

Quantitative Aptitude

Directions (Q. 51–55) Study the table carefully to answer the questions that follow.

Number of Articles (in Thousands) Manufactured and Sold by Six Different Companies Over the Years

Company \ Year	A		B		C		D		E		F	
	Manu- factured	Sold	Manu- factured	Sold	Manu- factured	Sold	Manu- factured	Sold	Manu- factured	Sold	Manu- factured	Sold
2001	28.2	18.6	18.1	14.4	24.5	20.1	14.5	9.7	30.0	24.4	24.4	17.9
2002	16.7	11.2	23.4	16.5	18.8	11.1	29.7	20.5	23.5	16.9	31.6	21.7
2003	30.1	23.4	20.2	12.8	24.9	13.5	29.0	19.4	26.2	17.7	21.4	15.5
2004	22.5	15.9	30.5	17.6	22.7	16.2	16.8	10.2	26.2	21.4	20.8	14.3
2005	18.9	12.8	29.6	19.3	31.4	18.9	28.3	11.8	29.9	22.2	19.3	14.2
2006	15.4	10.3	33.5	24.6	28.8	21.3	19.8	13.5	24.3	18.2	27.8	18.5

51. What is the respective ratio of number of articles not sold by Company C in the year 2005 to those not sold by Company D in the same year ?
 (1) 33 : 25
 (2) 21 : 44
 (3) 25 : 33
 (4) 44 : 21
 (5) None of the above
52. What is the average number of articles not sold by all companies together in the year 2006 ?
 (1) 7200 (2) 43.2
 (3) 43,200 (4) 7.2
 (5) None of these
53. What is the approximate average per centage of articles sold by Company B to those manufactured by it over the years ?
 (1) 54 (2) 77
 (3) 42 (4) 68
 (5) 83
54. Which Company sold the least number of articles overall the years together ?
 (1) C (2) A
 (3) F (4) B
 (5) None of these
55. Number of articles sold by Company E in the year 2003 is what per cent of the articles manufactured by it in that year ? (rounded off to two digits after decimal)
 (1) 71.48
 (2) 67.56
 (3) 52.43
 (4) 44.29
 (5) None of the above

Directions (Q.56-60) In the following questions two equations numbered I and II are given. You have to solve both the equations and

Give answer If

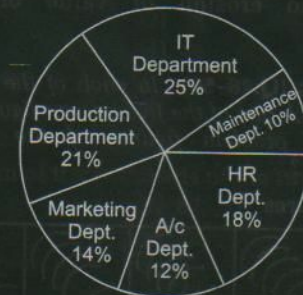
- (1) $X > Y$
 (2) $X \geq Y$
 (3) $X < Y$
 (4) $X \leq Y$
 (5) $X = Y$ or the relationship cannot be established

56. I. $\frac{3}{4}Y = \frac{2}{3}X$
 II. $24.1 - Y = 19.6$
57. I. $4X + 2Y = 8.5$
 II. $2X + 4Y = 9.5$
58. I. $X = \sqrt[3]{10648}$
 II. $Y = \pm \sqrt{484}$
59. I. $X^2 + 17X + 72 = 0$
 II. $Y^2 + 15Y + 56 = 0$
60. I. $X^2 + 12X + 27 = 0$
 II. $Y^2 + 11Y + 30 = 0$

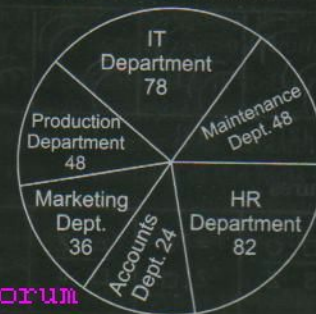
Directions (Q.61-65) Study the pie-charts carefully to answer the questions that follow.

Percentage of employees in different departments of our Organization out of which the number of employees promoted

Percentage of Employees in Different Departments
N = 4200



Out of which the Number of Employees Promoted



61. What is the per centage of employees promoted from the Maintenance and Accounts departments together to the total number of employees from these two departments ? (rounded off to two digits after decimal)
 (1) 7.58 (2) 6.27
 (3) 9.15 (4) 8.34
 (5) None of these
62. What is the respective ratio of number of employees not promoted from HR department to those from Production department ?
 (1) 216 : 389
 (2) 337 : 417
 (3) 389 : 216
 (4) 417 : 337
 (5) None of these
63. What is the number of employees working in the IT department ?
 (1) 1020 (2) 1045
 (3) 1150 (4) 1140
 (5) None of these
64. Which department has the highest per centage of promoted employees to the total number of employees of that department ?
 (1) IT (2) Marketing
 (3) Maintenance (4) HR
 (5) None of these

65. The number of employees who got promoted from the Marketing department is what per cent of total number of employees in that department? (rounded off to the nearest integer)
- (1) 12 (2) 10
 (3) 3 (4) 6
 (5) None of these

Directions (Q.66–70) What should come in place of the question mark (?) in the following questions?

