1. A tunnel diode is
   (A) High resistivity p-n junction diode
   (B) A slow switching device
   (C) An amplifying device
   (D) A very heavily doped p-n junction diode

2. Which is NOT correct for oscillators.
   (A) Signals may be Sine wave
   (B) Signals may be Square wave
   (C) Signals may be Half Sine wave
   (D) Signals broadcast by radio transmitters are example of oscillator signals

3. The output of a logic gate is '1' when all its inputs are '0'. Then the gate is either
   (A) A NAND or an EX–OR Gate
   (B) A NOR or an EX–NOR Gate
   (C) An OR or an EX–NOR Gage
   (D) An AND or an EX–OR Gate

4. Lime mortar is generally made with
   (A) Quick lime
   (B) Fat lime
   (C) Hydraulic lime
   (D) White lime

5. The Modulus of Elasticity (E) of concrete as per IS 456:2000 is given by (notations are conventional)
   (A) $E = 1000\, f_{ck}$
   (B) $E = 5000\sqrt{f_{ck}}$
   (C) $E = 5500\sqrt{f_{ck}}$
   (D) $E = 10000\sqrt{f_{ck}}$

6. In paints, linseed oil is used as
   (A) a solidifier
   (B) a driver
   (C) a vehicle
   (D) a water-proofing base

7. A simply supported beam of span L and flexural rigidity EI, carries a unit point load at its centre. The strain energy in the beam due to bending is
   (A) $\dfrac{L^3}{48EI}$
   (B) $\dfrac{L^3}{192EI}$
   (C) $\dfrac{L^3}{96EI}$
   (D) $\dfrac{L^3}{16EI}$

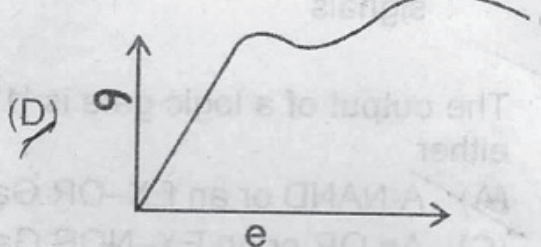**8.** In terms of bulk modulus (K) and modulus of rigidity (G), Poisson's ratio can be expressed as
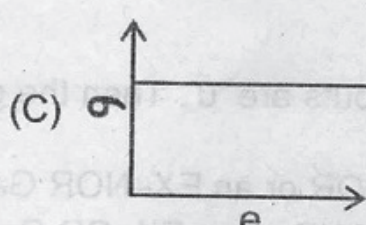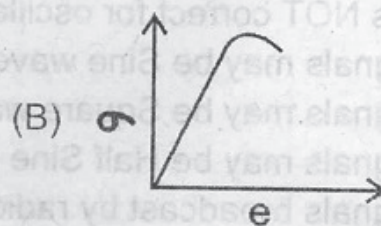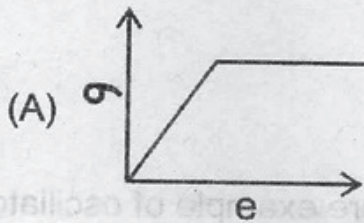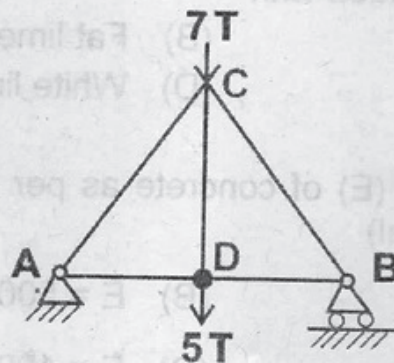
(A) $\dfrac{3K-4G}{6K-4G}$

(B) $\dfrac{3K+4G}{6K-4G}$

(C) $\dfrac{3K-2G}{6K+2G}$

(D) $\dfrac{3K+2G}{6K-2G}$

9. The stress – strain curve for an ideally plastic material is (conventional symbols)

(A)

(B)

(C)

(D)

10. What is the force in the vertical member CD of the pin – jointed frame shown below ?

(A) 12T (Tension)

(B) 2T (Compression)

(C) 7T (Compression)

(D) 5T (Tension)

