

# Mathematics



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## BASIC-CALCULATION-I

**TYPE-I**

1. 
$$\begin{array}{r} 24 \\ \times 28 \\ \hline \end{array}$$

2. 
$$\begin{array}{r} 32 \\ \times 39 \\ \hline \end{array}$$

3. 
$$\begin{array}{r} 68 \\ \times 72 \\ \hline \end{array}$$

4. 
$$\begin{array}{r} 64 \\ \times 92 \\ \hline \end{array}$$

5. 
$$\begin{array}{r} 96 \\ \times 82 \\ \hline \end{array}$$

6. 
$$\begin{array}{r} 77 \\ \times 83 \\ \hline \end{array}$$

7. 
$$\begin{array}{r} 91 \\ \times 92 \\ \hline \end{array}$$

8. 
$$\begin{array}{r} 84 \\ \times 87 \\ \hline \end{array}$$

9. 
$$\begin{array}{r} 89 \\ \times 69 \\ \hline \end{array}$$

10. 
$$\begin{array}{r} 69 \\ \times 59 \\ \hline \end{array}$$

**TYPE-II**

11. 
$$\begin{array}{r} 32 \\ \times 38 \\ \hline \end{array}$$

12. 
$$\begin{array}{r} 21 \\ \times 29 \\ \hline \end{array}$$

13. 
$$\begin{array}{r} 44 \\ \times 46 \\ \hline \end{array}$$

14. 
$$\begin{array}{r} 55 \\ \times 55 \\ \hline \end{array}$$

15. 
$$\begin{array}{r} 66 \\ \times 64 \\ \hline \end{array}$$

16. 
$$\begin{array}{r} 73 \\ \times 77 \\ \hline \end{array}$$

17. 
$$\begin{array}{r} 83 \\ \times 87 \\ \hline \end{array}$$

18. 
$$\begin{array}{r} 93 \\ \times 97 \\ \hline \end{array}$$

19. 
$$\begin{array}{r} 79 \\ \times 76 \\ \hline \end{array}$$

20. 
$$\begin{array}{r} 11 \\ \times 19 \\ \hline \end{array}$$

**TYPE-III**

21. 
$$\begin{array}{r} 99 \\ \times 99 \\ \hline \end{array}$$

22. 
$$\begin{array}{r} 98 \\ \times 98 \\ \hline \end{array}$$

23. 
$$\begin{array}{r} 97 \\ \times 97 \\ \hline \end{array}$$

24. 
$$\begin{array}{r} 96 \\ \times 96 \\ \hline \end{array}$$

25. 
$$\begin{array}{r} 99 \\ \times 98 \\ \hline \end{array}$$

26. 
$$\begin{array}{r} 98 \\ \times 97 \\ \hline \end{array}$$

27. 
$$\begin{array}{r} 97 \\ \times 96 \\ \hline \end{array}$$

28. 
$$\begin{array}{r} 96 \\ \times 95 \\ \hline \end{array}$$

29. 
$$\begin{array}{r} 95 \\ \times 94 \\ \hline \end{array}$$

30. 
$$\begin{array}{r} 94 \\ \times 93 \\ \hline \end{array}$$

**TYPE-IV**

31. 
$$\begin{array}{r} 91 \\ \times 11 \\ \hline \end{array}$$

32. 
$$\begin{array}{r} 67 \\ \times 47 \\ \hline \end{array}$$

33. 
$$\begin{array}{r} 28 \\ \times 88 \\ \hline \end{array}$$

34. 
$$\begin{array}{r} 36 \\ \times 76 \\ \hline \end{array}$$

35. 
$$\begin{array}{r} 15 \\ \times 95 \\ \hline \end{array}$$

36. 
$$\begin{array}{r} 82 \\ \times 22 \\ \hline \end{array}$$

37. 
$$\begin{array}{r} 71 \\ \times 53 \\ \hline \end{array}$$

38. 
$$\begin{array}{r} 64 \\ \times 44 \\ \hline \end{array}$$

39. 
$$\begin{array}{r} 97 \\ \times 17 \\ \hline \end{array}$$

40. 
$$\begin{array}{r} 38 \\ \times 78 \\ \hline \end{array}$$

**TYPE-V**

41. 
$$\begin{array}{r} 23 \\ \times 32 \\ \hline \end{array}$$

42. 
$$\begin{array}{r} 234 \\ \times 432 \\ \hline \end{array}$$

43. 
$$\begin{array}{r} 345 \\ \times 543 \\ \hline \end{array}$$

44. 
$$\begin{array}{r} 123 \\ \times 456 \\ \hline \end{array}$$

45. 
$$\begin{array}{r} 234 \\ \times 567 \\ \hline \end{array}$$

**TYPE-VI**

46. 
$$\begin{array}{r} 812 \\ \times 218 \\ \hline \end{array}$$

47. 
$$\begin{array}{r} 291 \\ \times 192 \\ \hline \end{array}$$

48. 
$$\begin{array}{r} 347 \\ \times 745 \\ \hline \end{array}$$

49. 
$$\begin{array}{r} 581 \\ \times 184 \\ \hline \end{array}$$

50. 
$$\begin{array}{r} 294 \\ \times 497 \\ \hline \end{array}$$

$$51. \frac{101}{\times 101} \quad 52. \frac{102}{\times 102} \quad 53. \frac{103}{\times 104} \quad 54. \frac{104}{\times 105} \quad 55. \frac{207}{\times 209}$$

$$56. \frac{308}{\times 408} \quad 57. \frac{709}{\times 903} \quad 58. \frac{508}{\times 804} \quad 59. \frac{907}{\times 303} \quad 60. \frac{909}{\times 909}$$

### TYPE-VII

$$61. \frac{111}{\times 111} \quad 62. \frac{222}{\times 222} \quad 63. \frac{333}{\times 333} \quad 64. \frac{444}{\times 444} \quad 65. \frac{555}{\times 555}$$

$$66. \frac{111}{\times 666} \quad 67. \frac{222}{\times 777} \quad 68. \frac{888}{\times 333} \quad 69. \frac{333}{\times 444} \quad 70. \frac{555}{\times 333}$$

### TYPE-VIII

$$71. \frac{125}{\times 125} \quad 72. \frac{133}{\times 137} \quad 73. \frac{141}{\times 149} \quad 74. \frac{156}{\times 154} \quad 75. \frac{162}{\times 168}$$

$$76. \frac{174}{\times 176} \quad 77. \frac{182}{\times 188} \quad 78. \frac{191}{\times 199} \quad 79. \frac{215}{\times 215} \quad 80. \frac{224}{\times 226}$$

### TYPE-IX

$$81. \frac{102}{\times 111} \quad 82. \frac{103}{\times 112} \quad 83. \frac{104}{\times 113} \quad 84. \frac{112}{\times 112} \quad 85. \frac{113}{\times 113}$$

$$86. \frac{114}{\times 114} \quad 87. \frac{120}{\times 122} \quad 88. \frac{123}{\times 123} \quad 89. \frac{107}{\times 111} \quad 90. \frac{108}{\times 112}$$

### TYPE-X

$$91. \frac{625}{\times 625} \quad 92. \frac{424}{\times 424} \quad 93. \frac{323}{\times 323} \quad 94. \frac{512}{\times 512} \quad 95. \frac{614}{\times 614}$$

$$96. \frac{625}{\times 725} \quad 97. \frac{722}{\times 722} \quad 98. \frac{815}{\times 815} \quad 99. \frac{916}{\times 816} \quad 100. \frac{613}{\times 715}$$

### TYPE-XI

$$101. \frac{1234}{\times 4321} \quad 102. \frac{2345}{\times 5432} \quad 103. \frac{2112}{\times 2112} \quad 104. \frac{3423}{\times 2413} \quad 105. \frac{2727}{\times 2828}$$

### TYPE-XII

$$106. \frac{1001}{\times 1001} \quad 107. \frac{2002}{\times 3004} \quad 108. \frac{4005}{\times 5006} \quad 109. \frac{6007}{\times 7008} \quad 110. \frac{8009}{\times 9007}$$

### TYPE-XIII

$$111. \frac{1111}{\times 1111} \quad 112. \frac{2222}{\times 2222} \quad 113. \frac{2222}{\times 3333} \quad 114. \frac{3333}{\times 4444} \quad 115. \frac{4444}{\times 5555}$$

**TYPE-XIV**

$$116. \begin{array}{r} 9999 \\ \times 9999 \\ \hline \end{array}$$

$$117. \begin{array}{r} 9999 \\ \times 9997 \\ \hline \end{array}$$

$$118. \begin{array}{r} 9998 \\ \times 9998 \\ \hline \end{array}$$

$$119. \begin{array}{r} 9998 \\ \times 9994 \\ \hline \end{array}$$

$$120. \begin{array}{r} 9997 \\ \times 9997 \\ \hline \end{array}$$

**TYPE-XV**

$$121. \begin{array}{r} 11221 \\ \times 11221 \\ \hline \end{array}$$

$$122. \begin{array}{r} 12121 \\ \times 12121 \\ \hline \end{array}$$

$$123. \begin{array}{r} 12321 \\ \times 12321 \\ \hline \end{array}$$

$$124. \begin{array}{r} 12345 \\ \times 12345 \\ \hline \end{array}$$

$$125. \begin{array}{r} 12333 \\ \times 12333 \\ \hline \end{array}$$

**Directions (Q. 126-140): What will come in place of the question mark (?) in the following questions?**

(Note that all the numbers are perfect square number).

$$126. \sqrt{7921} = ? \quad 127. \sqrt{12544} = ? \quad 128. \sqrt{45369} = ? \quad 129. \sqrt{4489} = ? \quad 130. \sqrt{17956} = ?$$

$$131. \sqrt{56169} = ? \quad 132. \sqrt{9216} = ? \quad 133. \sqrt{24649} = ? \quad 134. \sqrt{58081} = ? \quad 135. \sqrt{6889} = ?$$

$$136. \sqrt{21904} = ? \quad 137. \sqrt{66564} = ? \quad 138. \sqrt{3481} = ? \quad 139. \sqrt{32041} = ? \quad 140. \sqrt{84681} = ?$$

**Directions (Q. 141-170): What will come in place of the question mark (?) in the following questions?**

(Note that all the numbers are perfect cubic number).

$$141. \sqrt[3]{185193} = ? \quad 142. \sqrt[3]{1061208} = ? \quad 143. \sqrt[3]{1225043} = ? \quad 144. \sqrt[3]{226981} = ? \quad 145. \sqrt[3]{2146689} = ?$$

$$146. \sqrt[3]{1404928} = ? \quad 147. \sqrt[3]{474552} = ? \quad 148. \sqrt[3]{1442897} = ? \quad 149. \sqrt[3]{1643032} = ? \quad 150. \sqrt[3]{778688} = ?$$

$$151. \sqrt[3]{2048383} = ? \quad 152. \sqrt[3]{1860867} = ? \quad 153. \sqrt[3]{912673} = ? \quad 154. \sqrt[3]{2406104} = ? \quad 155. \sqrt[3]{2097152} = ?$$

$$156. \sqrt[3]{592704} = ? \quad 157. \sqrt[3]{1124864} = ? \quad 158. \sqrt[3]{159712} = ? \quad 159. \sqrt[3]{438976} = ? \quad 160. \sqrt[3]{1481544} = ?$$

$$161. \sqrt[3]{1367631} = ? \quad 162. \sqrt[3]{531441} = ? \quad 163. \sqrt[3]{1601613} = ? \quad 164. \sqrt[3]{1560896} = ? \quad 165. \sqrt[3]{941192} = ?$$

$$166. \sqrt[3]{1092727} = ? \quad 167. \sqrt[3]{1295029} = ? \quad 168. \sqrt[3]{250047} = ? \quad 169. \sqrt[3]{1520875} = ? \quad 170. \sqrt[3]{2628072} = ?$$

