QUANTITATIVE APTITUDE

51. Amit, sumit and Vinit divide an amount of ₹ 2,800 amongst themselves in the ratio of 5 : 6 : 3 respectively. If an amount of ₹ 200 is added to each of their shares, what will be the new ratio of their shares of the amount ?

(a) 8 : 9 : 6   (b) 6 : 7 : 4

(c) 7 : 8 : 5   (d) 4 : 5 : 2

(e) None of these

52. The average of four positive integers is 59. The highest integer is 83 and the lowest integer is 29. The difference between the remaining two integers is 28. Which of the following integers is the higher of the remaining two integers ?

(a) 48

(b) 76

(c) 81

(d) Cannot be determined

(e) None of these

53. If a shopkeeper marks the price of goods 50% more than their cost price and allows a discount of 30%, what is his gain or loss percent?

(a) Gain of 5%

(b) Gain of 10%

(c) Gain 20%

(d) Loss of 20%

(e) None of these

54. One man, 3 woman and 4 boys can do a piece of work in 96 hrs, 2 men and 8 Boys can do it in 80 hrs, 2 men and 3 women can do it in 120 hrs. 5 Men and 12 Boys can do it in?

(a) $39 \dfrac{1}{11}$ hrs   (b) $42 \dfrac{7}{11}$ hrs

(c) $43 \dfrac{7}{11}$ days   (d) 44 hrs

(e) None of these

55. A Man borrowed ₹ 24000 from two money lenders. For one loan, he paid 15% per annum and for other 18% per annum. At the end of one year, he paid ₹ 4050. How much did he borrowed at 18% rate?

(a) 14000   (b) 15000

(c) 18000   (d) 12000

(e) None of these

Directions (Q. 56 – 60): *In each of the following questions a number series is given. After the series a number is given followed by (a), (b), (c), (d) and (e). You have to complete the series starting with the given number, following the sequence of original series and*

56. 3   19   103   439   1381   2887
  5   (a)   (b)   (c)   (d)   (e)

What will come in place of (b)?

(a) 139　　　　　　(b) 163

(c) 161　　　　　　(d) 157

(e) None of these

57. 4   13   40   135   552   2765
  2   (a)   (b)   (c)   (d)   (e)

What will come in place of (c)?

(a) 123　　　　　　(b) 133

(c) 127　　　　　　(d) 131

(e) None of these

58. 5   12   4   10   3   8
  6 (a) (b) (c) (d) (e)

What will come in place of (d)?

(a) 3　　　　　　(b) 5

(c) 4　　　　　　(d) 7

(e) None of these

59. 3   13   37   87   191   401
  1   (a)   (b)   (c)   (d)   (e)

What will come in place of (d)?

(a) 169　　　　　　(b) 161

(c) 171　　　　　　(d) 159

(e) None of these

60. 8   4   6   15   52.5   236.25
  12   (a)   (b)   (c)   (d)   (e)

What will come in place of (c)?

(a) 1825

(b) 19

(c) 22.5

(d) 20.75

(e) None of these

61. The speed of a train A, 100m long is 40% more than the speed of another train B, 180m long running in opposite direction. To find out the speed of B, which of the information given in statements P and Q is sufficient

P : The two trains crossed each other in 6 seconds

Q : The difference between the speed of the trains is 26 kmph

(a) Only P is sufficient

(b) Only Q is sufficient

(c) Both P and Q are needed

(d) Both P and Q are not suficient

(e) None of these

62. What is the average weight of girls in the class?

I.   Average weight of all the 60 students is 42 kg.

II. Average weight of boys is 43 kg.

III. Total weight of all girls together is 1144 kg.

(a) Any two of three

(b) All I, II and III

(c) I and II only

(d) II and III only

(e) Question cannot be answered even with information in all three statements.