11. In a situation where torsion is dominant, which one of the following is the desirable section ?

(A) Angle Section

(B) Channel Section

(C) I-Section

(D) Box-Type Section

12. Lateral ties in RCC columns are provided to resist
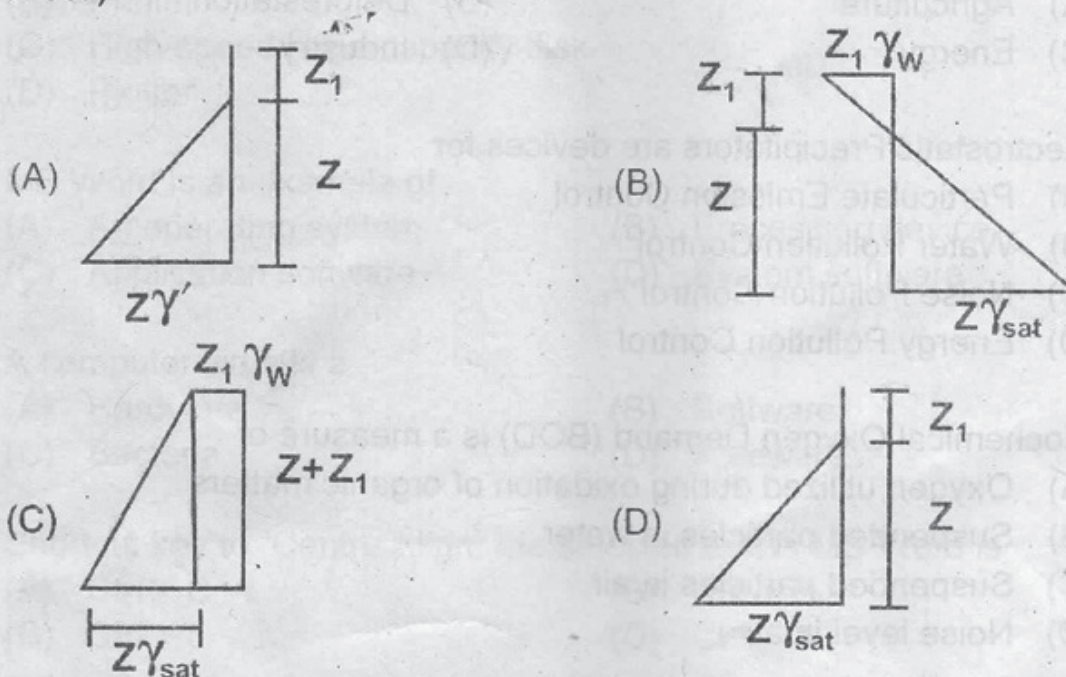
(A) Bending moment

(B) Shear

(C) Buckling of longitudinal steel base

(D) Both Bending moment and Shear

13. In a Cantilever beam carrying gravity load, main reinforcement to resist Bending moment is provided

    (A) above the Neutral Axis   (B) as vertical stirrups

    (C) as a helical reinforcement   (D) below the Neutral Axis

14. In fluid flow, the line of constant piezometric head passes through two points which have the same

    (A) Elevation   (B) Pressure

    (C) Velocity   (D) Velocity potential

15. A 30m metric chain is found to be 0.1m too short throughout the measurement. If the distance measured is recorded as 300m, then the actual distance measured will be

    (A) 300.1 m   (B) 301.0 m

    (C) 299 m   (D) 310 m

16. Which one of the following methods of levelling eliminates the error due to curvature and refraction ?

    (A) Fly levelling

    (B) Levelling by equalizing the distances of backsight and foresight

    (C) Check levelling

    (D) Precise levelling

17. Which one of the following diagrams represents the effective pressure distribution for a saturated soil mass of depth 'Z' submerged under water of height 'Z$_1$' above its top level.

(γ_{sat} = sat. density of soil, γ_w = unit wt. of water, γ' = submerged density of soil)

18. Illumination is measured using which one of the following.
    - (A) Millivoltmeter
    - (B) Stroboscope
    - (C) Lux meter
    - (D) pH meter

19. Alternating Current can be measured by
    - (A) Moving iron repulsion type voltmeter
    - (B) Permanent Magnet type Ammeter
    - (C) Electronic Voltmeter
    - (D) Induction Ammeter

20. Wheatstone bridge is used to measure
    - (A) Low values of current and high values of current
    - (B) High values of current
    - (C) Low values of voltage
    - (D) Resistance values

21. Meggar is an instrument to measure
    - (A) Q of a coil
    - (B) Inductance of a coil
    - (C) very low resistance
    - (D) Insulation Resistance

22. A multimeter consists of
    - (A) Current and Ohm meter
    - (B) Voltmeter and Ohm meter
    - (C) Voltmeter and Current meter
    - (D) Voltmeter, Current meter and Ohm meter