## BASIC CALCULATION-II

**1-20** What should come in place of the question mark (?) in the following questions ?

1.  $\sqrt[3]{804357} = ?$ 
    - (1) 93
    - (2) 76
    - (3) 83
    - (4) 86
    - (5) None of these
  2.  $8^{1.3} \times 4^{0.6} \times 16^{0.2} = 2^?$ 
    - (1) 2.1
    - (2) 3.8
    - (3) 5.9
    - (4) 4.7
    - (5) None of these
  3. 73% of 8523 + 32% of 6245 = ?
    - (1) 8042.21
    - (2) 8136.28
    - (3) 8625.35
    - (4) 8220.19
    - (5) None of these
  4.  $(3^?)^3 = 19683$ 
    - (1) 6
    - (2) 9
    - (3) 4
    - (4) 8
    - (5) None of these
  5.  $8226 + 15 + 5 = ?$ 
    - (1) 2156
    - (2) 109.68
    - (3) 185.56
    - (4) 2742
    - (5) None of these
  6.  $7428 \times \frac{3}{4} \times \frac{2}{9} \times ? = 619$ 
    - (1) 0.5
    - (2) 1.5
    - (3) 0.2
    - (4) 2.4
    - (5) None of these
  7.  $(560 \div 32) \times (720 \div 48) = ?$ 
    - (1) 262.5
    - (2) 255
    - (3) 263.5
    - (4) 241.25
    - (5) None of these
  8.  $748 \times ? \times 9 = 861696$ 
    - (1) 122
    - (2) 132
    - (3) 128
    - (4) 124
    - (5) None of these
  9. 3.2% of 500 × 2.4% of ? = 288
    - (1) 650
    - (2) 700
    - (3) 600
    - (4) 750
    - (5) None of these
  10.  $333 \times 33 \times 3 = ?$ 
    - (1) 32697
    - (2) 36297
    - (3) 32679
    - (4) 39267
    - (5) None of these
  11.  $(36^2 + 47^2) \div ? = 28.04$ 
    - (1) 55
    - (2) 75
    - (3) 105
    - (4) 125
    - (5) None of these
  12.  $\sqrt[3]{?} = (28 \times 24) \div 14$ 
    - (1) 85184
    - (2) 140608
    - (3) 97336
    - (4) 117649
    - (5) None of these
  13.  $14785 - 358 - 4158 - 9514 = ?$ 
    - (1) 755
    - (2) 825
    - (3) 721
    - (4) 785
    - (5) None of these
  14.  $156 + 328 \times 0.8 = ?$ 
    - (1) 287.2
    - (2) 352.8
    - (3) 418.4
    - (4) 451.2
    - (5) None of these
  15.  $1148 \div 28 \times 1408 \div 32 = ?$ 
    - (1) 1800
    - (2) 180
    - (3) 1814
    - (4) 1822
    - (5) None of these
  16.  $\sqrt[3]{148877} = ?$ 
    - (1) 51
    - (2) 59
    - (3) 53
    - (4) 49
    - (5) None of these
  17.  $1425 + 8560 + 1680 - 1800 = ?$ 
    - (1) 58.325
    - (2) 9973.4
    - (3) 56.425
    - (4) 9939.4
    - (5) None of these
  18.  $[(12)^2 \times (14)^2] \div (16)^2 = ?$ 
    - (1) 282.24
    - (2) 1764
    - (3) 126
    - (4) 104.25
    - (5) None of these
  19.  $2\frac{4}{25} + 3\frac{3}{5} = ?$ 
    - (1)  $1\frac{7}{15}$
    - (2)  $6\frac{4}{25}$
    - (3)  $5\frac{4}{15}$
    - (4)  $5\frac{9}{25}$
    - (5) None of these
  20.  $\sqrt{?} \times \sqrt{3025} = 2695$ 
    - (1) 2401
    - (2) 2209
    - (3) 2601
    - (4) 2304
    - (5) None of these
- 21-30:** What approximate value should come in place of the question mark (?) in the following questions?
21.  $\sqrt[3]{7469} \times \sqrt{668} = ?$ 
    - (1) 300
    - (2) 350
    - (3) 505
    - (4) 425
    - (5) 575

22.  $\frac{1}{8} \times \frac{3}{5} \times \frac{4}{7} \times 7897 = ?$
- (1) 320      (2) 297      (3) 346      (4) 342      (5) 338
23.  $2.5 \times 0.08 + (1.9)^2 = ?$
- (1) 1.5      (2) 0.8      (3) 0.010      (4) 0.06      (5) 2.1
24.  $9654 + 21 + 7638 + 44 = ?$
- (1) 633      (2) 600      (3) 643      (4) 621      (5) 598
25.  $(4.36)^2 \times 66.5 - 371 = ?$
- (1) 902      (2) 893      (3) 871      (4) 888      (5) 880
26.  $32.156 \times 41.998 \times 24.053 = ?$
- (1) 30418      (2) 28625      (3) 26544      (4) 32483      (5) 39843
27.  $(85.05)^2 = ?$
- (1) 7200      (2) 6400      (3) 7800      (4) 7700      (5) 6700
28.  $8989 \div 45 = ?$
- (1) 150      (2) 200      (3) 250      (4) 300      (5) 100
29.  $12.999 + 18.956 + 284.005 = ?$
- (1) 396      (2) 301      (3) 316      (4) 338      (5) 361
30.  $\sqrt{7550} = ?$
- (1) 94      (2) 78      (3) 64      (4) 70      (5) 87
- Q. 31-45: What should come in place of question mark (?) in the following questions?**
31.  $5.43 + 4.35 + 0.45 + 45.34 + 534 = ?$
- (1) 597.27      (2) 589.57      (3) 596.87      (4) 569.67      (5) None of these
32.  $38.5 + 5.25 \times 12 - 4 = ?$
- (1) 84      (2) 48      (3) 40      (4) 75      (5) None of these
33.  $538 \times ? = 3497$
- (1) 5.75      (2) 3.25      (3) 6.50      (4) 5.65      (5) None of these
34.  $(?)^2 + (79)^2 = (172)^2 - (88)^2 - 8203$
- (1) 96      (2) 89      (3) 83      (4) 81      (5) None of these
35.  $8.905 + 5.675 - 4.632 + 1.280 = ?$
- (1) 11.228      (2) 9.428      (3) 12.822      (4) 10.282      (5) None of these
36.  $[(222)^2 \div 48 \times 16] \div 24 = ?$
- (1) 654.25      (2) 624      (3) 684.5      (4) 678.75      (5) None of these
37.  $-92 \times 42 + 158 = ?$
- (1) 3864      (2) -3706      (3) -4022      (4) 18400      (5) None of these
38.  $3251 + 587 + 369 - ? = 3007$
- (1) 1250      (2) 1300      (3) 1375      (4) 1200      (5) None of these
39.  $(52\% \text{ of } 3543) - (38\% \text{ of } 2750) = ?$
- (1) 653.36      (2) 993.14      (3) 821.64      (4) 793.94      (5) None of these
40.  $416 \times ? \times 8 = 59904$
- (1) 17      (2) 22      (3) 21      (4) 15      (5) None of these
41.  $2^{0.2} \times 64 \times 8^{1.3} \times 4^{0.2} = ?$
- (1) 2.7      (2) 2.5      (3) 3.7      (4) 3.2      (5) None of these
42.  $83\% \text{ of } 6242 + 12\% \text{ of } 225 = ?$
- (1) 146286.12      (2) 134263.18      (3) 139883.22      (4) 1562218.23      (5) None of these
43.  $1\frac{1}{8} + 1\frac{1}{7} + 3\frac{3}{5} = ?$
- (1)  $8\frac{121}{140}$       (2)  $6\frac{163}{280}$       (3)  $9\frac{197}{280}$       (4)  $7\frac{117}{140}$       (5) None of these
44.  $? \div 25 \div 12 = 248.76$
- (1) 74628      (2) 497.52      (3) 62452      (4) 870.66      (5) None of these
45.  $(73)^3 = ?$
- (1) 365127      (2) 298627      (3) 305867      (4) 389017      (5) None of these
- Q. 46-50: What approximate value should come in place of question mark (?) in the following questions?**
46.  $(802.86)^2 = ?$
- (5)

- |  |            |            |            |            |
|--|------------|------------|------------|------------|
| (1) 645000   | (2) 644600 | (3) 645400 | (4) 645800 | (5) 646200 |
| 47. $(1513)^2 - ? \times 3294$                     |            |            |            |            |
| (1) 688  | (2) 674    | (3) 700    | (4) 695    | (5) 706    |
| 48. $(8531 + 6307 + 1093) + (501 + 724 + 396) = ?$ |            |            |            |            |
| (1) 19   | (2) 10     | (3) 16     | (4) 7      | (5) 13     |
| 49. $5624.863 + 309.721 \times 90.628 = ?$         |            |            |            |            |
| (1) 1426   | (2) 1558   | (3) 1646   | (4) 1748   | (5) 1812   |
| 50. $(682\% \text{ of } 782) + 856 = ?$            |            |            |            |            |
| (1) 4.50   | (2) 10.65  | (3) 2.55   | (4) 8.75   | (5) 6.25   |

**Answers:**

**1. BASIC CALCULATION - II**

1.1	2.3	3.4	4.5	5.2	6.1	7.1	8.3	9.4	10.5	11.4	12.5	13.1
14.3	15.2	16.3	17.5	18.5	19.4	20.1	21.3	22.5	23.4	24.1	25.2	26.4
27.1	28.3	29.2	30.5	31.2	32.1	33.3	34.5	35.1	36.3	37.2	38.4	39.4
40.5	41.5	42.3	43.2	44.1	45.4	46.2	47.4	48.2	49.3	50.5		

## ANSWERS WITH EXPLANATION

### BASIC CALCULATION-II

1. 1;  $\sqrt{804357} = 93$

In this type of question search for the digit at unit place. Reject (2) and (4) on this basis.

Again, since  $90^3 = 729000$  therefore, reject (3). Now check option (1).

