71. After trying to convince him for a long time, I realized that he was one of those people who never listens to reason.
   (a) he was one of those people who never listen to reason.
   (b) he was one of those people who never listen to reasoning.
   (c) he is one of those people who never listens to reason.
   (d) he is one of those people who never listens to reason.

72. The number of children seeking admission to this college has risen sharply this year, even though it may be only temporarily.
   (a) even though the rise may be only temporary.
   (b) but it may be a temporary rise only.
   (c) but the rise may be only temporary.
   (d) but such a rise may only be a short lived one.

Directions (73–76) : Each of the following questions contains a small paragraph. Read the paragraph carefully and complete the sentence given below each.

73. The consumption of harmful drugs by the people can be prevented not only by banning their sale in the market but also by instructing users about their dangerous effects which they must understand for their safety. Also the drug addicts may be provided with proper medical facilities for their rehabilitation. This will help in scaling down the use of drugs.
   The passage best supports the statement that consumption of harmful drugs :
   (a) is on increase in the society.
   (b) is due to lack of medical facilities.
   (c) can always be reduced.
   (d) can be eliminated with the help of banning their sale.

74. The school has always been the most important means of transferring the wealth of tradition from one generation to the next. This applies today in an even higher degree than in former times for, through the modern development of economy, the family as bearer of tradition and education has become weakened.
   This passage best supports the statement that for transferring the wealth of tradition from one generation to the next :
   (a) there are means other than the school.
   (b) economic development plays a crucial role.
   (c) several different sources must be tried.
   (d) modern technology must be put to use.

75. One of the important humanitarian by-products of technology is the greater dignity and value that it imparts to human labour. In a highly industrialized society, there is no essential difference between Brahmin and Dalit, Muslim and Hindu; they are equally useful and hence equally valuable, for in the industrial society individual productivity fixes the size of the pay cheque and this fixes social status.
   The passage best supports the statement that :
   (a) technology decides individual's social status.
   (b) human labour has dignity and value.
   (c) castes and religions are man made.
   (d) all individuals, irrespective of caste and creed, are born equal.

76. There is a shift in our economy from a manufacturing to a service orientation. The increase in service-sector will require the managers to work more with people rather than with objects and things from the assembly line.
   This passage best supports the statement that :
   (a) managers should have a balanced mind.
   (b) interpersonal skills will become more important in the future work place.

(c) assembly line will exist in service organizations.
(d) manufacturing organizations ignore importance of people.

Directions (77–80) : In each of the questions below four sentences are given which are denoted by (A), (B), (C) and (D). By using all the four sentences you have to frame a meaningful paragraph. Choose the correct order of the sentences from the four alternatives.

77. (A) You would be very surprised indeed to find it hot.
   (B) Cold, of course.
   (C) And yet that was what I found when I visited North Island, the northern part of New Zealand.
   (D) When you go bathing in a river or a pond, do you expect the water to be hot or cold?
   (a) ACBD
   (b) CABD
   (c) ACDB
   (d) DBAC

78. (A) Because, if the manager's subordinates are inefficient and ineffective and are not helped to increase their efficiency and effectiveness, the task may not be achieved.
   (B) This must be just as true as the responsibility for achieving his prescribed tasks.
   (C) If it is achieved it is at too great a cost, or at the risk of other effects, many of which are less obvious.
   (D) It is often and that one of the prime responsibilities of a manager is the training and development of his staff.
   (a) ADBC
   (b) CABD
   (c) BDAC
   (d) DBAC

79. (A) Modern research, however, has proved that there were invaders even before the Aryans poured into this land.
   (B) It was thought that they came to a country which was uncivilized and barbarian.
   (C) They had evolved a civilization higher than that of the Aryan hordes who came in their wake.
   (D) Till recently the Aryans were regarded as the earliest invaders of the land.
   (a) ABCD   (b) BCAD
   (c) BDAC   (d) DBAC

80. (A) Organizations today are becoming increasingly populated by youthful, highly skilled, highly educated workers.
   (B) Two of the most prevalent and provocative organizational dynamics of our time are the themes of participation and change.
   (C) These demands for participation are creating pressures for internal organizational change which are matched only by external environmental pressures for organizational change.
   (D) These young, skilled and educated workers bring with them demands for a voice in the determination of their own organizational destiny—a chance to participate in those decisions which affect their organizational lives.
   (a) ABDC   (b) BADC
   (c) ABCD   (d) BCDA

81. There are 4 candidates for the post of a lecturer in Mathematics and one is to be selected by votes of 5 men. The number of ways in which the votes can be given is :
   (a) 1048   (b) 1072
   (c) 1024   (d) None of these

82. The number of ways in which 6 men and 5 women can dine at a round table if no two women are to sit together is given by :
(a) 6! × 5!
(b) 5! × 4!
(c) 30
(d) 7! × 5!