23. Major contributing activity towards Global Warming by Greenhouse gases is
    - (A) Agriculture
    - (B) Deforestation
    - (C) Energy
    - (D) Industry

24. Electrostatic Precipitators are devices for
    - (A) Particulate Emission Control
    - (B) Water Pollution Control
    - (C) Noise Pollution Control
    - (D) Energy Pollution Control

25. Biochemical Oxygen Demand (BOD) is a measure of
    - (A) Oxygen utilized during oxidation of organic matters
    - (B) Suspended particles in water
    - (C) Suspended particles in air
    - (D) Noise level in air

26. Biodegradable pollutants are
    (A) quickly degraded by natural means
    (B) can not be degraded
    (C) can be degraded by burning only
    (D) disposed in flowing water only

27. Which is NOT a cause of water pollution.
    (A) Bacteria
    (B) Inorganic chemicals
    (C) Oil spills from industry
    (D) high decibels of automobiles

28. In a computer, a compiler is
    (A) a program that places programs into memory and prepares them for execution
    (B) a program that automate the translation of assembly language into machine language
    (C) a program that accepts a program written in a high level language and produces an object program
    (D) a program that appears to execute a source program if it were machine language

29. The operating system of a computer serves as a software interface between the user and
    (A) hardware   (B) peripheral
    (C) memory   (D) Screen

30. Which of the following hardware components is the most important to the operation of database management system ?
    (A) High-resolution video display
    (B) Printer
    (C) High-speed large-capacity disk
    (D) Plotter

31. MS Word is an example of
    (A) An operating system   (B) Processing device
    (C) Application software   (D) System software

32. A computer virus is a
    (A) Hardware   (B) Software
    (C) Bacteria   (D) Freeware

33. Shortcut key to "Centre Align" the selected text in MS Word is
    (A) Ctrl + C   (B) Ctrl + E
    (C) Ctrl + F   (D) Ctrl + X

34. The software in computer that transfers the object program from secondary memory to the main memory is called
(A) Assembler (B) Loader
(C) Linker (D) Task builder

35. In a computer, the system identifies a file by its
(A) Name (B) Absolute Path
(C) File owner (D) Inode number

36. In a computer, Virtual Memory is
(A) an extremely large main memory
(B) an extremely large secondary memory
(C) an illusion of an extremely large memory
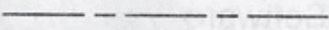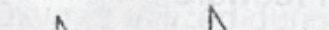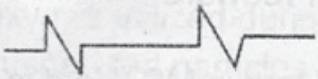(D) a type of memory used in super computers

37. In a computer, Disk scheduling involves deciding
(A) which disk should be accessed next
(B) the order in which disk access requests must be serviced
(C) the physical location where files should be accessed in the disk
(D) None of these

38. For Engineering Drawings, match the Col. X and Col. Y

Col. X (Type)		Col. Y (Use)	
P.	Large sized letters	1.	Sub-Titles
Q.	Medium sized letters	2.	Dimensions
R.	Small sized letters	3.	Main Titles

(A) P–3, Q–1, R–2 (B) P–2, Q–1, R–3
(C) P–3, Q–2, R–1 (D) P–2, Q–3, R–1

39. For drawing engineering curves, which is correct option (e = eccentricity)
(A) For Ellipse, e > 1 (B) For Parabola, e < 1
(C) For Hyperbola, e = 1 (D) For Parabola, e = 1

40. Match Col. X (Line Type) with Col. Y (Application)

Col. X		Col. Y	
P	— — — — — — — — — —	1.	Centre lines
Q	___ __ ___ __ ___	2.	Ground lines
R	_____	3.	Hidden edges
S	⌐\/⌐\/⌐	4.	Long break lines

(A) P – 2, Q – 1, R – 4, S – 3 (B) P – 3, Q – 1, R – 2, S – 4
(C) P – 4, Q – 3, R – 1, S – 2 (D) P – 2, Q – 1, R – 3, S – 4

41. Which statement is NOT correct in respect of Engineering Drawings.
   (A) Circular Features are Indicated by the centre lines
   (B) A visible line has precedence over a hidden line
   (C) The faces perpendicular to the direction of viewing are seen as edge views
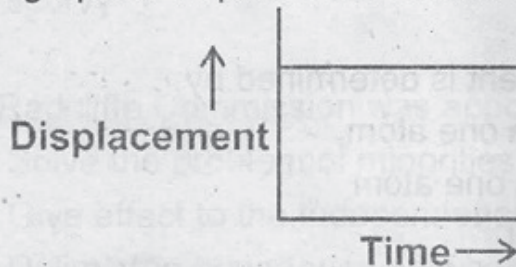   (D) In Isometric projection, an isometric scale is used