2. 3;  $8^{1.3} \times 4^{0.6} \times 16^{0.2} = (2^3)^{1.3} \times (2^2)^{0.6} \times (2^4)^{0.2}$

$$= 2^{3.9} \times 2^{1.2} \times 2^{0.8} = 2^{(3.9+1.2+0.8)} = 2^{5.9} \therefore ? = 5.9$$

3. 4; 73% of 8523 + 32% of 6245

$$= 6221.79 + 1998.4 = 8220.19$$

4. 5;  $\because 19683 = 27^3 = (3^3)^3 \therefore ? = 3$

5. 2;  $8226 \div 15 \div 5 = 8226 \times \frac{1}{15} \times \frac{1}{5} = \frac{8226}{75} = 109.68$

6. 1;  $7428 \times \frac{3}{4} \times \frac{2}{9} \times x = 619$

$$1238 \times x = 619 \therefore x = \frac{619}{1238} = \frac{1}{2} = 0.5$$

7. 1;  $(560 \div 32) \times (720 \div 48) = 17.5 \times 15 = 262.5$

8. 3;  $748 \times x \times 9 = 861696 \therefore x = \frac{861696}{748 \times 9} = \frac{95744}{748} = 128$

9. 4; 3.2% of 500 × 2.4% of x = 288

$$= \frac{3.2}{100} \times 500 \times \frac{2.4}{100} \times x = 288$$

$$= 16.0 \times 2.4x = 28800 - 38.4x = 28800$$

$$\therefore x = \frac{28800}{384} \times 10 = 750$$

10. 5;  $333 \times 33 \times 3$  or,  $333 \times 3 = 999 \times 33$   
 $(1000 - 1) \times 33 = 33000 - 33 = 32967$

11. 4;  $(36)^2 + (47)^2 \div x = 28.04$

$$= \frac{1296 + 2209}{28.04} = x \text{ or, } \frac{3505}{2804} \times 100 = 125$$

12. 5;  $\sqrt[3]{x} = \frac{(28 \times 24)}{14} \therefore x = (48)^3 = 110592$

13. 1;  $14785 - 358 - 4158 - 9514 = 14785 - 14030 = 755$

14. 3;  $156 + 328 \times 0.8 = 156 + 262.4 = 418.4$

15. 2;  $\frac{1148}{28} \times \frac{1408}{32} = 41 \times 44 = 1804$

16. 3; Cube root of 148877 is 53

17. 5;  $1425 + 8560 + 1.4 = 993.4$

18. 5;  $\frac{144 \times 196}{256} = \frac{144}{16} = 110.25$

19. 4;  $\frac{54}{25} + \frac{6}{5} = \frac{54+80}{25} = \frac{134}{25} = 5\frac{9}{25}$

20. 1;  $\sqrt{x} \times 55 = 2695$  or,  $\sqrt{x} = \frac{2695}{55} \quad x = (49)^2 = 2401$

21. 3;  $\sqrt[3]{7469} \times \sqrt{668} \approx 19.55 \times 25.85 \approx 505.36$

22. 5;  $\frac{1}{8} \times \frac{3}{5} \times \frac{4}{7} \times 7897 = \frac{1 \times 3 \times 4 \times 7897}{8 \times 5 \times 7} \approx 338.5$

23. 4;  $2.5 \times 0.08 \div (1.9)^2 = 2.5 \times \frac{0.08}{(1.9)^2} \approx 0.055$

24. 1;  $9654 \div 21 + 7638 + 44 \approx 460 + 173.6 \approx 633.6$

25. 2;  $(4.36)^2 \times 66.5 - 371$

$$= 19 \times 66.5 - 371 \approx 1265 - 371 \approx 894$$

26. 4;  $32.156 \times 41.998 \times 24.053 = 32483.28036$

27. 1;  $(85.05)^2 = 7233.502500$

28. 2;  $8989 \div 45 = 199.7555556$

29. 3;  $12.999 + 18.856 + 284.005 = 315.96$

30. 5;  $\sqrt{7550} = 86.99073598$

31. 2;  $5.43 + 4.35 + 0.45 + 45.34 + 534 = 589.57$

32. 1;  $38.5 \div 5.25 \times 12 - 4 = \frac{38.5}{5.25} \times 12 - 4 = 88 - 4 = 84$

33. 3;  $538 \times ? = 3497 \therefore ? = \frac{3497}{538} = 6.5$

34. 5;  $(?)^2 + (79)^2 = (172)^2 - 88^2 - 8203$

$$\text{or, } (?)^2 = (172)^2 - 88^2 - 8203 - (79)^2 = 7396$$

$$\therefore ? = \sqrt{7396} = 88$$

35. 1;  $8.905 + 5.675 + 4.612 - 1.280 = 11.228$

36. 3;  $\frac{[(222)^2 + 18 \times 16] \div 24}{222 \times 222 \times 16 \times 1} = \frac{222 \times 222}{48} \times \frac{1}{24} = \frac{222 \times 222 \times 16 \times 1}{48 \times 24} = 684.5$

37. 2;  $92 \times 42 + 158 = -3864 + 158 = -3706$

38. 4;  $3251 + 587 + 369 - ? = 3007$

$$\therefore ? = 3251 + 587 + 369 - 3007 = 1200$$

39. 4;  $(52\% \text{ of } 3543) - (38\% \text{ of } 2759)$

$$= 0.52 \times 3543 - 0.38 \times 2759 = 793.94$$

40. 5;  $416 \times ? \times 8 = 59904 \therefore ? = \frac{59904}{416 \times 8} = 18$

41. 5;  $(2^{0.2} \times 4^{0.2}) \times 8^2 \times 8^{1.3} = 8^{0.2} \times 8^2 \times 8^{1.3} = 8^{(1.3+2+0.2)} = 8^{3.5}$

42. 3;  $\left(\frac{83}{100} \times 6242\right) \times \left(\frac{12}{100} \times 225\right) = (5180.86) \times 27 = 139883.22$

43. 2;  $(1+1+3) + \left(\frac{1}{8} + \frac{6}{7} + \frac{3}{5}\right)$

$$= 5 + \left(\frac{35+240+168}{280}\right) = 5 + \frac{443}{280} = 5 + 1\frac{163}{280} = 6\frac{163}{280}$$

44. 1; Let the required number be x

$$\frac{x}{25 \times 12} = 248.76 \therefore x = 248.76 \times 300 = 74628$$

45. 4 46. 2;  $(802.86)^2 \approx 803^3 \approx 644809$

47. 4;  $(1513)^2 = ? \times 3294 \therefore ? = \frac{1513 \times 1513}{3294} \approx 694.95$

48. 2;  $\frac{(8531+6307+1093)}{(501+724+396)} = \frac{15931}{1621} \approx 9.82$

49. 3;  $5624.863 \div 309.721 \times 90.628$

$$= \frac{5624.863}{309.721} \times 90.628 \approx 1645.9$$

50. 5;  $(682\% \text{ of } 782) \div 856 = \frac{682 \times 782}{100 \times 856} \approx 6.23$

# SERIES - I

**1-25:** What should come in place of the question mark (?) in the following number series?

- |     |                       |                   |                  |             |                   |
|-----|-----------------------|-------------------|------------------|-------------|-------------------|
| 1.  | 12    12    18    45  | 180    1170       | ?                |             |                   |
| (1) | 12285                 | (2) 10530         | (3) 11700        | (4) 12870   | (5) 7605          |
| 2.  | 444    467    513     | 582    674    789 | ?                |             |                   |
| (1) | 950                   | (2) 904           | (3) 927          | (4) 881     | (5) 973           |
| 3.  | 1    16    81    256  | 625    1296       | ?                |             |                   |
| (1) | 4096                  | (2) 2401          | (3) 1764         | (4) 3136    | (5) 4561          |
| 4.  | 23    25    53    163 | 657    3291       | ?                |             |                   |
| (1) | 16461                 | (2) 13169         | (3) 9877         | (4) 23045   | (5) 2753          |
| 5.  | 13    13    65    585 | 7605    129285    | ?                |             |                   |
| (1) | 2456415               | (2) 2235675       | (3) 2980565      | (4) 2714985 | (5) 2197845       |
| 6.  | 354    180    64      | 21    10.2        | ?                |             |                   |
| (1) | 5.6                   | (2) 8.7           | (3) 3.8          | (4) 1.7     | (5) None of these |
| 7.  | 4.5    18    2.25     | ?                 | 1.6875    33.75  |             |                   |
| (1) | 27                    | (2) 25.5          | (3) 36           | (4) 40      | (5) None of these |
| 8.  | 59.76    58.66        | 56.46    52.06    | ?                | 25.66       |                   |
| (1) | 48.08                 | (2) 46.53         | (3) 43.46        | (4) 43.26   | (5) None of these |
| 9.  | 36    157    301      | 470    ?          | 891              |             |                   |
| (1) | 646                   | (2) 695           | (3) 639          | (4) 669     | (5) None of these |
| 10. | 14    70    350       | ?                 | 8750    43750    |             |                   |
| (1) | 1570                  | (2) 875           | (3) 1750         | (4) 785     | (5) None of these |
| 11. | 7413    7422    7440  | ?                 | 7503    7548     |             |                   |
| (1) | 7464                  | (2) 7456          | (3) 7466         | (4) 7477    | (5) None of these |
| 12. | 4    16    36    64   | 100               | ?                |             |                   |
| (1) | 120                   | (2) 180           | (3) 136          | (4) 144     | (5) None of these |
| 13. | 12    33    96        | ?                 | 852    2553      |             |                   |
| (1) | 285                   | (2) 288           | (3) 250          | (4) 384     | (5) None of these |
| 14. | 70000    14000        | 2800              | ?                | 112    22.4 |                   |
| (1) | 640                   | (2) 420           | (3) 560          | (4) 540     | (5) None of these |
| 15. | 102    99    104      | 97    106         | ?                |             |                   |
| (1) | 96                    | (2) 95            | (3) 100          | (4) 94      | (5) None of these |
| 16. | 0.4    2.4            | ?                 | 27.4    114.6    | 579         |                   |
| (1) | 6.4                   | (2) 4.2           | (3) 8.3          | (4) 7.8     | (5) None of these |
| 17. | 7    42    504        | ?                 | 217728    653184 |             |                   |
| (1) | 10080                 | (2) 9072          | (3) 6048         | (4) 3024    | (5) None of these |
| 18. | 4.5    7    18        | ?                 | 335    2004      |             |                   |
| (1) | 76                    | (2) 64            | (3) 72           | (4) 63      | (5) None of these |
| 19. | 27    125    343      | 1331              | ?                | 1913        |                   |
| (1) | 2197                  | (2) 3376          | (3) 1859         | (4) 2535    | (5) None of these |
| 20. | 600    960    1536    | 2457.6            | 3932.16          | ?           |                   |
| (1) | 7864.32               | (2) 6219.456      | (3) 6291.456     | (4) 7684.32 | (5) None of these |
| 21. | 6    7    16          | 51                | 208              | ?           | 6276              |
| (1) | 1045                  | (2) 941           | (3) 836          | (4) 1254    | (5) None of these |
| 22. | 3    5                | 8    12           | 17               | ?           | 30                |
| (1) | 25                    | (2) 27            | (3) 22           | (4) 24      | (5) None of these |
| 23. | 1    8                | 27                | 64               | ?           | 216    343        |
| (1) | 145                   | (2) 160           | (3) 125          | (4) 180     | (5) None of these |
| 24. | 4    6                | 12                | ?                | 90    315   | 1260              |
| (1) | 42                    | (2) 36            | (3) 24           | (4) 30      | (5) None of these |
| 25. | 18    21              | 16                | 23               | 12    25    | ?                 |
| (1) | 24                    | (2) 8             | (3) 14           | (4) 10      | (5) None of these |