83. A student is to answer 10 out of 13 questions in an examination such that he must choose at least 4 from the first five questions. The number of choices available to him is :
(a) 140
(b) 280
(c) 196
(d) 346

84. A club consists of members whose ages are in A.P., the common difference being 3 months. If the youngest member of the club is just 7 years old and the sum of the ages of all the members is 250 years, then the number of members in the club are :
(a) 15
(b) 20
(c) 25
(d) 30

85. A metal cube of edge 12 cm is melted and formed into three smaller cubes. If the edges of two smaller cubes are 6 cm and 8 cm, find the edge of the third smaller cube.
(a) 10 cm
(b) 14 cm
(c) 12 cm
(d) 16 cm

86. A well has to be dug out that is to be 22·5m deep and of diameter 7 m. Find the cost of plastering the inner curved surface at Rs. 3 per sq. metre.
(a) Rs. 1465
(b) Rs. 1485
(c) Rs. 1475
(d) Rs. 1495

87. Water flows out through a circular pipe whose internal diameter is 2 cm, at the rate of 6 metres per second into a cylindrical tank, the radius of whose base is 60 cm. By how much will the level of water rise in 30 minutes?
(a) 2 m   (b) 4m
(c) 3 m   (d) 5 m

88. A ladder 15 m long reaches a window which is 9 m above the ground on one side of a street. Keeping its foot at the same point, the ladder is turned to the other side of the street to reach a window 12 m high. Find the width of the street.
(a) 19 m   (b) 21 m
(c) 20 m   (d) 22 m

89. The horizontal distance between two trees of different heights is 60 m. The angle of depression of the top of the first tree when seen from the top of the second tree is 45°. If the height of the second tree is 80 m, find the height of the first tree.
(a) 20 m   (b) 22 m
(c) 18 m   (d) 16 m

90. The number of ways in which a committee of 3 ladies and 4 gentlemen can be appointed from a meeting consisting of 8 ladies and 7 gentlemen, if Mrs. X refuses to serve in a committee if Mr. Y is its member, is :
(a) 1960   (b) 3240
(c) 1540   (d) None of these

91. An aeroplane flying at a height of 300 metres above the ground passes vertically above another plane at an instant when the angles of elevation of the two planes from the same point on the ground are 60° and 45°, respectively. Then the height of the lower plane from the ground, in metres, is :
(a) $100\sqrt{3}$
(b) 50
(c) $100/\sqrt{3}$
(d) $150(\sqrt{3+1})$

92. A person standing on the bank of a river observes that the angle of elevation of the top of a tree on the opposite bank of the river is 60° and when he retires 40 metres away from the tree the angle of elevation becomes 30°. The breadth of the river is :
(a) 40 m
(b) 20 m
(c) 30 m
(d) 60 m

93. A room has 3 lamps. From a collection of 10 light bulbs of which 6 are not good, a person selects 3 at random and puts them in a socket. The probability that he will have light, is :
(a) 5/6
(b) 1/2
(c) 1/6
(d) None of these

94. Out of 13 applicants for a job, there are 5 women and 8 men. It is desired to select 2 persons for the job. The probability that atleast one of the selected person will be a woman is :
(a) 25/39
(b) 5/13
(c) 14/39
(d) 10/13

95. The probability that a certain electronic component fails when first used is 0–10. If it does not fail immediately, the probability that it lasts for one year is 0·99. The probability that a new component will last for one year is :
(a) 0·891
(b) 0·92
(c) 0·692
(d) None of these

96. A circular grassy plot of land, 42 m in diameter, has a path 3·5 m wide running around it on the outside. The cost of gravelling the path at Rs. 4 per square metre is :
(a) Rs. 1002
(b) Rs. 3002
(c) Rs. 2002
(d) Rs. 1802

97. A plot of land in the form of a rectangle has a dimension 240 m × 180 m. A drainlet 10 m wide is dug all around it (on the outside) and the earth dug out is evenly spread over the plot, increasing its surface level by 25 cm. The depth of the drainlet is :
(a) 1·225 m
(b) 1·229 m
(c) 1·227 m
(d) 1·223 m

98. A rectangular tank is 225 m by 162 m at the base. With what speed must water flow into it through an aperture 60 cm by 45 cm that the level may be raised 20 cm in 5 hours?
(a) 5000 m/hr
(b) 5400 m/hr
(c) 5200 m/hr
(d) 5600 m/hr