42. Select the correct option.
   The isometric projection of a circle is
   (A) Ellipse   (B) Parabola
   (C) Hyperbola   (D) Circle

43. Light Year is the unit of
   (A) time   (B) distance
   (C) speed of light   (D) intensity of light

44. In the graph of displacement versus time shown below, which is correct.

   Displacement ↑

   Time →

   (A) the body is at rest
   (B) the body has some initial speed
   (C) the body moves with constant speed
   (D) the body moves with constant velocity

45. A man is standing on a boat in still water. If he walks in the boat towards the shore, the boat will
   (A) move away from the shore   (B) remain stationary
   (C) move towards the shore   (D) Sink

46. Relative Humidity is the percentage of the
   (A) absolute humidity value to the amount of humidity actually present
   (B) increase of humidity/absolute humidity
   (C) amount of humidity actually present to the absolute humidity
   (D) None of these

47. With conventional symbols, the Lens formula is given by
   (A) $\dfrac{1}{v} - \dfrac{1}{u} = \dfrac{1}{f}$ (B) $\dfrac{1}{u} - \dfrac{1}{v} = \dfrac{1}{f}$

   (C) $\dfrac{1}{v} + \dfrac{1}{u} = \dfrac{1}{f}$ (D) $u + v = f$

57. Nephrons are connected with
    (A) Respiratory System   (B) Nervous System
    (C) Circulatory System   (D) Excretory System

58. Sight of delicious food usually makes mouth watery, it is a
    (A) Hormonal response   (B) Neural response
    (C) Optic response   (D) Olfactory response

59. Jaundice is a disease of
    (A) Kidney   (B) Pancreas
    (C) Liver   (D) Duodenum

60. Deficiency of Vitamin C causes
    (A) rickets   (B) beriberi
    (C) scurvy   (D) night blindness

61. The Radcliffe Commission was appointed to
    (A) Solve the problem of minorities in India
    (B) Give effect to the Independence Bill
    (C) Delimit the boundaries between India and Pakistan
    (D) Enquire into the riots in East Bengal

62. The Governor General of India at the time of foundation of Indian National Congress was ?
    (A) Lord Chelmsford   (B) Lord Dalhousie
    (C) Lord Dufferin   (D) Lord Canning

63. Who was the advocate at the famous trials of three INA Soldiers ?
    (A) Bhulabhai Desai   (B) Asaf Ali
    (C) Subhash Chandra Bose   (D) C. Rajagopalachari

64. The Consolidated Fund of India is a fund in which
    (A) All taxes except Income Tax collected by the Union as well as State Governments are deposited
    (B) All money received by or on behalf of the Government of India is deposited
    (C) The Union as well as State Governments make equal contribution to this fund
    (D) Savings of Union and State Governments are deposited

65. Which part of the Indian Constitution reflects the mind and ideals of the framers ?
   (A) Preamble
   (B) Fundamental Rights
   (C) Directive Principles
   (D) Emergency Provisions

66. How long can a Presidential Ordinance remain in force ?
   (A) One year
   (B) Two months
   (C) Till the President revokes it
   (D) Six months

67. The most effective farming method for returning minerals to the soil is
   (A) Contour ploughing
   (B) Terracing
   (C) Crop rotation
   (D) Furrowing

68. Winter rains in North-Western India are caused by
   (A) Western Disturbances
   (B) South West Monsoon
   (C) South Easterly Disturbances
   (D) Easterly Disturbances

69. Kaziranga National Park is in
   (A) Uttar Pradesh
   (B) Tamil Nadu
   (C) Assam
   (D) Kerala

70. The concept of joint sector implies cooperation between
   (A) Public Sector and Private Sector Industries
   (B) State Government and Central Government Enterprises
   (C) Domestic and Foreign Industries
   (D) Cooperation between two Government Departments

71. Which of the following is an apex financing agency for the institutions providing investment and production credit for promoting the various developmental activities in rural areas ?
   (A) RBI
   (B) NABARD
   (C) SIDBI
   (D) IMPEX

72. UNDP has aim
   (A) to provide technical assistance to stimulate economic and social development
   (B) to promote International Trade
   (C) to promote cooperation on Environmental Problems
   (D) to help establish Child Health and Welfare Services

