening and Tempering
B) Tempering, Cooling, Packing and Solling
C) Normalising, Heating, Cooling and Painting
D) Hardening, Soaking, Painting and Packing

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

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

196. What is the weight of a rectangular block of a cost iron of 250cm X 20cm X 8cm (density of cast iron is 7.8 gm/cm³)?

A) 372 kg
B) 312 kg
C) 410 kg
D) 525 kg

197. What is the principal amount deposited, if the maturity proceeds to an amount of Rs.25000/- and interest earned Rs.6000/-?

A) Rs.19000/-
B) Rs.20000/-
C) Rs.25000/-
D) Rs.31000/-

198. What is the profit amount, if the i - phone cost price is Rs.50000/- and selling price is Rs.70000/-?

A) Rs. 20000/-
B) Rs. 10000/-
C) Rs. 50000/-
D) Rs. 2000/-

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

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

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

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

201. Which alloy used in electric lamp as filament?

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

202. 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) 10.0 cm³ B) 10.6 cm³
C) 13.6 cm³ D) 136 cm³

203. What is the interest earned, if the principal is Rs.12000/- becomes to an amount of Rs.15600/-?

A) Rs.5600 B) Rs.3600
C) Rs.4600 D) Rs.2600

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

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

205. Which is equal to (a^m)ⁿ?

A) a^{m-n} B) a^{m+n}
C) a^{mn} D) a^{m/n}

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

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

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

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

208. What is the formula for potential energy?

A) 2/3 mgh joule B) mgh joule
C) mgh² joule D) 1/2 mgh joule

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

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

210. What is the equivalent pascal value for 1 bar?

A) 109 pascal B) 107 pascal
C) 105 pascal D) 103 pascal

211. What is the angle of elevation of the top of a light house of 15 m height seen at a point 15 m away from the base?

A) 45 Degree B) 90 Degree
C) 30 Degree D) 60 Degree

212. What is the value of 14x+3y+25x+2y?

A) 44xy B) 16x + 28y
C) 17x + 27y D) 39x + 5y

213. How the years is denoted in simple interest calculations?

A) n B) I
C) r D) P

214. What is the value of x³+3y²x² if x=3, y=2?

A) 54 B) 135
C) 63 D) 81

215. Which IE rules are to be verified on completion of wiring on any new installation?

A) IE Rules, 1967 B) IE Rules, 1960
C) IE Rules, 1961 D) IE Rules, 1956

216. What is the radius of the semicircle, if the circumference of the semicircle is 28.26 cm?

A) 8.75 cm B) 5.49 cm
C) 6.49 cm D) 8.5 cm

217. What is the area of the sector, whose diameter is 40 mm and angle is 120 Degree?

A) 415.5 mm² B) 418.66 mm²
C) 400.50 mm² D) 416.6 mm²

218. Which kind of heat transmission takes places by upward flow?

A) Convection B) Reflection
C) Radiation D) Conduction

219. Which is thermo plastic material?

A) Nylon B) Neoprene
C) Butyl rubber D) Vinyl polymers

220. Which of the impurity in cast iron makes it hard and brittle?

A) Silicon
B) Manganese
C) Sulphur
D) Phosphorus

221. What is equal to cos θ?

A) Opposite side/Hypotenuse
B) Hypotenuse/Opposite Side
C) Adjacent Side/Hypotenuse
D) Hypotenuse/Adjacent Side

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

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

223. What is the tensile strain if a force of 3.2 KN is applied to a bar of original length 2800 mm extends the bar by 0.5 mm?

A) 0.0001968
B) 0.0001786
C) 0.0001687
D) 0.0001867

224. What is the centre of gravity of a rectangular body?

A) Longer side of rectangle
B) At the corners
C) At the point of intersection of its diagonals
D) Shorter side of rectangle

225. What is the name of fixed or supporting point of a lever?

A) Mechanical advantage
B) Effort
C) Fulcrum
D) Load

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

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

227. What is the value of ab if (a+b)²=36 (a-b)²=24?

A) 6
B) 3
C) 4
D) 2

228. What is the total cost of painting of a class room including ceiling, if the size of length is 6m, breadth is 5m and height is 4m. (Painting + labour cost Rs.150/- per sq.m)