99. An iron pipe 20 cm long has exterior diameter equal to 25 cm. If the thickness of the pipe is 1 cm, the whole surface of the pipe is :
   (a) 3068 cm^2
   (b) 3268 cm^2
   (c) 3168 cm^2
   (d) 3368 cm^2

100. At a point on level ground, the angel of elevation of a vertical tower is found to be such that its tangent is 5/12. On walking 192 metres towards the tower, the tangent of the angle of elevation is 3/4. The height of the tower is :
   (a) 160 m
   (b) 180 m
   (c) 170 m
   (d) 190 m

101. A man on the top of a vertical tower observes a car moving at a uniform speed coming directly towards it. If it takes 12 minutes for the angle of depression to change from 30° to 45°, how soon after this, will the car reach the tower?
   (a) 14 minutes 23 seconds
   (b) 16 minutes 23 seconds
   (c) 15 minutes 23 seconds
   (d) 17 minutes 23 seconds

102. A school has 4 sections of Chemistry in Class X having 40, 35, 45 and 42 students. The mean marks obtained in Chemistry test are 50, 60, 55 and 45 respectively for the 4 sections. Determine the overall average of marks per student.
   (a) 50·25
   (b) 52·25
   (c) 51·25
   (d) 53·25

103. The average score of boys in an examination of a school is 71 and that of girls is 73. The average score of the school in that examination is 71·8. Find the ratio of the number of boys to the number of girls that appeared in the examination.
   (a) 2 : 2
   (b) 4 : 2
   (c) 3 : 2
   (d) 1 : 2

104. Company C sells a line of 25 products with an average retail price of Rs. 1,200. If none of these products sells for less than Rs. 420 and exactly 10 of the products sell for less than Rs. 1,000, what is the greatest possible selling price of the most expensive products?
   (a) Rs. 2,600
   (b) Rs. 7,800
   (c) Rs. 3,900
   (d) Rs. 11,800

105. A sink contains exactly 12 litres of water. If water is drained from the sink until it holds exactly 6 litres of water less than the quantity drained away, how many litres of water were drained away?
   (a) 2
   (b) 6
   (c) 3
   (d) 9

106. A chemist has 10 litres of a solution that is 10 per cent nitric acid by volume. He wants to dilute the solution to 4 per cent strength by adding water. How many litres of water must be add?
   (a) 15
   (b) 20
   (c) 18
   (d) 25

107. A company received two shipments of ball bearings. In the first shipment, 1 per cent of the ball bearings were defective. In the second shipment, which was twice as large as the first, 4·5 per cent of the ball bearings were defective. If the company received a total of 100 defective ball bearings, how many ball bearings were there in the first shipment?
   (a) 990
   (b) 2,000
   (c) 1,000
   (d) 3,000

108. In a certain laboratory, chemicals are identified by a color coding system. These are 20 different chemicals. Each one is coded with either a single color or a unique two color pair. If the order of colors in the pairs doesn't matter, what is the minimum number of different colors needed to code all 20 chemicals with either a single color or a unique pair of colors?
   (a) 5
   (b) 7
   (c) 6
   (d) 20

109. Population of a district is 2,96,000 out of which 1,66,000 are males. 50% of the population is literate. If 70% males are literate, the number of women, who are literate, is ?
   (a) 32,200
   (b) 31,800
   (c) 66,400
   (d) 48,000

110. A train covers 180 km distance in 4 hours. Another train covers the same distance in 1 hour less. What is the difference in the distance covered by these trains in one hour?
   (a) 45 km
   (b) 9 km
   (c) 40 km
   (d) None of these

111. Speed of a speed-boat when moving in the direction perpendicular to the direction of the current is 16 km/hr, speed of the current is 3 km per hour. So the speed of the boat against the current will be (in km/hr) :
   (a) 22
   (b) 9·5
   (c) 10
   (d) None of these

112. R and S start walking towards each other at 10 A.M. at speeds of 3 km per hour and 4 km per hour respectively. They were initially 17·5 km apart. At what time do they meet?
   (a) 2 : 30 P.M.
   (b) 11 : 30 P.M.
   (c) 1 : 30 P.M.
   (d) 12 : 30 P.M.

113. A shopkeeper marks up his goods to gain 35%. But he allows 10% discount for cash payment. His profit on the cash transaction therefore, in percentage, is :
   (a) $13\frac{1}{2}$
   (b) 25
   (c) $21\frac{1}{2}$
   (d) $31\frac{1}{2}$

114. A can do 50% more work as B can do in the same time. B alone can do a piece of work in 20 hours. A, with the help of B, can finish the same work in how many hours?
   (a) 12
   (b) 8
   (c) $13\frac{1}{3}$
   (d) $5\frac{1}{2}$