73. UBER Cup is related to
    (A) International Badminton (Men)
    (B) International Volleyball (Men)
    (C) International Volleyball (Women)
    (D) International Badminton (Women)

74. Which Country of Africa which was highly affected by disease Ebola has been declared Ebola-free by WHO ?
    (A) Sierre Leone   (B) Liberia
    (C) Nigeria   (D) Guinea

75. India's First Bank exclusively for Women is
    (A) Mahila Kalyan Bank   (B) Bhartiya Mahila Bank
    (C) Bharti Bank   (D) SIDBI

76. First Sportsperson to be conferred with Award "Bhart Ratna"
    (A) Sachin Tendulkar   (B) Dhyan Chand
    (C) Balbir Singh   (D) Vijay Amritraj

77. Next Asian Games in 2018 shall be held in
    (A) Seoul   (B) Bangkok
    (C) Kualalumpur   (D) Jakarta

78. Who was recently sworn in as President of Afghanistan ?
    (A) Abdullah Abdullah   (B) Hamid Karzai
    (C) Ashraf Ghani   (D) B. Rabbani

79. Who among the following did not win a medal in Asian Games 2014 ?
    (A) Yogeshwar Dutt   (B) Sushil Kumar
    (C) Abhinav Bindra   (D) Jitu Rai

80. What among the following is planned to be developed under "Sansad Adarsh Gram Yojana" of Central Government.
    (A) Village   (B) Smart Cities
    (C) River Cleaning   (D) Roads

81. Popular TV programme "Satyamev Jyate" is anchored by
    (A) Salman Khan   (B) Akshay Kumar
    (C) Amitabh Bachchan   (D) Aamir Khan

82. What is common amongst Mahesh Bhupathi, Ivan Lendl, Roger Federer ?
(A) They are all Arjun Award winners
(B) They all International Tennis players
(C) They are all Social Activists
(D) They are all Asian Games medal winners

83. Which of the following pairs was announced recently as Joint Noble Peace Prize winner.
(A) Kailash Satyarthi and Malala
(B) Amartya Sen and Benazir
(C) Morkel and Hosni Mubarak
(D) Anwar Sadat and Begin

84. Who is called the Father of Hindi Theatre of India ?
(A) Raja Harish Chandra   (B) Dada Sahib Phalke
(C) Bhartendu Harishchandra   (D) Prithvi Raj Kapoor

85. Match Col. A (Dance type) and Col B (State).
    Col. A   **Col. B**
    P   Bihu   1.   Gujarat
    Q   Garba   2   U P
    R   Tamasha   3   Assam
    S   Nautanki   4   Maharashtra
    (A) P-4, Q-1, R-2, S-3   (B) P-3, Q-1, R-4, S-2
    (C) P-3, Q-1, R-2, S-4   (D) P-1, Q-4, R-2, S-3

86. What is the largest possible length of a scale that can be used to measure exactly the lengths 3 m, 5 m 10 cm and 12 m 90 cm ?
    (A) 10 cm   (B) 20 cm
    (C) 25 cm   (D) 30 cm

87. A student was asked to find answer by dividing a number by 3. But, instead of dividing it, he multiplied it by 3 and got 29.7. What was the correct answer ?
    (A) 3.3   (B) 9.3
    (C) 9.8   (D) 9.9

88. After measuring 120 metres of a rope, it was discovered that the metre rod was 3 cm longer. The true length of the rope measured is :
    (A) 116 m 40 cm   (B) 121 m 20 cm
    (C) 123 m   (D) 123 m 60 cm

89. A bag contains three types of coins i.e. one rupee coins, 50 paisa coins and 25 paisa coins totalling 175 coins. If the total value of the coins of each kind be the same, the total amount in the bag is
    (A) ₹75   (B) ₹126
    (C) ₹175   (D) ₹300

90. If $X = Y + \sqrt{\dfrac{4}{Z}}$ then Z = ?

   (A) $4(X^2 - Y^2)$

   (B) $\dfrac{4}{\sqrt{X^2 - Y^2}}$

   (C) $4(X - Y)^2$

   (D) $\dfrac{4}{(X-Y)^2}$

91. Solve $\sqrt[3]{0.000064}$ = ?
   (A) 0.4
   (B) 0.04
   (C) 0.004
   (D) 0.0004

92. The average age of 5 members of a committee is the same as it was 3 years ago, because an old member has been replaced by a new member. The difference between the ages of old and new member is
   (A) 12 years
   (B) 4 years
   (C) 8 years
   (D) 15 years