A) Rs.16700/-
B) Rs.15000/-
C) Rs.18700/-
D) Rs.17700/-

229. What is the value of 1 / a⁻⁵?

A) 5a
B) a⁻⁵
C) a⁵
D) (-5a)

230. 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) 14 metre/sec²
B) 8 metre/sec²
C) 12 metre/sec²
D) 10 metre/sec²

231. What is the density of aluminium?

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

232. What is a profit?

A) Cost price + Selling price
B) Selling price + Cost price
C) Cost price - Selling price
D) Selling price - Cost price

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

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

234. What is equal to tan θ?

A) Adjacent side/Opposite side
B) Opposite Side/Hypotenuse
C) Opposite Side/Adjacent Side
D) Adjacent Side/Hypotenuse

235. What is denoted as 'I'?

A) Year
B) Rate
C) Interest
D) Principal

236. What cables are used for 132KV lines?

A) Extra high tension
B) Super tension
C) High tension
D) Extra super voltage

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

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

238. Calculate the amount of heat required to raise the temperature of 85.5 gm of sand from 20 Degree C to 35 Degree C specific heat of sand = 0.1.

A) 125.28 Joules
B) 128.25 Joules
C) 126.28 Joules
D) 128.26 Joules

239. Which order lever is claw hammer?

A) 2nd order lever
B) 1st order lever
C) 3rd order lever
D) Curved lever

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

A) Fundamental and derived
B) Metric and International

C) British and Metric
D) Gravitational and non-gravitational

241. How much quantity of heat is required?
 m = 120 litres
 t1 = 20 Degree C
 t2 = 85 Degree C
 S = 4.2
 Q = _____ KJ

A) 32780 KJ
B) 32770 KJ
C) 32760 KJ
D) 32750 KJ

242. 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) 32 km/hour
B) 30 km/hour
C) 36 km/hour
D) 34 km/hour

243. What is the ratio of ultimate load to area of original cross section?

A) Ultimate stress
B) Youngs modulus
C) Factor of safety
D) Yield point

244. Convert decimal 0.000659 to fraction?

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

245. Which metal cannot be forged?

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

246. What is the length of arc of a sector, whose perimeter is 64.8cm and radius is 12.4 cm?

A) 40.8 cm
B) 42 cm
C) 45 cm
D) 40 cm

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

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

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

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

249. Which heat treatment process is done to refine the grain structure of the steel?

A) Normalising
B) Annealing
C) Tempering
D) Hardening

250. What is the value of 12x³y² / 4x²y?

A) 8xy
B) (-3xy)
C) 16xy
D) 3xy

251. What are fundamental units?

A) Length, Mass, Volume
B) Length, Pressure, Volume
C) Length, Mass, Area
D) Length, Mass, Time

252. Which one is non-metal?

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

253. What does EMF stands for?

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

254. 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

255. What is a total cost?

A) Raw materials cost and machining cost
B) Raw material cost only
C) Machining cost only
D) Advertisement cost only

256. Which one of the following is not a property of heat insulating material?

A) Less moisture absorption
B) Ductility
C) Low conductivity
D) Resistance to fire

257. Which specification is other than general specification?

A) Detailed specification
B) Bulk specification
C) Brief specification
D) Main specification

258. What is the formula for acceleration?

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

259. Which is equal to electric power?

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

260. How much quantity of heat is required to raise the temperature of 300 grams of copper (sp.heat 0.092 cal/gram) from 25 Degree C to 75 Degree C in Kcal?

A) 138 Kcal
B) 2.07 Kcal
C) 207 Kcal
D) 1.38 Kcal

261. Which process steel is heated in a carbonaceous atmosphere for the penetration of carbon?

A) Carburising
B) Nitriding
C) Induction hardening
D) Case hardening

262. Convert - 273 Degree C (Centigrade) into kelvin scale?

A) 3 Degree K
B) 0 Degree K
C) 1 Degree K
D) 2 Degree K

263. What percentage of 80 is 20?

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

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

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

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

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

266. Which is the example for statically induced emf?

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

267. Which one is a poor heat insulator?

A) Saw dust
B) Cork
C) Glass
D) Rubber

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

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

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

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

270. What is the main factor to be considered while preparing a detailed estimate?

A) Location of material
B) Shape of material
C) Brand of the materials
D) Quantity, availability and transportation of materials

271. Which force acts on rivets?

A) Compressive force
B) Tensile force
C) Shear force
D) Bending force

272. 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) Hooke's law
B) Lenz's law
C) Newton's law
D) Ohm's law

273. 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) 3720 Joules
B) 3730 Joules
C) 3750 Joules
D) 3740 Joules

274. What is the centre of gravity of a solid hemisphere from its base?

A) 3r/4
B) 3r/8
C) r/2
D) 4r/5

275. What is the youngs modulus if a wire of 2m long, 0.8 mm2 in cross section increases its length by 1.6 mm on suspension of 8 kg weight from it?