## ANSWER :

### SERIES-I

1.1	2.3	3.2	4.5	5.4	6.2	7.1	8.4	9.5	10.3	11.5	12.4	13.1
14.3	15.2	16.4	17.2	18.5	19.1	20.3	21.1	22.5	23.3	24.4	25.2	

## SERIES -I

1. 1;  $12 \times 1 = 12$        $12 \times 1.5 = 18$   
 $18 \times 2.5 = 45$        $45 \times 4 = 180$   
 $180 \times 6.5 = 1170$        $1170 \times 10.5 = 12285$
2. 3;  $444 + (23 \times 1) = 467$        $467 + (23 \times 2) = 513$   
 $513 + (23 \times 3) = 582$        $582 + (23 \times 4) = 674$   
 $674 + (23 \times 5) = 789$        $789 + (23 \times 6) = 927$
3. 2;  $(1)^2 = 1$        $(1 + 3) = (4)^2 = 16$   
 $(4 + 5) = (9)^2 = 81$        $(9 + 7) = (16)^2 = 256$   
 $(16 + 9) = (25)^2 = 625$   
 $(25 + 11) = (36)^2 = 1296$   
 $(36 + 13) = (49)^2 = 2401$
4. 5;  $23 \times 1 + 2 = 25$        $25 \times 2 + 3 = 53$   
 $53 \times 3 + 4 = 163$        $163 \times 4 + 5 = 657$   
 $657 \times 5 + 6 = 3291$        $3291 \times 6 + 7 = 19753$
5. 4;  $13 \times 1 = 13$        $13 \times (1 + 4) = 65$   
 $65 \times (5 + 4) = 585$        $585 \times (9 + 4) = 7605$   
 $7605 \times (13 + 4) = 129285$   
 $129285 \times (17 + 4) = 2714985$
6. 2;  $354 + 2 + 3 = 180$        $180 + 3 + 4 = 64$   
 $64 + 4 + 5 = 21$        $21 + 5 + 6 = 10.2$   
 $10.2 - 6 + 7 = 8.7$
7. 1;  $4.5 \times 4 = 18$        $18 + 8 = 2.25$   
 $2.25 \times 12 = 27$        $27 + 16 = 1.6875$   
 $1.6875 \times 20 = 33.75$
8. 4;  $59.76 - 1.1 = 58.66$        $58.66 - 2.2 = 56.46$   
 $56.46 - 4.4 = 52.06$        $52.06 - 8.8 = 43.26$   
 $43.26 - 17.6 = 25.66$
9. 5;  $36 + 121 = 157$        $157 + 144 = 301$   
 $301 + 169 = 470$        $470 + 196 = 666$   
 $666 + 225 = 891$
10. 3;  $14 \times 5 = 70$        $70 \times 5 = 350$   
 $350 \times 5 = 1750$        $1750 \times 5 = 8750$   
 $8750 \times 5 = 43750$
11. 5;  $7413 + 9 = 7422$        $7422 + 18 = 7440$   
 $7440 + 27 = 7467$        $7467 + 36 = 7503$
12. 4;  $2^2 = 4$        $4^2 = 16$   
 $6^2 = 36$        $8^2 = 64$   
 $10^2 = 100$        $12^2 = 144$
13. 1;  $12 \times 3 - 3 = 33$        $33 \times 3 - 3 = 96$   
 $96 \times 3 - 3 = 285$
14. 3
5. 2;  $102 - 3 = 99$        $99 + 5 = 104$   
 $104 - 7 = 97$        $97 + 9 = 106$   
 $106 - 11 = 95$

16. 4; Here,

$$\begin{array}{ll} 0.4 \times 1 + 2 = 2.4 & 2.4 \times 2 + 3 = 7.8 \\ 7.8 \times 3 + 4 = 27.4 & 27.4 \times 4 + 5 = 114.6 \\ 114.6 \times 5 + 6 = 579 \end{array}$$

17. 2; Here,

$$\begin{array}{ll} 7 \times 6 = 42 & 42 \times 12 = 504 \\ 504 \times 18 = 9072 & 9072 \times 24 = 217728 \\ 217728 \times 30 = 6531840 \end{array}$$

18. 5; Here,

$$\begin{array}{ll} 4.5 \times 2 - 2 = 7 & 7 \times 3 - 3 = 18 \\ 18 \times 4 - 4 = 68 & 68 \times 5 - 5 = 335 \\ 335 \times 6 - 6 = 2004 \end{array}$$

19. 1; Here,

$$\begin{array}{ll} 27 = 3^3 & 125 = 5^3 \\ 343 = 7^3 & 331 = 11^3 \\ 2197 = 13^3 & 4913 = 17^3 \end{array}$$

20. 3; Here,

$$\begin{array}{ll} 600 \times 1.6 = 960 & 960 \times 1.6 = 1536 \\ 1536 \times 1.6 = 2457.6 & 2457.6 \times 1.6 = 3932.16 \\ 3932.16 \times 1.6 = 6291.456 \end{array}$$

21. 1; Here,

$$\begin{array}{ll} 6 + 1 + 4 = 7 & 7 \times 2 + 2 = 16 \\ 16 \times 3 + 3 = 51 & 51 \times 4 + 4 = 208 \\ 208 \times 5 + 5 = 1045 & 1045 \times 6 + 6 = 6276 \end{array}$$

Hence, the question mark should be replaced by 1045.

22. 5; Here,

$$\begin{array}{ll} 3 + 2 = 5 & 5 + 3 = 8 \\ 8 + 4 = 12 & 12 + 5 = 17 \\ 17 + 6 = 23 & 23 + 7 = 30 \end{array}$$

Hence, the question mark should be replaced by 23.

23. 3; Here,

$$\begin{array}{ll} 1^3 = 1 & 2^3 = 8 \\ 3^3 = 27 & 4^3 = 64 \\ 5^3 = 125 & 6^3 = 216 \\ 7^3 = 343 & \end{array}$$

Hence, the question mark should be replaced by 125.

24. 4; Here,

$$\begin{array}{ll} 4 \times 1.5 = 6 & 6 \times 2 = 12 \\ 12 \times 2.5 = 30 & 30 \times 3 = 90 \\ 90 \times 3.5 = 315 & 315 \times 4 = 1260 \end{array}$$

Hence, the question mark should be replaced by 30.

25. 2; Here,

$$\begin{array}{ll} 18 + 3 = 21 & 21 - 5 = 16 \\ 16 + 7 = 23 & 23 - 11 = 12 \\ 12 + 13 = 25 & 25 - 17 = 8 \end{array}$$

Hence, the question mark should be replaced by 8.

## SERIES - II

**1-5:** What should come in place of question mark (?) in the following number series ?

- |     |        |     |     |     |        |       |     |        |            |            |
|-----|--------|-----|-----|-----|--------|-------|-----|--------|------------|------------|
| 1.  | 289    | 303 | 324 | 352 | 387    | 429   | ?   |        |            |            |
| (1) | 478    |     |     | (2) | 508    |       | (3) | 487    | (4) 558    | (5) 473    |
| 2.  | 45     | 43  | 83  | 245 | 975    | 4869  | ?   |        |            |            |
| (1) | 29214  |     |     | (2) | 24501  |       | (3) | 19476  | (4) 29207  | (5) 30058  |
| 3.  | 31     | 34  | 71  | 216 | 867    | 4338  | ?   |        |            |            |
| (1) | 26028  |     |     | (2) | 26031  |       | (3) | 21690  | (4) 23150  | (5) 23432  |
| 4.  | 16     | 16  | 40  | 140 | 840    | 7980  | ?   |        |            |            |
| (1) | 163290 |     |     | (2) | 136290 |       | (3) | 132690 | (4) 126390 | (5) 123690 |
| 5.  | 16     | 24  | 36  | 54  | 81     | 121.5 | ?   |        |            |            |
| (1) | 200    |     |     | (2) | 195.75 |       | (3) | 182.25 | (4) 150.5  | (5) 170.25 |

**6-10:** In the following number series only one number is wrong. Find out the wrong number.

- |     |      |      |      |      |       |       |        |       |           |                   |
|-----|------|------|------|------|-------|-------|--------|-------|-----------|-------------------|
| 6.  | 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 |
| 7.  | 898  | 906  | 933  | 996  | 1122  | 1338  | 1681   |       |           |                   |
| (1) | 906  |      |      | (2)  | 933   |       | (3)    | 1122  | (4) 1338  | (5) None of these |
| 8.  | 7    | 56   | 442  | 3089 | 18532 | 92647 | 370586 |       |           |                   |
| (1) | 442  |      |      | (2)  | 92647 |       | (3)    | 18532 | (4) 3089  | (5) None of these |
| 9.  | 8000 | 3200 | 1280 | 512  | 204.8 | 84.92 | 32.768 |       |           |                   |
| (1) | 512  |      |      | (2)  | 84.92 |       | (3)    | 204.8 | (4) 1280  | (5) None of these |
| 10. | 4    | 55   | 576  | 4209 | 21280 | 64083 | 64204  |       |           |                   |
| (1) | 4209 |      |      | (2)  | 576   |       | (3)    | 21280 | (4) 64204 | (5) None of these |

**11-15:** What should come in place of the question mark (?) in the following number series?

- |     |        |       |      |      |        |       |     |        |            |                   |
|-----|--------|-------|------|------|--------|-------|-----|--------|------------|-------------------|
| 11. | 3      | 4     | 12   | ?    | 576    | 27648 |     |        |            |                   |
| (1) | 64     |       |      | (2)  | 96     |       | (3) | 36     | (4) 52     | (5) None of these |
| 12. | 4      | 12    | 60   | 420  | ?      | 60060 |     |        |            |                   |
| (1) | 4620   |       |      | (2)  | 3780   |       | (3) | 4200   | (4) 5040   | (5) None of these |
| 13. | 6      | 349   | 565  | ?    | 754    | 781   |     |        |            |                   |
| (1) | 629    |       |      | (2)  | 590    |       | (3) | 601    | (4) 690    | (5) None of these |
| 14. | 1.5    | 4     | 20   | 129  | ?      | 10505 |     |        |            |                   |
| (1) | 1044   |       |      | (2)  | 1048   |       | (3) | 1548   | (4) 1052   | (5) None of these |
| 15. | 89250  | 17850 | 7140 | 1428 | 571.2  | ?     |     |        |            |                   |
| (1) | 228.48 |       |      | (2)  | 126.12 |       | (3) | 114.24 | (4) 246.48 | (5) None of these |