93. The product of two positive numbers is 2500. If one is four times the other, then the sum of two numbers is
   (A) 25
   (B) 125
   (C) 225
   (D) 250

94. A is 2 years older than B who is twice as old as C. If the total of the ages of A, B, C be 27 years, then how old is B ?
   (A) 9 years
   (B) 8 years
   (C) 10 years
   (D) 11 years

95. A bucket contains 2 litres more water when it is filled 80% in comparison when it is filled $66\dfrac{2}{3}$%. What is the capacity of the bucket ?
   (A) 10 litres
   (B) 15 litres
   (C) $66\dfrac{2}{3}$ litres
   (D) 20 litres

96. A dealer professing to sell his goods at cost price, uses 900 gm weight for 1 Kg. His gain percent is
   (A) 9%
   (B) 10%
   (C) 11%
   (D) $11\dfrac{1}{9}$%

97. The selling price of a table is $\dfrac{4}{3}$ times its cost price. The gain percent is
   (A) $20\dfrac{1}{3}$%
   (B) $20\dfrac{1}{2}$%
   (C) $25\dfrac{1}{4}$%
   (D) $33\dfrac{1}{3}$%

98. If A exceeds B by 40% and B is less than C by 20%, then A : C = ?
   (A) 3 : 1
   (B) 3 : 2
   (C) 26 : 25
   (D) 28 : 25

99. X, Y, Z started a business by investing ₹27000, ₹81000 and ₹72000 respectively. At the end of one year, Y's share of total profit was ₹36000. What was the total profit ?

(A) ₹108000

(B) ₹116000

(C) ₹80000

(D) ₹92000

100. To complete a work, P takes 50% more time than Q. If together they take 18 days to complete the work, how much time shall Q take to do it ?

(A) 30 days

(B) 35 days

(C) 40 days

(D) 45 days

101. Two pipes can fill a tank in 20 minutes and 30 minutes respectively. If both the pipes are opened simultaneously, then the tank will be filled in

(A) 10 minutes

(B) 12 minutes

(C) 15 minutes

(D) 25 minutes

102. A man completes 30 km of a journey at 6 km/hr and the remaining 40 km of the journey in 5 hours. His average speed for the whole journey is :

(A) $6\dfrac{4}{11}$ km/hr

(B) 7 km/hr

(C) $7\dfrac{1}{2}$ km/hr

(D) 8 km/hr

103. A train with a speed of 60 kmph crosses a pole in 30 seconds. The length of the train is

(A) 500 m

(B) 750 m

(C) 900 m

(D) 1000 m

104. Simple Interest on ₹500 for 4 years at 6.25% per annum is equal to the Simple Interest on ₹400 at 5% per annum for a certain period of time. The period of time is

(A) 4 years

(B) 5 years

(C) $6\dfrac{1}{4}$ years

(D) $8\dfrac{2}{3}$ years

105. A sum becomes ₹2916 in 2 years at 8% per annum compound interest. The sum is

(A) ₹2750

(B) ₹2500

(C) ₹2625

(D) ₹2560

106. A circle and a rectangle have the same perimeter. The sides of the rectangle are 18 cm and 26 cm. What is the area of the circle ?

(A) 88 cm²

(B) 154 cm²

(C) 616 cm²

(D) 1250 cm²

107. The height of a right circular cone is 84 cm and its base radius is 3.5 cm. Its volume is
(A) 3234 cm³
(B) 1078 cm³
(C) 2156 cm³
(D) 2496 cm³

108. If an angle is its own complementary angle, then its measure is
(A) 30°
(B) 45°
(C) 60°
(D) 90°

109. A kite is flying at a height of 75 m from the level ground, attached to a string inclined at 60° to the horizontal. The length of the string is
(A) $50\sqrt{2}$ m
(B) $50\sqrt{3}$ m
(C) $\dfrac{50}{\sqrt{2}}$ m
(D) $\dfrac{50}{\sqrt{3}}$ m

110. For given number series, select the option which shall replace ? to continue the pattern in series.
1, 4, 10, 22, 46, ?
(A) 64
(B) 86
(C) 94
(D) 122

111. Given below is a series of alphabets. Choose the option to replace ? to continue the series.
PMT, OOS, NQR, MSQ, ?
(A) LUP
(B) LVP
(C) LVR
(D) LWP

112. In given letter series, some of the letters are missing which are given in that order in options. Select the correct option.
_ bcc _ ac _ aabb _ ab _ cc
(A) aabca
(B) abaca
(C) bacab
(D) bcaca

Directions: (Question No. 113 and Question No. 114): Select the analogous option for given words.