A) 12500 kg/mm²
B) 1.25 kg/mm²
C) 12.5 kg /mm²
D) 125 kg/mm²

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

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

277. What is the name of the region of a circle between any two point on the circumference?

A) Arc
B) Chord
C) Segment
D) Sector

278. What is the formula to find Profit %?

A) ((Profit)/(S.P))x100
B) ((Profit)/(C.P))x100
C) ((S.P-C.P)/(Profit))x100
D) ((C.P)/(Profit))x100

279. 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) 6.9 g/cm³
B) 6.6 g/cm³
C) 7.2 g/cm³
D) 7.5 g/cm³

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

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

281. What is the radius of the circle if the angle of sector is 90 Degree and the area of the circle is 196

cm²?

A) 15 cm
B) 15.77 cm
C) 14.85 cm
D) 14.95 cm

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

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

283. What is the total labour charges for a particular wiring work completed in 2 days by one electrician and one helper.(Electrician @ ?800/day and helper @ Rs 400/day)

A) Rs. 1400
B) Rs. 2400
C) Rs. 2000
D) Rs. 3000

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

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

285. Which is brittle metal?

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

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

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

287. Which is the example for dynamicallly induced Emf?

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

288. What is the value of x if 11x+4=37?

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

289. What is the freezing point of water in kelvin scale (K)?

A) 313 Degree K
B) 373 Degree K
C) 273 Degree K
D) 303 Degree K

290. Which insulator is used in over head lines?

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

291. Which state of equilibrium's example is A cone resting on its tip?

A) Neutral
B) Stable
C) Horizontal
D) Unstable

292. What is the mechanical advantage, if a load of 1000 kg is lifted by a simple machine and effort applied is 250 kg?

A) 6
B) 4
C) 8
D) 3

293. What is the other term of pocket reference in engineering works?

A) Hand tool
B) New book
C) Hand book
D) Good book

294. Which type of heat transmission takes place through physical contact?

A) Conduction
B) Radiation
C) Reflection
D) Convection

295. What is the centre of gravity of a rectangular body?

A) Longer side of rectangle
B) At the point of intersection of its diagonals
C) Shorter side of rectangle
D) At the corners

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

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

297. 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) 160 rpm
B) 140 rpm
C) 120 rpm
D) 180 rpm

298. What is called for the materials that restricts heat flow by radiation, conduction and convection?

A) Non-ferrous
B) Conductors
C) Insulators
D) Ferrous

299. What is the area of the circle if the radius is 10 cm?

A) 3.14 cm²
B) 314 cm²
C) 31.4 cm²
D) 30.4 cm²

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

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

301. What is the specific heat of the material if we require 510 calories to raise the temperature of 170 gm of material from 50 Degree C to 80 Degree C?

A) 0.01
B) 0.1
C) 1.11
D) 1.1

302. What is the value of adding (5x+2y), (4x - 7z) and (15z - 3y)?

A) 9x + y - 8z
B) 9x - y + 8z
C) x + 9y + 8z
D) x - 9y + 8z

303. Which is the unit electrical power?

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

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

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

305. What is the maximum temperature that can be measured by mercury thermometer?

A) 100 Degree C
B) 300 Degree C
C) 200 Degree C
D) 400 Degree C

306. Which is the expansion of a³ + b³?

A) a³ - b³ + 3ab (a-b)
B) (a+b) (a² + b² - ab)
C) (a-b) (a² + b² - ab)
D) a³ + b³ + 3ab (a+b)

307. What is the square root of decimal number 550.37?

A) 23.46
B) 21.26
C) 22.26
D) 22.46

308. What is the cost price (C.P) formula if there is a profit?

A) ((100+Profit %)/(100))xC.P
B) ((100)/(100+Profit %))xS.P
C) ((100)/(100-Loss %))xS.P
D) ((100-Loss %)/(100))xC.P