63. What is the selling price of the T.V. set if no discount is offered?

I. Profit earned was 20%

II. Had 10% discount been offered on selling price, the profit would have been ₹ 1,200.

III. Cost price is ₹ 15,000.

(a) Any two of the three

(b) Only I and II

(c) Only I and III

(d) Only II and III

(e) None of these

64. How many children are there in the class?

I.   20% children are there in the class?

II. 44 children can speak languages other than Hindi.

III. There are 30 boys in the class.

(a) All I, II and III

(b) Any two of the three

(c) II and either I or III

(d) I and II only

(e) None of these

65. What is the volume of the cylindrical tank?

I.   Area of the base is X square metres.

II. Height of the tank is Y metres.

III. Diameter of the base is equal to height of the tank.

(a) Only I and II

(b) Only II and III

(c) Only I and III

(d) All I, II and III

(e) Any two of the three

Directions (Q. 66 – 70) : *In each of these questions two equations numbered I and II are given. You have to solve both the equations and give answer.*

(a) if a < b

(b) if a > b

(c) if relationship between a and b cannot be established

(d) if a ≥ b

(e) if a ≤ b

66. I. $a^2 + 5a + 6 = 0$
II. $b^2 + 3b + 2 = 0$

67. I. $2a^2 + 3a + 1 = 0$
II. $12b^2 + 7b + 1 = 0$

68. I. $a^2 = 4$
II. $a^2 = 9$

69. I. $6a^2 - 25a + 25 = 0$
II. $15b^2 - 16b + 4 = 0$

70. I. $4a^2 - 20a + 21 = 0$
II. $2b^2 - 5b + 3 = 0$

Directions (Q. 71 – 75) : *Study the following table carefully to answer these questions :*

Percentage of marks obtained by six students in six different subjects

Student	Subject					
	P (70)	O (80)	R (120)	S (125)	T (75)	U (150)
A	68	84	77	72	64	82
B	49	79	62	85	56	76
C	56	81	68	60	58	68
D	75	85	82	68	72	78
E	70	66	65	76	77	83
F	72	70	79	68	68	71

Note : Figure in bracket below each subjects indicates the maximum marks allotted.

71. What is the average percentage of marks obtained by all students in subject T?

(a) 65.6
(b) 66.5
(c) 66.8
(d) 65.4
(e) None of these

72. Marks obtained by 'A' in subjects P, Q and R together are approximately. What percent of the marks obtained by F in subjects S, T and U together?

(a) 80
(b) 75
(c) 85
(d) 105
(e) 115

73. What is the overall percentage of marks obtained by 'B' in all the subjects together (rounded off to two digits after decimal)?

(a) 70.02
(b) 72.51
(c) 67.83
(d) 71.50
(e) None of these

74. What are the marks obtained by D in all the subjects together?

(a) 449.8
(b) 499.9
(c) 480
(d) 490

75. What are the average marks obtained out of 80 by all the six students together in subject 'Q?

(a) 68
(b) 77.5
(c) 88.57
(d) 62
(e) None of these

Directions (Q. 76 – 83) : *Study the following graph carefully to answer these questions.*

Percent Profit Earned by Two Companies Producing Electronic Goods over the Years

$$\% \text{ Profit} = \frac{\text{Profit Earned}}{\text{Total Investment}} \times 100$$

Profit Earned = Total Income – Total Investment in the Year
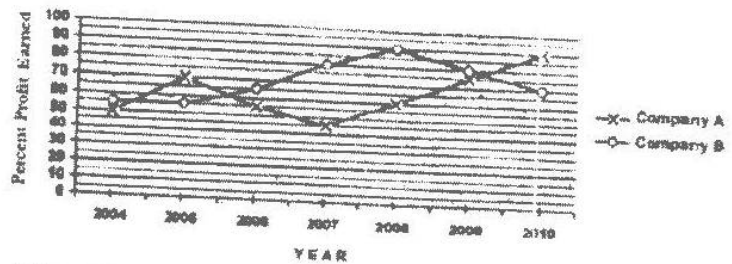
76. If the profit earned in 2006 by Company B was ₹ 8,12,500. What was the total income of the Company in that year ?

(a) ₹ 12,50,000
(b) ₹ 20,62,500
(c) ₹ 16,50,000
(d) ₹ 18,25,000
(e) None of these

77. If the amount invested by the two Companies in 2005 was equal, what was the ratio between total income in 2005 of the Companies A and B respectively?