**16-20:** What should come in place of the question mark (?) in the following number series ?

- |     |      |     |      |     |       |   |     |     |         |                   |
|-----|------|-----|------|-----|-------|---|-----|-----|---------|-------------------|
| 16. | 200  | 231 | 264  | 299 | 336   | ? |     |     |         |                   |
| (1) | 355  |     |      | (2) | 365   |   | (3) | 375 | (4) 395 | (5) None of these |
| 17. | 10   | 22  | 8    | 24  | 6     | ? |     |     |         |                   |
| (1) | 16   |     |      | (2) | 18    |   | (3) | 12  | (4) 26  | (5) None of these |
| 18. | 27   | 64  | 125  | 216 | 343   | ? |     |     |         |                   |
| (1) | 512  |     |      | (2) | 459   |   | (3) | 519 | (4) 521 | (5) None of these |
| 19. | 60.5 | 72  | 84.5 | 98  | 112.5 | ? |     |     |         |                   |
| (1) | 125  |     |      | (2) | 122   |   | (3) | 126 | (4) 127 | (5) None of these |
| 20. | 96   | 107 | 129  | 162 | 206   | ? |     |     |         |                   |
| (1) | 258  |     |      | (2) | 261   |   | (3) | 256 | (4) 260 | (5) None of these |

**21-25:** What should come in place of question mark (?) in the following number series?

- |     |        |     |     |     |        |       |     |        |           |            |
|-----|--------|-----|-----|-----|--------|-------|-----|--------|-----------|------------|
| 21. | 1      | 4   | 27  | 256 | 3125   | 46656 | ?   |        |           |            |
| (1) | 117649 |     |     | (2) | 279936 |       | (3) | 705894 | (4) 16807 | (5) 823543 |
| 22. | 30     | 46  | 78  | 126 | 190    | 270   |     |        |           |            |
| (1) | 356    |     |     | (2) | 366    |       | (3) | 382    | (4) 398   | (5) 414    |
| 23. | 380    | 465 | 557 | 656 | 762    | 875   | ?   |        |           |            |
| (1) | 955    |     |     | (2) | 1015   |       | (3) | 975    | (4) 995   | (5) 1025   |
| 24. | 1250   | 500 | 200 | 80  | 32     | 12.8  | ?   |        |           |            |
| (1) | 5.12   |     |     | (2) | 6.4    |       | (3) | 4.3    | (4) 6.02  | (5) 5.16   |
| 25. | 23     | 26  | 24  | 27  | 25     | 28    | ?   |        |           |            |
| (1) | 27     |     |     | (2) | 29     |       | (3) | 26     | (4) 24    | (5) 21     |

## ANSWER

### SERIES - II

1.1	2.4	3.2	4.5	5.3	6.4	7.5	8.3	9.2	10.1	11.5	12.1	13.4
14.2	15.3	16.3	17.4	18.1	19.5	20.2	21.5	22.2	23.4	24.1	25.3	

## ANSWERS WITH EXPLANATION

### SERIES - II

1. 1; Here,  
 $289 + 7 \times 2 = 303$   
 $324 + 7 \times 4 = 352$   
 $387 + 7 \times 6 = 429$

2. 4; Here,  
 $45 \times 1 - 2 = 43$   
 $83 \times 3 - 4 = 245$   
 $975 \times 5 - 6 = 4869$     $4869 \times 9 - 7 = 29207$

3. 2; Here,  
 $31 \times 1 + 3 = 34$   
 $71 \times 3 + 3 = 216$   
 $867 \times 5 + 3 = 4338$     $4338 \times 6 + 3 = 26031$

4. 5; Here,  
 $16 \times 1 = 16$   
 $40 \times (2.5 + 1.0) = 140$   
 $840 \times (6 + 3.5) = 7980$   
 $7980 \times (9.5 + 6) = 123690$

5. 3; Here,  
 $16 \times 1.5 = 24$   
 $36 \times 1.5 = 54$   
 $81 \times 1.5 = 121.5$

6. 4; Here,  
 $3 \times 1.5 + 3 \div 2 = 6$   
 $6 \times 2 + (3 + 5) \div 2 = 16$   
 $16 \times 2.5 + (3 + 5 + 7) \div 2 = 47.5$

$47.5 \times 3 + (3 + 5 + 7 + 9) \div 2 = 154.5$   
 $154.5 \times 3.5 + (3 + 5 + 7 + 9 + 11) \div 2 = 558.25$

$558.25 \times 4 + (3 + 5 + 7 + 9 + 11 + 13) \div 2 = 2257$

Hence, the wrong number is 558.50. It should be replaced by 558.25.

7. 5; Here,  
 $898 + 2^3 = 906$   
 $933 + 4^3 = 997$

$1122 + 6^3 = 1338$     $1338 + 7^3 = 1681$

Hence, 996 is the wrong number. It should be replaced by 997.

8. 3; Here,  
 $7 \times 9 - 7 = 56$   
 $442 \times 7 - 5 = 3089$     $3089 \times 6 - 4 = 18530$

$18530 \times 5 - 3 = 92647$   
 $92647 \times 4 - 2 = 370586$

Hence, the wrong number is 18532. It should be replaced by 18530.

9. 2; Here,  
 $8000 \div 2.5 = 3200$     $3200 \div 2.5 = 1280$   
 $1280 \div 2.5 = 512$     $512 \div 2.5 = 204.8$

$204.8 \div 2.5 = 81.92$     $81.92 \div 2.5 = 32.768$

Hence, the wrong number is 84.92. It should be replaced by 81.92.

10. 1;  $(4 + 1^2) \times 11 = 55$     $(55 + 3^2) \times 9 = 576$

$(576 + 5^2) \times 7 = 4207$

$(4207 + 7^2) \times 5 = 21280$

$(21280 + 9^2) \times 3 = 64083$

$(64083 + 11^2) \times 1 = 64204$

11. 5;  $3 \times 4 = 12$     $12 \times 4 = 48$   
 $12 \times 48 = 576$     $576 \times 48 = 27648$

12. 1;  $4 \times 3 = 12$     $12 \times 5 = 60$   
 $60 \times 7 = 420$     $420 \times 11 = 4620$

$4620 \times 13 = 60060$

Note: (3, 5, 7, 11 and 13 are consecutive prime numbers)

13. 4;  $6 + 7^3 = 349$     $349 + 6^3 = 565$

$565 + 5^3 = 690$     $690 + 4^3 = 754$

$754 + 3^3 = 781$

14. 2;  $1.5 \times 2 + 1^2 = 4$     $4 \times 4 + 2^2 = 20$

$20 \times 6 + 3^2 = 129$     $129 \times 8 + 4^2 = 1048$

$1048 \times 10 + 5^2 = 10505$

15. 3;  $89250 \div 5 = 17850$     $17850 \div 2.5 = 7140$

$7140 \div 5 = 1428$     $1428 \div 2.5 = 571.2$

$572.1 \div 5 = 114.24$

16. 3;  $200 + 31 = 231$     $231 + 33 = 264$

$264 + 35 = 299$     $299 + 37 = 336$

$336 + 39 = 375$

Note (31, 33, 35, 37, 39 are in AP)

17. 4;



18. 1;  $3^3 = 27$     $4^3 = 64$     $5^3 = 125$

$6^3 = 216$     $7^3 = 343$     $8^3 = 512$

19. 5;  $60.5 + 11.5 = 72$     $72 + 12.5 = 84.5$

$84.5 + 13.5 = 98$     $98 + 14.5 = 112.5$

$112.5 + 15.5 = 128$

Note: (11.5, 12.5, 13.5, 14.5, 15.5 are in AP)

20. 2;  $96 + 11 \times 1 = 107$     $107 + 11 \times 2 = 129$

$129 + 11 \times 3 = 162$     $162 + 11 \times 4 = 206$

$206 + 11 \times 5 = 261$

Note: (11, 22, 33, 44, 55 are in AP)

21. 5; The series is

1   4   27   256   3125   46656

(1)  $(2^2)$    (3 $^3$ )   (4 $^4$ )   (5 $^5$ )   (6 $^6$ )

Hence (7 $^7$ ) should be the next number value in place of question mark.

22. 2; The series is

30   46   78   126   190   270   ?

(+16)   (+32)   (+48)   (+64)   (+80)   (+96)

Hence, 366 should come in place of the question mark (?).

23. 4; The series is

380   465   557   656   762   875   ?

(+85)   (+92)   (+99)   (+106)   (+113)   (+120)

Here, the difference between each two consecutive differences (eg 85 and 92 or 92 and 99) and so on is 7.

Hence, 995 should come in place of the question mark (?).

24. 1; Here, every second term is in the form of  $\left( X \times \frac{2}{5} \right)$  Where

X is the previous term. Hence, 5.12 should come in place of the question mark (?).

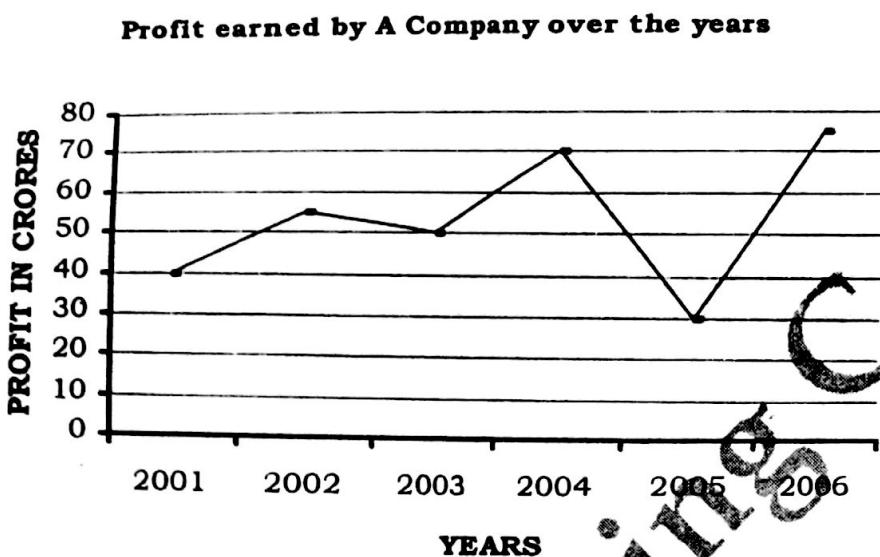
25. 3; The series is

23   26   24   27   25   28   ?

(+3)   (-2)   (+3)   (-2)   (+3)   (-2)

# DATA INTERPRETATION-I

**1-5:** Study the following graph carefully to answer the questions that follow :



- What is the percent profit of the Company in the year 2004, if the income of the company was ₹ 120 crores?  
 (1) 100%      (2) 120%      (3) 133%      (4) 125%      (5) 140%
- The expenditure of the Company in the year 2005 was ₹ 85 crores. What is the ratio of income to the expenditure of the company in that year ?  
 (1) 23:17      (2) 5:4      (3) 11:8      (4) 21:16      (5) None of these
- What is the approximate average (in crores) profit made by the company over the years ?  
 (1) 50      (2) 48      (3) 53      (4) 57      (5) 61
- The income of the Company in the year 2001 was ₹ 950000000. What was the expenditure of the Company in that year ?  
 (1) 50000000.      (2) 550000000      (3) 40000000      (4) 350000000      (5) None of these
- What is the percent increase in the profit of the Company in the year 2004 from the previous year ?  
 (1) 43%      (2) 46%      (3) 50%      (4) 40%      (5) None of these

**6-10:** Study the table carefully to answer the questions that follow :

**Sale (in crores) of number of units by six different Companies over the years**

Year→ Company↓	2001	2002	2003	2004	2005	2006
A	10	118	143	126	152	195
B	91	93	85	99	69	35
C	103	153	100	128	96	56
D	112	166	78	83	135	198
E	72	169	154	98	140	192
F	64	56	120	70	176	54

- Which Company has sold the maximum number of units over the years ?  
 (1) A      (2) C      (3) E      (4) F      (5) None of these
- What is the difference between number of units sold by Company D in the year 2001 and the year 2003 ?  
 (1) 3400000      (2) 3400000000      (3) 34000000      (4) 340000000      (5) None of these
- Which Company has sold the minimum number of units over the years ?  
 (1) A      (2) B      (3) D      (4) E      (5) None of these
- Number of units sold by Company B in the year 2003 is what percent of the total number of units sold by all the companies together in that year ?  
 (1) 12.76      (2) 15.5      (3) 12.5  
**(12)**      (4) 20      (5) None of these

10. What is average number of units sold (in crores) in the year 2005 ?

- (1) 130      (2) 133      (3) 127      (4) 121

(5) None of these

11-15: Study the following table to answer the given questions.