113. Prism : Glass : : ?
(A) Shoes : Leather
(B) Shirt : Trousers
(C) Editor : Newspaper
(D) Sailor : Ship

114. Menu : Food : : Catalogue : ?
(A) Rack
(B) Newspaper
(C) Library
(D) Books

115. Select the odd word option.
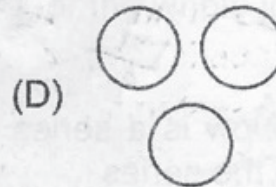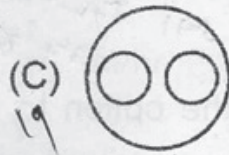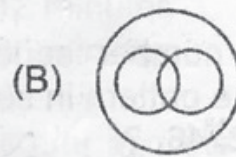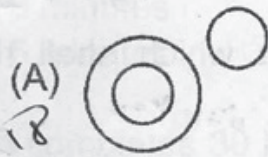(A) Gallon
(B) Ton
(C) Quintal
(D) Kilogram

116. A, B, C, D and E are five friends. A is shorter than B but taller than E. C is tallest. D is shorter than B and taller than A. Who has two persons taller and two persons shorter than him/her ?

(A) A
(B) B
(C) E
(D) D

117. You go North, turn right, then right again and then go to the left. In which direction are you now ?

(A) North
(B) South
(C) East
(D) West

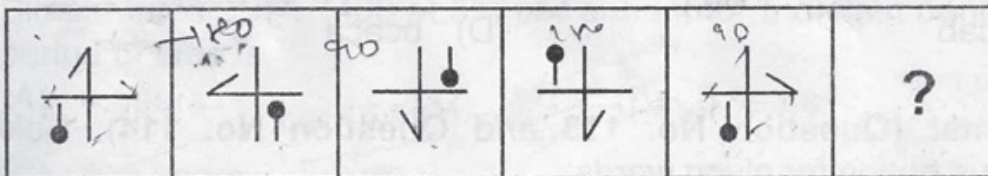**Directions: (Question No. 118 & Question No. 119):** Choose the option Diagram for given set of words.
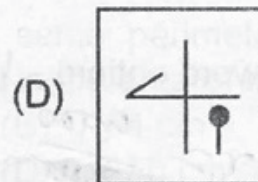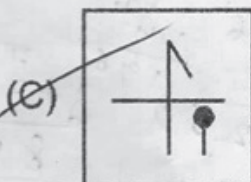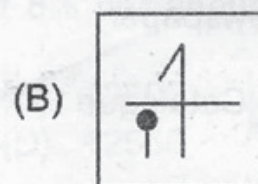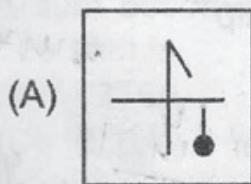
(A)
(B)
(C)
(D)

118. Machine, Lathe, Mathematics

119. Mercury, Mars, Planets

120. Select the option which continues the pattern in given problem figures.

Problem Figures

Answer Figures

(A)
(B)
(C)
(D)

121. A closed thermodynamic system is one in which
    (A) There is no energy or mass transfer across the boundary
    (B) There is no mass transfer, but energy transfer exists
    (C) There is no energy transfer, but mass transfer exists
    (D) Both energy and mass transfer take place across the boundary, but mass transfer is controlled by valves

122. Pressure reaches a value of absolute zero
    (A) at a temperature of –273 K
    (B) under vacuum condition
    (C) at the earth's centre
    (D) when molecular momentum of system becomes zero

123. Zeroth Law of Thermodynamics states that
    (A) Two thermodynamic systems are always in thermal equilibrium with each other
    (B) If two systems are in thermal equilibrium, then the third system will also be in thermal equilibrium
    (C) Two systems not in thermal equilibrium with a third system will also not be in thermal equilibrium with each other
    (D) When two systems are in thermal equilibrium with a third system they are in thermal equilibrium with each other

124. Heat is mainly transferred by conduction, convection and radiation in
    (A) Insulated pipes carrying hot water
    (B) Refrigerator freezer coil
    (C) Boiler furnaces
    (D) Condensation of steam in a condenser