309. What is the circumference of a circle whose diameter is 7 cm?

A) 44 cm
B) 21 cm
C) 22 cm
D) 25 cm

310. What percentage of water absorbed by a good building stone?

A) Less than 5%
B) Less than 10%
C) Less than 8%
D) Less than 20%

311. Which insulating material is most widely used in refrigerators?

A) Cork sheet
B) Thermocole
C) Polyurethane
D) Glass wool

312. What is the weight of the iron ball has volume of 250 cc and density 7.5 gm/cc?

A) 1875 gram
B) 1975 gram
C) 1785 gram
D) 1750 gram

313. What is the value of (6³) / ((-3)³) ?

A) (-8)
B) 27
C) (-27)
D) 8

314. What is the centre of gravity of a right circular cone from its base?

A) h/3
B) h/4
C) h/5
D) h/2

315. How much load is lifted if an effort of 25 kg is applied to a simple machine having velocity ratio of 4 and efficiency 75%?

A) 65 kg
B) 75 kg
C) 70 kg
D) 80 kg

316. What is the diameter of the circle, if the area of the circle is 78.5cm²?

A) 5 cm
B) 5.5 cm
C) 10 cm
D) 15 cm

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

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

318. What is the ratio of force (or) thrust per unit area?

A) Pressure
B) Energy
C) Work
D) Power

319. What is the value of a²+b² if a+b=9 and ab = 20?

A) (-121)
B) 121
C) 41
D) (-41)

320. What is the purpose of tempering a steel?

A) To reduce the brittleness
B) To increase the brittleness
C) To remove the ductility
D) To increase the hardness

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

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

322. Which type heat is the heat absorbed or given off by a substance without changing its physical state?

A) Latent heat of steam
B) Specific heat
C) Sensible heat
D) Latent heat

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

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

324. How many watts for 1 horse power in British system?

A) 746 watts
B) 726 watts
C) 736 watts
D) 756 watts

325. What is the profit % if the cost price of 16 bolts is equal to the selling price of 12 bolts?

A) 23.33
B) 43.33
C) 33.33
D) 13.33

326. What is the use of engineering drawing?

A) For colourful appearance
B) For reducing the cost
C) For estimation of material and execution of work
D) For increasing the cost

327. How much strain is developed in an iron rod of 1 metre length gets elongated by 1 cm, if a force of 100 kg is applied at one end?

A) 0.1
B) 0.001
C) 0.0001
D) 0.01

328. What is the diameter of the circle, if the circumference is 31.4 cm?

A) 10 cm
B) 8.5 cm
C) 5 cm
D) 8 cm

329. What is the ore of aluminium?

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

330. What is the melting point of mercury?

A) -7.1 Degree C
B) -357 Degree C
C) -38.72 Degree C
D) -209 Degree C

331. What is term called for 3 x linear expansion?

A) Co-efficient of superficial expansion
B) Co-efficient of friction
C) Co-efficient of linear expansion
D) Co-efficient of cubical expansion

332. What is the S.I unit of heat?

A) Calorie
B) Joule
C) Centigrade heat unit
D) British thermal unit

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

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

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

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

335. 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) 2.166
C) 3.166
D) 6.166

336. What is the ratio between the distance moved by the effort to the distance moved by the load?

A) Velocity ratio
B) Mechanical advantage
C) Fulcrum
D) Efficiency

337. Which one is included in machining estimation sheet?

A) Tax
B) Raw material cost
C) Transport cost
D) Advertisement cost

338. What is the name of the heat treatment process, where the metal is heated and quenched in water or oil?

A) Tempering
B) Annealing
C) Hardening
D) Normalising and Tempering

339. What is the radius of a circle whose diameter is 44 cm?

A) 22 cm
B) 23 cm
C) 44 cm
D) 20 cm

340. What is the name of the structure formed, if a steel is heated for about 723 Degree C?

A) Martensite
B) Cementide
C) Ferrite
D) Austenite

341. Which one has the highest thermal conductivity?

A) Water
B) Solid ice
C) Steam
D) Melting ice

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

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

343. 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) 8 grams
B) 6 grams
C) 7 grams
D) 9 grams