(a) 31 : 33
(b) 33 : 31
(c) 34 : 31
(d) 14 : 11
(e) None of these

78. If the total amount invested by the two companies in 2009 was ₹ 27 lakhs, while the amount invested by company B was 50% of the amount invested by company A, what was the total profit earned by the two companies together?

(a) ₹ 21.15 lakhs
(b) ₹ 20.70 lakhs
(c) ₹ 18.70 lakhs
(d) ₹ 20.15 lakhs
(e) None of these

79. If the incomes if company A in 2007 and 2008 were equal and the amount invested in 2007 was ₹ 12 lakhs, what was the amount invested in 2008?

(a) ₹ 10,87,500
(b) ₹ 10,85,700
(c) ₹ 12,45,000
(d) ₹ 12,85,000

80. If the amount of profit earned by company A in 2006 was ₹ 10.15 lakhs, what was the total investment?

(a) ₹ 13.8 lakhs   (b) ₹ 14.9 lakhs

(c) ₹ 15.4 lakhs   (d) ₹ 14.2 lakhs

(e) None of these

81. If the amount invested by company B in 2004 is ₹ 12 lakhs and the income of 2004 is equal to the investment in 2005, what was the amount of profit earned in 2005 by company B?

(a) ₹ 6.6 lakhs   (b) ₹ 18.6 lakhs

(c) ₹ 10.23 lakhs   (d) ₹ 9.6 lakhs

(e) None of these

82. If the investments of company A in 2007 and 2008 were equal, what is the difference between profit earned in two years if the income in 2008 was ₹ 24 lakhs?

(a) ₹ 2.25 lakhs   (b) ₹ 3.6 lakhs

(c) ₹ 1.8 lakhs   (d) ₹ 2.6 lakhs

(e) None of these
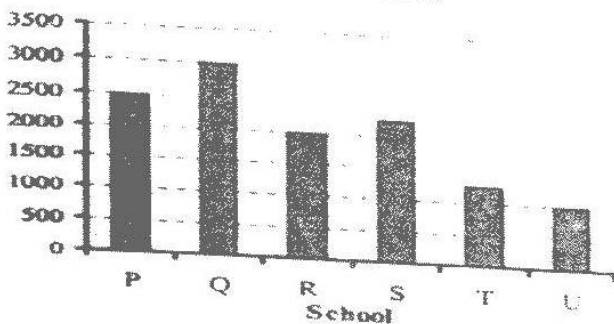
83. If each of the companies A and B invested ₹ 25 lakhs in 2010, what was the average profit earned by the two companies?

(a) ₹ 18 lakhs   (b) ₹ 22.5 lakhs
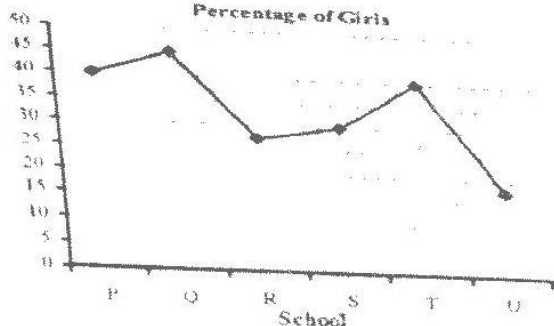
(c) ₹ 17.5 lakhs   (d) ₹ 20 lakhs

(e) None of these

Directions (Q. 84 – 86) : *Study the graphs carefully to answer the questions that follow:*

Total number of children in 6 different schools and the percentage of girls in them.

Number of Children

Percentage of Girls

84. The total number of students in school R is **approximately**. What percent of the total number of students in school S?

(a) 89   (b) 75

(c) 78   (d) 82

(e) 94

85. What is the average number of boys in schools P and Q together?

(a) 1425   (b) 1575

(c) 1450   (d) 1625

(e) None of these

86. What is the ratio of the number of girls in school P to the number of girls in school Q?

(a) 27 : 20   (b) 17 : 21

(c) 20 : 27   (d) 21 : 17

(e) None of these

87. The area of a circle is proportional to the square of its radius. A small circle of radius 3 cm is drawn within a larger circle of radius 5 cm. Find the ratio of the area of the annular zone to the area of the larger circle. (Area of the annular zone is the difference between the area of the larger circle and that of the smaller circle)?