Centre and Post-wise Number of Candidates

Post → Centre ↓	Officer	Clerk	Field Officer	Supervisor	Specialist Officer
Bangalore	2000	5000	50	2050	750
Delhi	15000	17000	160	11000	750
Mumbai	17000	19500	70	7000	900
Hyderabad	3500	20000	300	9000	1150
Kolkata	14900	17650	70	1300	1200
Lucknow	11360	15300	30	1500	650
Chennai	9000	11000	95	1650	500

11. Which centre has the highest number of candidates ?

- (1) Delhi      (2) Kolkata      (3) Hyderabad      (4) Mumbai      (5) None of these

12. Which centre has 300% more number of Clerks as compared to Bangalore ?

- (1) Lucknow      (2) Mumbai      (3) Hyderabad      (4) Chennai      (5) None of these

13. What is the difference between total number of Officers and Clerks ?

- (1) 29,680      (2) 34,180      (3) 32,690      (4) 28,680      (5) None of these

14. In Kolkata, number for Specialist Officer is approximately what per cent of that of Officers ?

- (1) 8.7      (2) 9      (3) 6.5      (4) 8      (5) 6.9

15. In Chennai, the number of Clerks is approximately how much per cent more than that of Officers?

- (1) 18      (2) 22      (3) 20      (4) 2      (5) 13

16-20: Study the following table carefully and answer the questions given below.

Quantity of Rice produced by various states over the years (Quantity in Tonnes)

States	Years					
	2002	2003	2004	2005	2006	2007
A	1500	1480	1620	1700	1540	1650
B	1250	1190	1400	1450	1320	1380
C	1600	1190	1310	1300	1340	1360
D	1220	1500	1480	1590	1630	1580
E	1440	1350	1430	1280	1380	1400
F	1600	1620	1510	1610	1580	1590

16. In which state has the production of rice increased consistently over the years ?

- (1) A      (2) B      (3) D      (4) E      (5) None of these

17. In which year was the production of rice the highest in all the states together ?

- (1) 2007      (2) 2002      (3) 2005      (4) 2006      (5) None of these

18. Which state produced the lowest quantity of rice over the years ?

- (1) E      (2) D      (3) C      (4) A      (5) None of these

19. What is the respective ratio of the average quantity of rice produced by State D to the average quantity of rice produced by State F over the years ?

- (1) 69:79      (2) 310:317      (3) 138:155      (4) 276:317      (5) None of these

20. Rice produced by State C in the year 2005 is approximately what percent of the rice produced by State A in the same year ?

- (1) 82      (2) 72      (3) 88      (4) 76      (5) 69

(13)

**21-25:** Study the following graph carefully and answer the questions given below.

## **Number of Buildings constructed, demolished and redeveloped across various cities in a year**

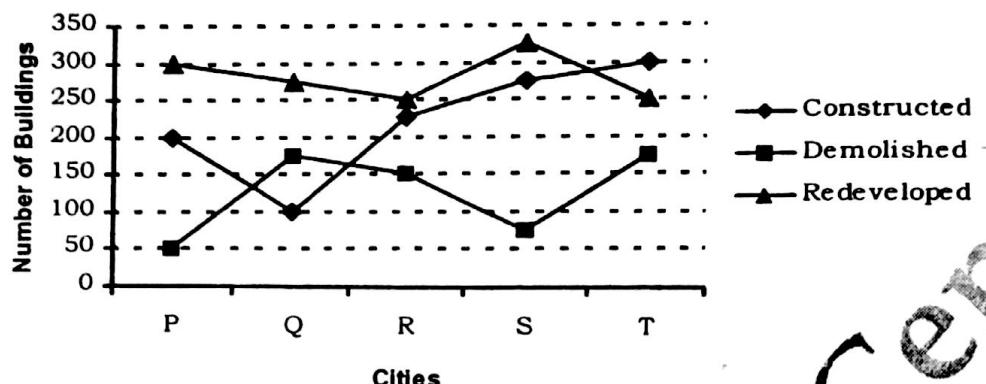





table carefully and answer the questions below.

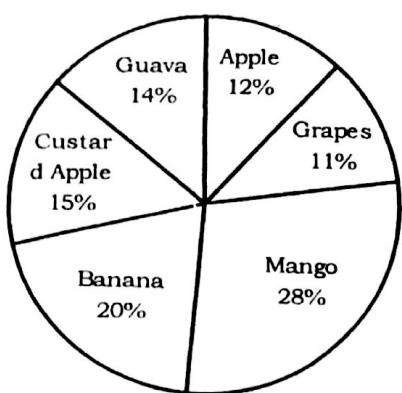
Number of Literates in various cities over the years											
Years	2001		2002		2003		2004		2005		
Cities	M	F	M	F	M	F	M	F	M	F	
U	15000	25000	18550	20000	18590	25000	25500	25500	28000	28800	
V	12500	9200	14680	10520	16000	11000	16850	13680	16920	14360	
W	18660	17380	18950	18000	18980	19000	19500	19250	19580	19600	
X	14200	14850	14820	14500	15250	15000	15390	15250	16000	16200	
Y	9700	9320	9990	8540	9870	8820	10200	10000	10520	10300	

26. What is the total number of male literates in City W over the years ?  
(1) 97656      (2) 95670      (3) 99280      (4) 96570  
27. What is the total number of literates across the cities in the year 2005 ?  
(1) 18028      (2) 182000      (3) 188050      (4) 180500      (5) None of these  
28. What is the difference between the total number of female literates across the cities in the year 2002 and the year 2004 ?  
(1) 11850      (2) 12000      (3) 11500      (4) 12800      (5) None of these  
29. What is the respective ratio of literates of City X in the year 2001 to the literates of the same city in the year 2003?  
(1) 581 : 624      (2) 64 : 75      (3) 571 : 605      (4) 84 : 131      (5) None of these  
30. What is the average number of female literates across the cities in the year 2005 ?  
(1) 18725      (2) 15872      (3) 17582      (4) 17852      (5) None of these

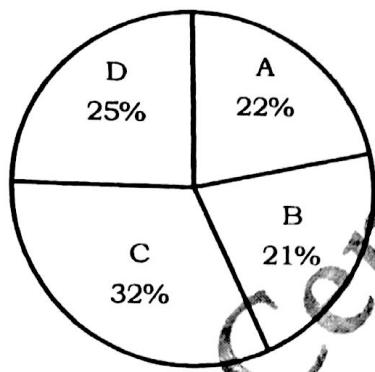
**31-35:** Study the following Pie-Graph carefully and answer the questions.

**A survey conducted on 5800 villagers staying in various villages and having various favourite fruits.**

## **Favourite Fruits**

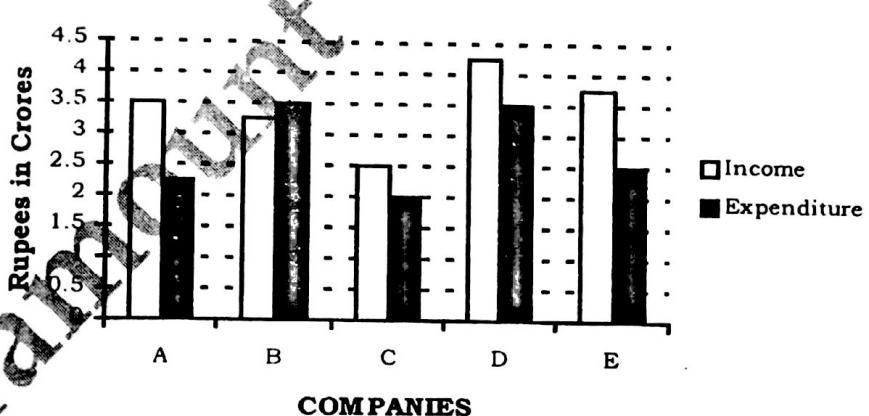


#### **People staying in various villages**






**Income and Expenditure of various Companies during a year**



36. What is the average income earned by all the companies together?  
(1) ₹ 345000000      (2) ₹ 335000000      (3) ₹ 3350000      (4) ₹ 345 00000      (5) None of these

37. Expenditure incurred by company C is **approximately**, what per cent of the expenditure incurred by company B?  
(1) 41      (2) 57      (3) 62      (4) 51      (5) 55

38. What is the **approximate** difference between the per cent profit earned by Company A and Company D?  
(1) 5      (2) 20      (3) 35      (4) 15      (5) 25

39. What is the total expenditure incurred by all the companies together?  
(1) ₹ 13750000      (2) ₹ 1375000000      (3) ₹ 13750000000      (4) ₹ 1375000      (5) None of these

40. What is the respective ratio of profit earned by companies A and C together to profit earned by companies D and E together?  
(1) 7:8      (2) 5:7      (3) 4:5      (4) 3:5      (5) None of these

**41-45:** Study the following table and answer the questions given below:

**Number of People using various Music Accessories from various cities**

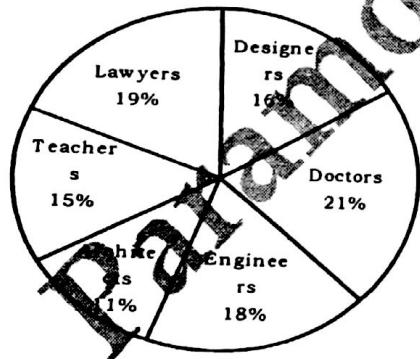
Accessories	Cities				
	A	B	C	D	E
Radio	21550	55000	32680	18200	35000
CD Player	34000	36780	48300	26500	18600
I-Pod	12200	9500	14960	29750	10550
Cell Phone	45720	15280	50000	33800	22660
MP3 Player	22550	21590	21300	36480	21660
Stereo System	33800	45360	36200	21500	30000

41. The total number of people using the I-Pod are what per cent of the total number of people using Stereo System across the cities? (Rounded off to two-digits after decimal).  
 (1) 46.12      (2) 42.36      (3) 41.62      (4) 41.16      (5) None of these
42. Which city has the highest number of people using various music accessories?  
 (1) A      (2) B      (3) C      (4) D      (5) E
43. What is the difference between the total number of people using various music accessories from city B and the total number of people using various music accessories from city E?  
 (1) 46000      (2) 45250      (3) 46550      (4) 45650      (5) None of these
44. What is the respective ratio of the total number of people using Radio, CD Player and I-Pod together from city C to the total number of people using Cell Phone, MP3 Player and Stereo System from the same city?  
 (1) 6415:7371      (2) 4797:5375      (3) 4325:6418      (4) 4797.6415      (5) None of these
45. What is the average number of people using Cell Phone across the cities?  
 (1) 24594      (2) 32486      (3) 33372      (4) 34836      (5) None of these
- 46-50: Study the following Pie-chart carefully and answer the questions given below.