344. What is the melting point of aluminium?

A) 620 Degree C
B) 680 Degree C
C) 660 Degree C
D) 670 Degree C

345. Which process produce equilibrium conditions?

A) Annealing and Normalising
B) Normalising and Tempering
C) Normalising and Tempering
D) Annealing and Hardening

346. Divide (20/31)/(15/62)

A) 2(3/2)
B) 2(1/3)
C) 2(2/3)
D) 2(4/3)

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

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

348. 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) 20.89 cm²
C) 20.93 cm²
D) 20.39 cm²

349. What is the efficiency of a simple screw jack having velocity ratio is 314.2 and mechanical advantage is 220?

A) 0.65
B) 0.75
C) 0.6
D) 0.7

350. Which is the formula for a^m/ aⁿ

A) (a^m)ⁿ
B) a^{m-n}
C) a^{mxn}
D) a^{m+n}

351. Which state of equilibrium's example is, A cone resting on its base?

A) Neutral
B) Stable
C) Bothe A and B
D) Un-stable

352. What is the expanded form of (a+b)²?

A) a² + 2ab - b²
B) a² - 2ab + b²
C) (-a² - 2ab + b²)
D) a² + 2ab + b²

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

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

354. What is the work done in unit time?

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

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

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

356. What is the unit for velocity?

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

357. What is the minimum permissible size of aluminium wire used in estimation?

A) 5 sq.mm
B) 3.5 sq.mm
C) 1.5 sq.mm
D) 2.5 sq.mm

358. What is an over estimate?

A) No work started as per estimate
B) When an estimate is fell short of the actual estimate
C) When an estimate perfectly matches the actual estimate
D) When an estimate is exceeded to actual estimate

359. How much watt second in 1 watt hour?

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

360. 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) 73.23 cm³
B) 73.53 cm³
C) 73.33 cm³
D) 73.43 cm³

361. How many degrees is equal to one radian?

A) (Pi)/(180)
B) (360)/(Pi)
C) (Pi)/(360)
D) (180)/(Pi)

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

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

363. Which one is the radiation method of heat transmission?

A) On heating gases, heat transmitted to surroundings
B) An iron rod is heated with one of its end and heat transmitted to other end

C) Cold water goes to the bottom from top while on heating the water
D) The heat from sun travels through the space

364. Which authority publishes schedule of rates?

A) Corporate
B) Government department
C) Partnership firm
D) Individual

365. What is the value of 'X' if x - y = 6 and x + y = 8?

A) 14
B) 6
C) 5
D) 7

366. What is the compounded amount, if the principal of Rs.30000/- and interest earned at 7% per annum is Rs.4347?

A) Rs.32347/-
B) Rs.34347/-
C) Rs.33347/-
D) Rs.30347/-

367. What is the square root of 529?

A) 23
B) 43
C) 12
D) 33

368. What is the ratio between the change in dimension to its original dimension of the substance?

A) Poisson's ratio
B) Stress
C) Strain
D) Factor of safety

369. What is the formula for kinetic energy?

A) (2/3) mv² joule
B) (2/3) mv joule
C) (1/2) mv joule
D) (1/2) mv² joule

370. At what temperature will Fahrenheit and centigrade thermometers give the same reading?

A) -41 Degree C
B) -38 Degree C
C) -39 Degree C
D) -40 Degree C

371. What is the formula to find selling price (S.P) if there is a loss?

A) ((100)/(100-Loss %))xS.P
B) ((100-Loss %)/(100))xC.P
C) ((100+Profit %)/(100))xC.P
D) ((100)/(100+Profit %))xS.P

372. How many ergs for 1 Joule?

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

373. Which is the unit of current?

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

374. What is velocity of a body travels a distance of 168 metres in a line in 21 seconds?

A) 6 m/sec
B) 8 m/sec
C) 12 m/sec
D) 10 m/sec

375. What is the formual for induced emf?

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

376. 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) 95.8 ohms
C) 94.8 ohms
D) 96.8 ohms

377. Which is expanded form of a³-b³?

A) (a-b) (a² - b²+ ab)
B) (a-b) (a² - b² - ab)
C) (a-b) (a² + b² + ab)
D) (a+b) (a² - b²- ab)