(a) 9 : 16   (b) 9 : 25

(c) 16 : 25   (d) 16 : 27

(e) None of these

88. The perimeter of the base of a right circular cone is 8 cm. If the height of the cone is 21 cm, then its volume is :

(a) $\dfrac{108}{\pi} \, cm^3$

(b) $108 \, \pi \, cm^3$

(c) $\dfrac{112}{\pi} \, cm^3$

(d) $112 \, \pi \, cm^3$

(e) None of these

89. Out of 10 teachers of a school, one teacher retires and in his place, a new teacher of age 25 years joins. As a result, average age of teachers is reduced by 3 years. The age (in years) of the retired teacher is :

(a) 50   (b) 58

(c) 60   (d) 55

(e) None of these

90. If $\dfrac{x}{x^2 - 2x + 1} = \dfrac{1}{3}$, then the value of $x^3 + \dfrac{1}{x^3}$ is :

(a) 27   (b) 81

(c) 110   (d) 125

(e) None of these

91. The time in which ₹ 80,000 amounts to ₹ 92,610 at 10% p.a. at compound interest, interest being compounded semi annually is :

(a) 3 years

(b) $1\frac{1}{2}$ years

(c) 2 years

(d) $2\frac{1}{2}$ years

(e) None of these

92. Two pipes, P and Q can fill a cistern in 12 and 15 minutes respectively. If both are opened together and at the end of 3 minutes, the first is closed, how much longer will the cistern take to fill?

(a) 5 minutes

(b) $8\frac{1}{2}$ minutes

(c) $8\frac{1}{4}$ minutes

(d) $8\frac{3}{4}$ minutes

(e) None of these

93. A swimmer swims from a point A against a current for 5 minutes and then swims backwards in favour of the current for next 5 minutes and comes to the point B. If AB = 100 metres, the speed of the current (in km per hour) is:

(a) 0.4

(b) 0.2

(c) 1

(d) 0.6

(e) None of these

94. A, B, C walk 1 km in 5 minutes, 8 minutes and 10 minutes respectively. C starts walking from a point, at a certain time, B starts from the same point 1 minute later and A starts from the same point 2 minutes later than C. Then A meets B and C at times.

(a) $\frac{5}{3}$ min, 2 min

(b) 1 min, 2 min

(c) 2 min, 3 min

(d) $\frac{4}{3}$ min, 3 min

(e) None of these

95. A person bought two bicycles for ₹ 1600 and sold the first at 10% profit and the second at 20% profit. If he sold the first at 20% profit and the second at 10% profit, he would get ₹ 5 more. The difference of the cost price of the bicycle was :

(a) ₹ 50

(b) ₹ 40

(c) ₹ 25

(d) ₹ 75

(e) None of these

96. Two cards are drawn at random from a pack of 52 cards. What is the probability that either both are black or both are queen?

(a) $\frac{56}{222}$

(b) $\frac{55}{221}$

(c) $\frac{44}{112}$

(d) $\frac{57}{222}$

97. How many words can be formed from the letters of the word 'DIRECTOR'. So that the vowels are always together?

(a) 2222

(b) 2100

(c) 1220

(d) 2160

(e) None of these

98. A person distributes his pens among four friends A, B, C, D in the ratio $\frac{1}{3} : \frac{1}{4} : \frac{1}{5} : \frac{1}{6}$. What is the minimum numbers of pens that the person should have?

(a) 75

(b) 45

(c) 57

(d) 65

(e) None of these

99. A contractor undertook to finish a certain work in 124 days and employed 120 men. After 64 days, he found that he had already done $\frac{2}{3}$ of the work. How many men can be discharged now so that the work may finish in time ?

(a) 40

(b) 50

(c) 48

(d) 56

(e) None of these

100. A man divided ₹ 9,600 among his four sons, three daughters and wife. Each daughter got twice the amount given to each son. His wife got ₹ 300 less than amount given to each son. How much total amount did all the three daughters get?

(a) ₹ 4,500

(b) ₹ 5,400

(c) ₹ 2,700

(d) Cannot be determined

(e) None of these