125. The discharge of Hydrocarbons from petrol automobile exhaust is minimum when the vehicle is
    (A) Idling   (B) Cruising
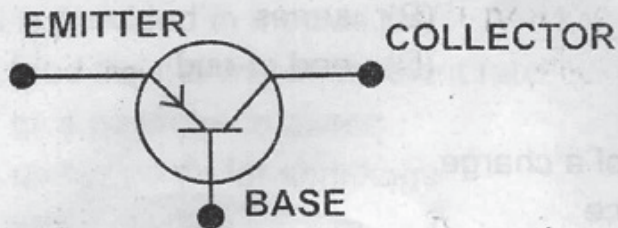   (C) Braking   (D) Decelerating

126. Which one of the following is an advantage of forging ?
    (A) Good Surface Finish   (B) Low tooling cost
    (C) Close tolerance   (D) Improved physical property

127. In a fillet welded joint, the weakest area of the weld is
    (A) Toe   (B) Root
    (C) Throat   (D) Face

128. Which one of the following is the correct statement ?
Gate is provided in moulds to
   (A) feed the casting at constant rate
   (B) give passage to gases
   (C) compensate for shrinkage
   (D) avoid cavities

129. Which of the following processes is the wiredrawing process ?
   (A) Compressive   (B) Tensile
   (C) Shear   (D) Hydrostatic stress

130. Heat transfer in liquids and gases is essentially due to
   (A) Conduction
   (B) Convection
   (C) Radiation
   (D) Conduction and Radiation put together

131. Stroke of an I.C. engine equals
   (A) half the crank radius   (B) the crank radius
   (C) twice the crank radius   (D) four times the crank radius

132. The main constituent of moulding sand is
   (A) Clay   (B) Silica
   (C) Alumina   (D) Iron Oxide

133. Seam Welding is
   (A) a continuous spot welding process
   (B) a multi-spot welding process
   (C) an arc welding process
   (D) a thermit welding process

134. Two transformers operating in parallel will share the load depending upon their
   (A) Ratings   (B) Leakage Reactance
   (C) Efficiency   (D) Per Unit Impedance

135. Flow of electrons in circuit constitutes
   (A) magnetic charge   (B) an e.m.f
   (C) an electric current (D) an electric charge

136. Bulbs in street lighting are all connected in
    (A) parallel
    (B) series
    (C) series parallel
    (D) end of end

137. The electric field strength of a charge
    (A) increases with distance
    (B) decreases with cube of distance
    (C) decreases with distance
    (D) decreases with square of distance

138. Which of the following is the unit of magnetic flux.
    (A) tesla
    (B) coulomb
    (C) weber
    (D) ampere-turn

139. The hysteresis loss in a given magnetic material may be decreased by
    (A) laminating it
    (B) increasing flux density through it
    (C) increasing frequency of reversal of magnetisation
    (D) decreasing maximum flux density established through it

140. Vacuum is considered as
    (A) Non-magnetic material
    (B) Diamagnetic material
    (C) Paramagnetic material
    (D) Ferromagnetic material

141. Bakelite is a/an
    (A) insulator
    (B) semiconductor
    (C) high resistance conductor
    (D) Low resistance conductor

142. Losses which do not occur in transformer but do occur in rotating electric machine are
    (A) Copper losses
    (B) Magnetic losses
    (C) Friction and windage losses
    (D) Hysteresis and eddy current losses

143. In Fleming's Right Hand rule, the thumb points towards
    (A) direction of flux
    (B) direction of induced e.m.f.
    (C) direction of motion of conductor, if fore finger points along the lines of flux
    (D) direction of motion of the conductor if fore finger points in the direction of generated e.m.f.

144. Figure shown below represents a

(A) A power diode (B) Zener Diode
(C) NPN Transistor (D) PNP Transistor

145. An antenna is a device which
(A) Converts electric Power into radio waves or vice versa
(B) Converts a sound wave to a magnetic signal
(C) Converts a sound wave of one wavelength to other
(D) Converts an AC to DC

146. Which of the following can provide a digital signal ?
(A) Sine wave
(B) Square wave
(C) Gradual tuning of a potentiometer
(D) Slow change in the value of resistor

147. An inverter converts
(A) a DC power of low frequency to DC power of high frequency
(B) a DC to AC
(C) and AC of low frequency to an AC power of high frequency
(D) an AC to DC

148. Potentiometer is basically a
(A) Measuring instrument (B) Integrating instrument
(C) Calibrating instrument (D) Indicating instrument

149. An element whose atoms have three valance electrons, the example of such element is
(A) Silicon (B) Copper
(C) Germanium (D) Aluminium

150. A NOR gate is called Universal Logic Gate because
(A) It can be used without need of any other gate type
(B) It can be used only with AND gate universally
(C) It can be used only with OR gate universally
(D) It can be used only with NOT gate universally