**Survey conducted on 10500 people to find out various Professionals in the town and percentage of Female Professionals amongst them.**

**Various Professionals 10500**

**Percentage of Female Professionals**



Doctors	20%
Engineers	60%
Architects	40%
Teachers	80%
Lawyers	40%
Designers	35%

46. What is the respective ratio of the male Engineers and Designers to the same female professionals in the town?  
 (1) 41 : 44      (2) 55 : 53      (3) 31 : 35      (4) 44 : 35      (5) None of these
47. The total number of Lawyers in town are approximately what per cent of the total number of Doctors in town?  
 (1) 95      (2) 98      (3) 90      (4) 85      (5) 81  
 (16)

48. What is the difference between the total number of male and female professionals in the town?  
(1) 1284                   (2) 1134                   (3) 1054                   (4) 1164                   (5) None of these

49. Female Doctors are what percent of the female Teachers in the town ?  
(1) 42                   (2) 28                   (3) 15                   (4) 35                   (5) None of these

50. What is the respective ratio of the number of male Architects to the number of male Teachers in the town?  
(1) 11: 5                   (2) 3 : 2                   (3) 5 : 11                   (4) 2 : 3                   (5) None of these

## ANSWER

## DATA INTERPRETATION - I

1.5	2.1	3.3	4.2	5.4	6.1	7.4	8.2	9.3	10.5	11.4	12.3	13.3
14.4	15.2	16.5	17.1	18.3	19.2	20.4	21.3	22.2	23.4	24.5	25.1	26.2
27.1	28.5	29.3	30.4	31.4	32.5	33.3	34.2	35.1	36.4	37.2	38.	39.5
40.1	41.1	42.3	43.4	44.2	45.5	46.5	47.3	48.2	49.4	50.1		

## ANSWERS WITH EXPLANATION

**Q.1-5:**

1. 5; Income = Expenditure + Profit  
 Expenditure = 120 - 70 = 50

$$\% \text{ Profit} = \frac{\text{Profit} \times 100}{\text{Expenditure}} = \frac{70 \times 100}{50} = 140\%$$

2. 1; Income = 85 + 30 = 115 crore  
 given ratio = 115 : 85 = 23 : 17

3. 3; Average =  $\frac{40 + 55 + 50 + 70 + 30 + 75}{6}$

$$= \frac{320}{6} \approx 53.33 = 53\%$$

4. 2; Expenditure = 950000000 - 400000000  
 = 550000000

5. 4; Increase in the profit = (70 - 50) = 20 crore

$$\% \text{ Income} = \frac{20 \times 100}{50} = 40\%$$

**6-10:**

6. 1; **Company Solid Units (in crores)**

A	844
B	472
C	636
D	772
E	825
F	540

7. 4; The required difference

$$= (112 - 78) = 34 \text{ crores ie } 340,00,000$$

8. 2; Obvious from the table shown earlier.

9. 3; The required per cent

$$= \frac{85 \times 100}{(143 + 85 + 100 + 78 + 154 + 120)} = \frac{8500}{680} = 12.5\%$$

10. 5; The required average

$$= \frac{(152 + 69 + 96 + 35 + 140 + 176)}{6} = \frac{768}{6} = 128$$

Centre	Candidates
Bangalore	9850
Delhi	43910
<b>Mumbai 44470</b>	
Hyderabad	33950
Kolkata	35120
Lucknow	28840
Chennai	22245

12. 3; 5000 + 300% of 5000 = 20,000

13. 3; The required difference = 105450 - 72760 = 32690

14. 4; The required per cent =  $\frac{1200}{14900} \times 100 = 8 \frac{8}{149}\%$

15. 2; The required per cent

$$= \frac{(11000 - 9000)}{9000} \times 100 = \frac{200}{9} = 22 \frac{2}{9}\%$$

16. 5; Obvious from the table given.

Year	Production (in tonnes)
2002	8470
2003	8330
2004	8750
2005	8930
2006	8790
<b>2007</b>	<b>8960</b>

State	Production (in tonnes)
A	9490
B	7990
<b>C</b>	<b>7660</b>
D	9300
E	8280
F	9510

19. 2; The required ratio

$$= \frac{9300}{9510} = \frac{310}{317} \text{ ie } 310 : 317$$

20. 4; The required per cent =  $\frac{1300}{1700} \times 100 = \frac{1300}{17} = 76 \frac{8}{17}\%$

21. 3; The number of buildings constructed, demolished and redeveloped in city

1. Q = 100 + 175 + 175 = 550

2. T = 300 + 175 + 250 = 725

Thus, the required difference = 175

22. 2; The required average

$$= \frac{(50 + 175 + 150 + 175 + 175)}{5} = \frac{625}{5} = 125$$

23. 4; The required per cent

$$= \frac{(200 + 100 + 225 + 275 + 300)}{(300 + 275 + 250 + 325 + 250)} \times 100$$

$$= \frac{1100}{1400} \times 100 = 78 \frac{4}{7}\%$$

24. 5; The required average

$$= \frac{(225 + 150 + 250)}{3} = \frac{625}{3} = 208 \frac{1}{3}$$

25. 1; The required ratio =  $\frac{175}{300} = \frac{7}{12}$  ie 7 : 12

26. 2; The required number of male literates

$$= 18660 + 18950 + 18980 + 19500 + 19580 = 95670$$

27. 1; The required number of literates

$$= (28000 + 16920 + 19580 + 16000 + 10520) + (28800 + 14360 + 19600 + 16200 + 10300) = 91020 + 89260 = 180280$$

28. 5; 12120

The required difference

$$= (25500 + 13680 + 19250 + 15250 + 10000) - (20000 + 10520 + 18000 + 14500 + 8540)$$

$$= 83680 - 71560 = 12120$$

29. 3; The required ratio =  $\frac{(14200 + 14350)}{(15250 + 15000)} = \frac{28550}{30250} = \frac{571}{605}$

ie 571 : 605

30. 4; The required average

$$= \frac{(28800 + 14360 + 19600 + 16200 + 10300)}{5}$$

$$= \frac{89260}{5} = 17852$$

31. 4; The required per cent

$$= \frac{(32 \div 2)\% \text{ of } 5800}{28\% \text{ of } 5800} \times 100 = \frac{16}{28} \times 100 = 57 \frac{1}{7}\%$$

32. 5; The required number of people

$$= 25\% \text{ of } 5800 \times \frac{(100 - 32)}{100} = \frac{25 \times 5800 \times 68}{100 \times 100} = 986$$

33. 3; The required number of people

$$= 15\% \text{ of } 5800 = \frac{15 \times 5800}{100} = 870$$

34. 2; The required number of people  
 $= 20\% \text{ of } 5800 - (21 + 2)\% \text{ of } 5800$   
 $= 9.5\% \text{ of } 5800 = 551$

35. 1; The required number of people  
 $= (12 + 11)\% \text{ of } 5800 - 23\% \text{ of } 5800 = 1334$

36. 4; The required average income (in ₹ crore)  
 $= \frac{(3.5 + 3.25 + 2.5 + 4.25 + 3.75)}{5} = \frac{17.25}{5}$

= ₹ 3.45 crore

37. 2; The required per cent

$$= \frac{2 \times 100}{3.5} = \frac{400}{7} = 57 \frac{1}{7}\%$$

38. 3; Per cent profit earned by the

$$1. \text{ Company A} = \frac{(3.5 - 2.25)}{2.25} \times 100 = \frac{500}{9}\%$$

$$2. \text{ Company D} = \frac{(4.25 - 3.5)}{3.5} \times 100 = \frac{150}{7}\%$$

Now, the required difference

$$= \frac{500}{9} - \frac{150}{7} = 34 \frac{8}{63}$$

39. 5; The required total expenditure (in ₹ crore)  
 $= 2.25 + 3.5 + 2 + 3.5 + 2.5 = ₹ 13.75 \text{ crore}$

40. 1; The required ratio

$$= \frac{(1.25 + 0.5)}{(0.75 + 1.25)} = \frac{1.75}{2.00} = \frac{7}{8} \text{ ie } 7 : 8$$

41. 1; The required per cent

$$= \frac{(12200 + 9500 + 14960 + 29750 + 10550)}{(33800 + 45360 + 36200 + 21500 + 30000)} \times 100$$

$$= \frac{76960}{166860} \times 100 \approx 46.12\%$$

42. 3; City	Number of people using accessories
A	169820
B	183510
C	<b>203440</b>
D	166230
E	137860

43. 4; The required difference  
 $= 183510 - 137860 = 45650$

44. 2; The required ratio

$$= \frac{(32680 + 48300 + 14960)}{(50000 + 21300 + 36200)} = \frac{95940}{107500} = \frac{4797}{5375}$$

ie 4797 : 5375

45. 5; The required average

$$= \frac{(45720 + 15280 + 50000 + 33800 + 22660)}{5}$$

$$= \frac{167460}{5} = 33,492$$

46. 5; The required ratio

$$\frac{10500 \left( \frac{18}{100} \times \frac{40}{100} + \frac{16}{100} \times \frac{65}{100} \right)}{10500 \left( \frac{18}{100} \times \frac{60}{100} + \frac{16}{100} \times \frac{35}{100} \right)}$$

$$= \frac{(18 \times 40 + 16 \times 65)}{18 \times 60 + 16 \times 35} = \frac{1760}{1640} = \frac{44}{41} \text{ ie } 44 : 41$$

47. 3; The required per cent

$$= \frac{19\% \text{ of } 10500}{21\% \text{ of } 10500} \times 100 = \frac{19}{21} \times 100 = 90 \frac{10}{21}\%$$

48. 2; The percentage of female professionals

$$= 21 \times \frac{1}{5} + 18 \times \frac{3}{5} + 11 \times \frac{2}{5} + 15 \times \frac{4}{5} + 19 \times \frac{2}{5} + 16 \times \frac{7}{20}$$

$$= \frac{1}{5} (21 + 54 + 22 + 60 + 38) + \frac{112}{20} = \frac{195}{5} + \frac{112}{20}$$

$$= 39 + 5.6 = 44.6\%$$

∴ Percentage of male professions

$$= 100 - 44.6 = 55.4\%$$

Now, the required difference

$$= (55.4 - 44.6)\% \text{ of } 10500$$

$$= 10.8\% \text{ of } 10500 = 1134$$

49. 4; The required per cent

$$= \frac{10500 \times 0.21 \times 0.20}{10500 \times 0.15 \times 0.80} \times 100 = \frac{21 \times 20}{15 \times 80} \times 100 = 35\%$$

50. 1; The required ratio

$$= \frac{10500 \times 0.11 \times 0.60}{10500 \times 0.15 \times 0.20} = \frac{11}{5} \text{ ie } 11 : 5$$