378. 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

379. What is the boiling point of water?

A) 0 Degree C
B) 32 Degree C
C) 212 Degree C
D) 100 Degree C

380. What is the distance of the load from the fulcrum called?

A) Power arm
B) Load arm
C) Effort arm
D) Effort

381. What is the value of 625⁰?

A) 25
B) 1
C) 0
D) 525

382. What is the simple interest for the principal amount of Rs.100000 at 10% per annum for 1 year period?

A) Rs.1000/-
B) Rs.50000/-
C) Rs.10000/-
D) Rs.5000/-

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

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

384. Which force acts on crank shaft?

A) Compressive stress
B) Tensile stress
C) Shear stress
D) Torsional stress

385. Which is very good conductor?

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

386. What is the term used for maximum stress attained by a material before rupture?

A) Ultimate stress
B) Tensile stress
C) Working stress
D) Compressive stress

387. Which standard schedule of rates to be considered for estimation?

A) Standard schedule of rates of the current year
B) Standard schedule of rates of the average of the last 10 years
C) Standard schedule of rates of the last year
D) Standard schedule of rates of the average of last 5 years

388. What is the selling price if the cost price is Rs.7282/- with a profit of Rs.208?

A) Rs.7490
B) Rs.7074
C) Rs.7290
D) Rs.7698

389. What is the value in degree centigrade for 20 Degree F?

A) -6.57 Degree C
B) -6.47 Degree C
C) -6.37 Degree C
D) -6.67 Degree C

390. What is the value of x, if 3 (2x - 4) = -4x + 28 ?

A) 8
B) 12
C) 4
D) 6

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

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

392. What is the unit of strain?

A) No unit
B) Metre
C) Newton/metre²
D) Kg/cm²

393. What is the total cost of Air-conditioners installed in a college, 40 class room-each 1 Air-conditioner, Computer lab 5 Air- conditioners and conference hall 5 Air-conditioners (Cost of one air conditioner Rs.30000/- including installation)?

A) Rs. 15 lakhs
B) Rs. 12 lakhs
C) Rs.10 lakhs
D) Rs. 20 lakhs

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

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

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

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

396. What is the term, for the details of materials, brand name, grade of quality, rating of current and voltage etc.?

A) Specification of materials
B) Price catalogue
C) Drawing
D) Raw materials

397. What is the SI unit of pressure?

A) Newton
B) Pascal
C) Bar
D) Joule

398. Which is example for first order lever?

A) A pair of scissors
B) Fire tongs
C) A wheel barrow
D) Lime squeezer

399. What is the ratio between ultimate stress to working stress?

A) Young's modulus
B) Factor of safety
C) Bulk modulus
D) Modulus of rigidity

400. What is the improper fraction for the given mixed fraction ? 7 x (3/7)

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

401. What is discount?

A) Selling price + discount
B) The reduction given to the selling price of a product
C) Selling price is less than Cost price
D) Selling price is greater than Cost price

402. 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 x 104 kg meter
B) 12 x 106 kg meter
C) 12 x 107 kg meter
D) 12 x 105 kg meter

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

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

404. What is the centre of gravity of a semi circle of diameter 12 cm?

A) 3.25 cm
B) 2.24 cm
C) 2.75 cm
D) 2.54 cm

405. What is the radius of the circle, whose circumference is 440 cm?

A) 70.5 cm
B) 70 cm
C) 72.2 cm
D) 71.5 cm

406. What is the value of 5x⁴ / 5x³ ?

A) 5x²
B) 5x
C) 5x⁴/³
D) x

407. What is the term, if an article is purchased?

A) Selling price
B) Margin price
C) Discount price
D) Cost price

408. What is the centre of gravity of a sphere?

A) At the centre
B) At the diameter
C) On the circumference
D) At the radius

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

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

410. What is the total estimation cost for making the component of 8 drilled hole dia 10 mm and 4 Numbers of M6 taps in the plate, if Rs.8/- per drilled holes and Rs.12 per drill and tap?

A) Rs.100
B) Rs.102
C) Rs.110
D) Rs.112

411. What is the formula for bulk modulus?

A) Volumetric stress/Volumetric strain
B) Shear stress/Shear strain
C) Tensile stress/Tensile strain
D) Compressive stress/Compressive strain

412. What is the diameter of the circle, if the area of the circle is 706.5cm²?

A) 29 cm
B) 30 cm
C) 29.5 cm
D) 30.5 cm

413. What metals contained in brass alloy?

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