66. $73\% \text{ of } 8523 + 32\% \text{ of } 6245 = ?$

- (1) 8042.21
 (2) 8136.28
 (3) 8625.35
 (4) 8220.19
 (5) None of these

67. $\sqrt[3]{804357} = ?$

- (1) 93 (2) 76
 (3) 83 (4) 86
 (5) None of these

68. $8^{1.3} \times 4^{0.6} \times 16^{0.2} = 2^?$

- (1) 2.1 (2) 3.8
 (3) 5.9 (4) 4.7
 (5) None of these

69. $8226 + 15 + 5 = ?$

- (1) 2156 (2) 109.68
 (3) 185.56 (4) 2742
 (5) None of these

70. $(3^?)^? = 19683$

- (1) 6 (2) 9
 (3) 4 (4) 8
 (5) None of these

Directions (Q.71–75) What approximate value should come in place of the question mark (?) in the following questions? (You are not expected to calculate the exact value).

71. $182.225 \times 21.652 \times 33.584 = ?$

- (1) 132507 (2) 149428
 (3) 120426 (4) 106438
 (5) 112642

72. $63.5\% \text{ of } 8924.2 + ?\% \text{ of } 5324.4 = 6827.5862$

- (1) 36 (2) 22
 (3) 17 (4) 31
 (5) 9

73. $1\frac{4}{7} + 7\frac{1}{3} + 3\frac{3}{5} = ?$

- (1) 21 (2) 8
 (3) 25 (4) 13
 (5) 30

74. $\sqrt{8650} = ?$

- (1) 84 (2) 79
 (3) 99 (4) 87
 (5) 93

75. $9546324 + 4584 = ?$

- (1) 2149 (2) 1986
 (3) 2083 (4) 2247
 (5) 1805

Directions (Q.76–80) Study the table carefully to answer the questions that follow.

Number of people (In thousands) staying in 6 different Cities and the per centage of Men, Women and Children in those Cities

City	Total Number of People (In thousands)	% of		
		Men	Women	Children
P	48.35	38	36	26
Q	32.16	45	30	25
R	54.20	47	31	22
S	44.42	35	45	20
T	65.25	54	28	18
U	56.80	53	25	22

76. Which City has the lowest number of children?

- (1) R (2) S
 (3) T (4) Q
 (5) None of these

77. What is the average number of men from all the cities together?

- (1) $21450\frac{1}{3}$
 (2) $23200\frac{5}{6}$
 (3) $19445\frac{5}{6}$
 (4) $18620\frac{2}{3}$
 (5) None of these

78. What is the respective ratio of number of women from City R to those from City T?

- (1) 8401 : 9135
 (2) 7325 : 8462
 (3) 9124 : 10131
 (4) 6487 : 7758
 (5) None of these

79. Total number of people from City U form approximately what per cent of the total number of people from all cities together?

- (1) 28 (2) 11
 (3) 6 (4) 24
 (5) 19

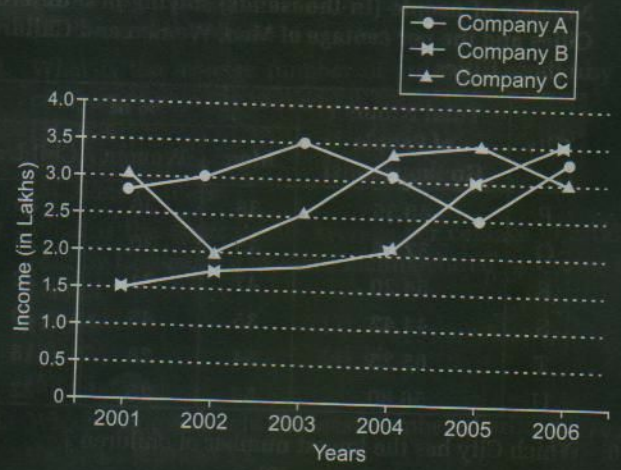
80. Number of women from City S form what per cent of those from City P? (rounded off to two digits after decimal)

- (1) 87.08 (2) 124.68
 (3) 114.84 (4) 92.16
 (5) None of these

Directions (Q.81-85) Study the graph carefully to answer the questions that follow.