## DATA INTERPRETATION-II

**Q. 1-5:** These questions are based on the following table. Study it carefully and answer the questions.  
**Number of Items (in thousands) manufactured (M), rejected (R) and sold (S) by five different companies over the years.**

Company	A			B			C			D			E		
	Year	M	R	S	M	R	S	M	R	S	M	R	S	M	R
2001	136	1.2	125	98	0.5	90	165	3.5	158	158	1.5	149	85	0.6	80
2002	164	1.7	138	115	1.1	102	172	2.9	166	169	1.9	162	96	0.8	90
2003	148	1.5	136	152	2.6	132	169	2.3	160	173	2.3	168	88	0.5	83
2004	156	2.2	145	147	1.8	140	178	3.2	172	166	2.1	159	102	0.9	98
2005	168	2.5	160	138	1.3	129	158	1.8	152	159	2.0	150	86	0.7	81
2006	175	2.8	168	158	2.2	148	180	2.4	171	171	2.1	165	105	0.8	101

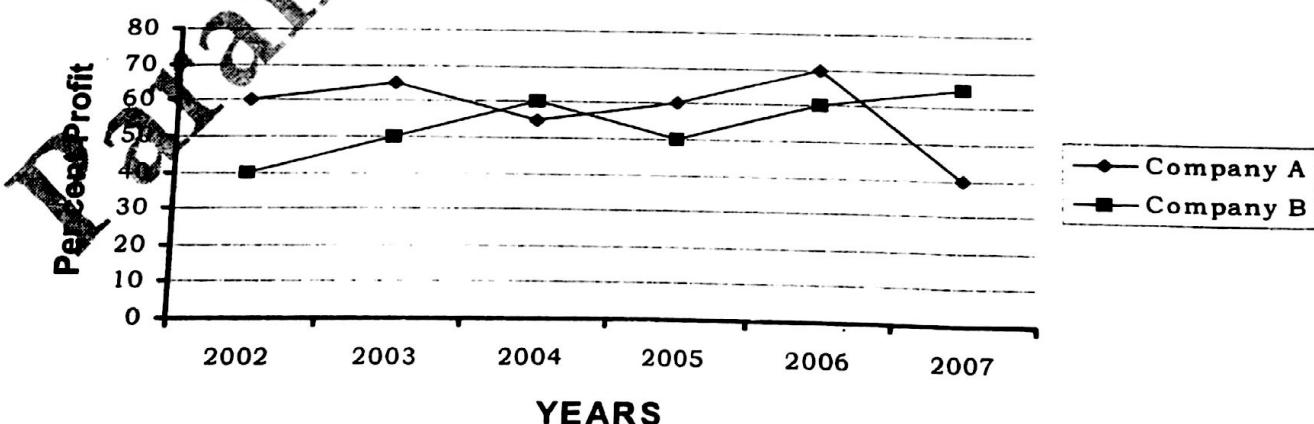
**Note:** No. of items accepted = No. of Items manufactured – No. of Items rejected

- Q. 1.** What is the percentage (rounded off to two digits after decimal) of items rejected out of the total items manufactured by Company 'B' in year 2003?  
 (1) 1.97      (2) 1.71      (3) 1.82      (4) 1.96      (5) None of these
- Q. 2.** How many items remained unsold out of the accepted items by Company A in 2004?  
 (1) 800      (2) 880      (3) 8000      (4) 8800      (5) None of these
- Q. 3.** What is the total number of items accepted by all the five companies together in 2002?  
 (1) 707600      (2) 77600      (3) 70760      (4) 776000      (5) None of these
- Q. 4.** Approximately, what was the average no. of items rejected by Company D for all the given years?  
 (1) 2100      (2) 2060      (3) 2090      (4) 1990      (5) 2030
- Q. 5.** What was the total number of items manufactured by all the companies together in 2006?  
 (1) 582000      (2) 827000      (3) 789000      (4) 595000      (5) None of these

**Q. 6-10:** Study the following graph carefully and answer the questions below it.

**Percentage Profit earned by two Companies A and B over the given years.**

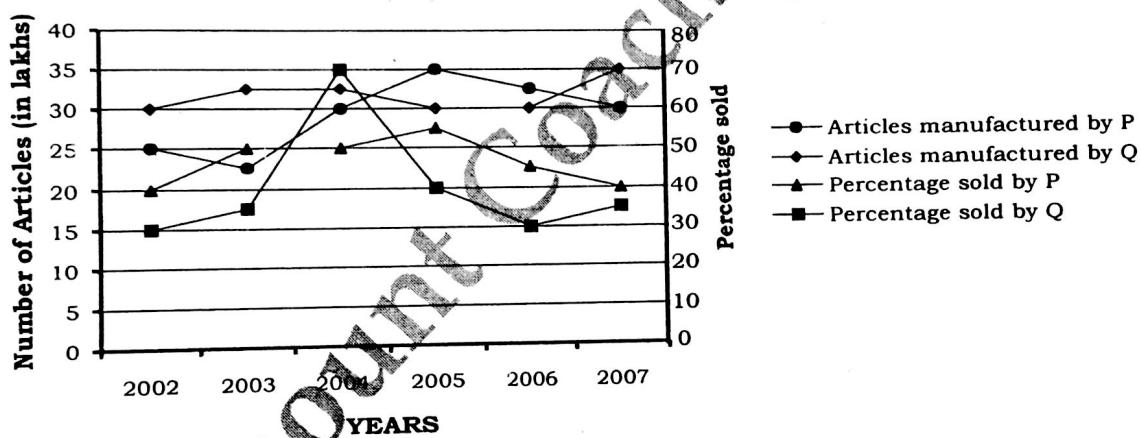
$$\text{Percent Profit} = \frac{\text{Income} - \text{Expenditure}}{\text{Expenditure}} \times 100$$



- Q. 6. If the expenditure of Companies A & B in 2007 were equal and the total income of the two companies was ₹ 48.8 lakhs, what was the total expenditure of the two companies in 2007?  
 (1) ₹ 32 lakhs      (2) ₹ 26 lakhs      (3) ₹ 18.2 lakhs      (4) Can't be determined      (5) None of these
- Q. 7. If the income of Company B in 2004 and 2005 were in the ratio of 3 : 5 respectively, what was the respective ratio of Expenditures of that company in these two years?  
 (1) 4 : 15      (2) 7 : 12      (3) 9 : 16      (4) Can't be determined      (5) None of these
- Q. 8. Expenditure of company B in 2003 and 2004 are ₹ 25 lakhs and ₹ 30 lakhs respectively. What was the total income of Company B in 2003 and 2004 together?  
 (1) ₹ 74.8 lakhs      (2) ₹ 85.5 lakhs      (3) ₹ 68.4 lakhs      (4) ₹ 78.5 lakhs      (5) None of these
- Q. 9. Total Expenditure of Company A in all the years together was ₹ 76.5 lakhs. What was the total income of the Company in all the years together?  
 (1) ₹ 98.5 lakhs      (2) ₹ 89.3 lakhs      (3) ₹ 92.6 lakhs      (4) Can't be determined      (5) None of these
- Q. 10. Ratio of Expenditure of Companies A and B in 2006 was 7 : 8 respectively. What was the respective ratio of their incomes in 2006?  
 (1) 118 : 163      (2) 128 : 119      (3) 121 : 147      (4) 163 : 118      (5) None of these

**Q. 11-15:** Study the following graph carefully to answer the question given below it.

**Number of articles manufactured (in lakhs) by two Companies P and Q and percentage of articles sold by both over the years.**



- Q. 11. How many articles were sold by both companies together in 2005?  
 (1) 14,62,000      (2) 42,18,000      (3) 31,25,000      (4) 29,60,000      (5) None of these
- Q. 12. What is the approximate average number of articles manufactured by Company P over the years?  
 (1) 29      (2) 39,14,886      (3) 38      (4) 29,16,667      (5) 20,12,650
- Q. 13. What is the percent increase in number of articles sold by Company Q in 2004 from the year 2002?  
 (rounded off to two digits after decimal)  
 (1) 136.85      (2) 152.78      (3) 35      (4) 40      (5) None of these
- Q. 14. What is the respective ratio of number of articles not sold by Company P to those of Company Q in the year 2002?  
 (1) 5 : 7      (2) 9 : 13      (3) 7 : 5      (4) 13 : 8      (5) None of these
- Q. 15. In which year were the maximum numbers of article manufactured from both Companies together?  
 (1) 2004 & 2006      (2) 2005      (3) 2005 & 2006      (4) 2007      (5) None of these

**Q. 16-20:** Study the following Table carefully and answer the questions given below:

**NUMBER OF STUDENTS PASSED AND FAILED IN FIVE CLASSES OF A SCHOOL  
OVER THE YEARS**

YEAR	CLASSES									
	VI		VII		VIII		IX		X	
	PASS	FAIL	PASS	FAIL	PASS	FAIL	PASS	FAIL	PASS	FAIL
2001	50	42	76	14	58	18	65	17	48	23
2002	60	19	95	22	71	30	75	12	76	28
2003	45	13	61	19	49	15	48	08	74	20
2004	58	21	75	25	80	28	60	11	84	14
2005	55	18	66	29	59	26	70	13	65	17
2006	68	31	54	38	77	34	82	21	55	14

- Q. 16.** What is the average number of failed students from class VII for the given years ?  
 (1) 29.5      (2) 27      (3) 26.5      (4) 25      (5) 24.5
- Q. 17.** What is the ratio between total number of passed students and total number of failed students for the year 2006?  
 (1) 2 : 1      (2) 56 : 23      (3) 69 : 13      (4) 69 : 35      (5) 336 : 137
- Q. 18.** Which of the following classes has the maximum number of passed students, as compared to the total number of students of that class, over the years ?  
 (1) VI      (2) VII      (3) VIII      (4) IX      (5) X
- Q. 19.** What is the number of passed students, for all the classes together, in the year 2003 ?  
 (1) 277      (2) 297      (3) 315      (4) 357      (5) 377
- Q. 20.** What is the total percentage of passed students of class VI from all the years together ?  
 (1) 50      (2) 82      (3) 70      (4) 77      (5) 90

**Q. 21-25:** Study the following Table carefully and answer the questions given below:

**PERCENTAGE OF MARKS OBTAINED BY DIFFERENT STUDENTS IN DIFFERENT SUBJECTS**

STUDENTS	SUBJECTS (Maximum Marks)						
	Hindi (150)	English (150)	Math (150)	S. St. (150)	Science (75)	Marathi (50)	Phy. Edu (75)
A	88	85	86	74	78	80	85
B	92	80	79	82	70	70	97
C	75	89	85	90	83	91	85
D	63	66	69	71	85	64	62
E	80	76	89	95	79	70	73
F	69	81	86	76	69	85	76

- Q. 21.** How many marks did E get in all the subjects together ?  
 (1) 659      (2) 599      (3) 624      (4) 704      (5) 616
- Q. 22.** What are the average marks obtained by all the students together in English ?  
 (1) 110.25      (2) 113.75      (3) 121.50      (4) 119.25      (5) 123.75
- Q. 23.** How many students have scored the highest marks in more than one subject ?  
 (1) one      (2) two      (3) three      (4) four      (5) five