Income (In Lakhs) Of Three Companies Over The Years

$$\text{Per cent Profit} = \frac{\text{Income} - \text{Expenditure}}{\text{Expenditure}} \times 100$$



81. If the per cent profit of Company A in the year 2002 was 20, what was its expenditure in that year ?
 (1) ₹ 250000 (2) ₹ 275000
 (3) ₹ 175000 (4) ₹ 150000
 (5) None of these
82. If the expenditure of Company C in 2003 was ₹ 1.75 lakh, what was its per cent profit in that year ? (rounded off to two digits after decimal)
 (1) 38.29 (2) 42.86
 (3) 53.41 (4) 58.64
 (5) None of these
83. What is the average Income of Company A over the years ?
 (1) ₹ 275000 (2) ₹ 300000
 (3) ₹ 2750000 (4) ₹ 30000
 (5) None of these
84. What is the **approximate** per cent increase in Income of Company B in the year 2006 from the previous year ?
 (1) 28 (2) 11 (3) 17
 (4) 8 (5) 22
85. Per cent increase/decrease in Income of Company C was highest for which year ?
 (1) 2004 (2) 2006 (3) 2003
 (4) 2002 (5) None of these

Directions (Q.86-90) In the following number series only one number is **wrong**. Find out the **wrong** number.

86. 7 56 442 3089 18532 92647 370586
 (1) 442 (2) 92647
 (3) 18532 (4) 3089
 (5) None of these
87. 8000 3200 1280 512 204.8 84.92 32.768
 (1) 512 (2) 84.92
 (3) 204.8 (4) 1280
 (5) None of these

88. 898 906 933 996 1122 1338 1681
 (1) 906 (2) 933
 (3) 1122 (4) 1338
 (5) None of these
89. 4 55 576 4209 21280 64083 64204
 (1) 4209
 (2) 576
 (3) 21280
 (4) 64204
 (5) None of the above
90. 3 6 16 47.5 154.5 558.5 2257
 (1) 2257 (2) 47.5
 (3) 154.5 (4) 558.5
 (5) None of these

Directions (Q.91-95) Study the information carefully and answer the questions that follow.

A school has a total of 1200 students. The ratio of girls to boys in the school is 3 : 2. All the students have enrolled in hobby classes viz. Singing, Dancing, Martial Arts and Cooking. One-twelfth of the boys have enrolled in only cooking classes. 25 per cent of the girls have enrolled in Cooking and Singing classes together. Number of boys enrolled in only Martial Arts classes is 150 per cent of the number of girls enrolled in the same. Number of students enrolled in only Dancing is 26 per cent of the total number of students. 5 per cent of the girls have enrolled in only Martial Arts classes. One-third of the boys enrolled in only Dancing classes. 35 per cent of the girls enrolled in Singing, Dancing and Martial Arts together and the remaining enrolled in only Cooking. 15 per cent of the boys enrolled in Cooking and Singing classes together and the remaining enrolled in Singing, Dancing and Martial Arts classes together.

91. Number of boys enrolled in Cooking and Singing classes together is what per cent of the girls enrolled in the same ?
 (1) 48 (2) 36
 (3) 20 (4) 25
 (5) None of these
92. What is the total number of students learning Martial Arts ?
 (1) 96 (2) 496
 (3) 342 (4) 128
 (5) None of these
93. How many girls are enrolled in only Cooking classes ?
 (1) 280 (2) 252
 (3) 154 (4) 100
 (5) None of these
94. How many boys learn Singing ?
 (1) 226 (2) 184
 (3) 72 (4) 96
 (5) None of these
95. What is the respective ratio of girls to boys enrolled in only Dancing classes ?
 (1) 8 : 7 (2) 14 : 17
 (3) 19 : 20 (4) 12 : 7
 (5) None of these

96. 4 men, 5 women and 3 children together can complete a piece of work in 16 days. In how many days can 10 women alone complete the piece of work if 10 men alone complete the work in 24 days ?
- (1) 18
 - (2) 15
 - (3) 12
 - (4) Cannot be determined
 - (5) None of the above
97. What will be the difference between the simple interest and compound interest earned on a sum of ₹ 985/- @ 14 p.c.p.a. at the end of two years ?
- (1) ₹ 16.408
 - (2) ₹ 14.214
 - (3) ₹ 19.218
 - (4) ₹ 17.405
 - (5) None of these

Directions (Q.98–99) Study the information carefully to answer the questions that follow.

A basket contains 3 blue, 2 green and 5 red balls.

98. If three balls are picked at random, what is the probability that at least one is red ?
- (1) $\frac{1}{2}$
 - (2) $\frac{7}{12}$
 - (3) $\frac{11}{12}$
 - (4) $\frac{1}{5}$
 - (5) None of these
99. If four balls are picked at random, what is the probability that two are green and two are blue ?
- (1) $\frac{1}{18}$
 - (2) $\frac{1}{70}$
 - (3) $\frac{3}{5}$
 - (4) $\frac{1}{2}$
 - (5) None of these
100. In how many different ways can the letters of the word 'FLEECED' be arranged ?
- (1) 840
 - (2) 2520
 - (3) 1680
 - (4) 49
 - (5) None of these