

34. (2) 45% of 720 = 30% of x
 $\Rightarrow 324 = 30\% \text{ of } x$
 $\Rightarrow x \times \frac{30}{100} = 324$
 $\therefore x = \frac{324 \times 100}{30} = 1080$

35. (1) ?% of $4^7 = 10.24$
 $\Rightarrow 4^7 \times \frac{?}{100} = 10.24$
 $\Rightarrow 4^7 \times ? = 1024$
 $\Rightarrow 4^7 \times ? = (4)^4 \times 4$
 From comparing
 $\therefore ? = 4$

36. (2) 20.3% of 530 + 16.8% of 225
 $= 530 \times \frac{20.3}{100} + 225 \times \frac{16.8}{100}$
 $= 107.59 + 37.8 = 145.39$

37. (2) $?(35)^2 + \sqrt[3]{125} + (25)^2 + 125$
 $\Rightarrow ? = 1225 + 5 + 625 + 125$
 $\therefore ? = 245 + 5 = 250$

38. (4) $(12)^2 + (?)^2 + (7)^2 = 274$
 $(?)^2 = 274 - (12)^2 - (7)^2$
 $= 274 - 144 - 49 = 81$
 $\therefore ? = 9$

39. (2) $(?)^2 \times \frac{12 \times 12}{48 \times 48} = 81$
 $\Rightarrow (?)^2 = 81 \times 4 \times 4$
 $\Rightarrow (?)^2 = (9)^2 \times (4)^2$
 $\Rightarrow ? = \sqrt{(9)^2 \times (4)^2} = 9 \times 4$
 $\therefore ? = 36$

40. (4) ?% of 450 + 46% of 285 = 257.1
 $\Rightarrow \frac{450 \times ?}{100} + \frac{285 \times 46}{100} = 257.1$
 $\Rightarrow 450 \times ? + 13110 = 25710$
 $\Rightarrow 450 \times ? = 25710 - 13110$
 $\therefore ? = \frac{12600}{450} = 28$

41. (3) Given, $P = ₹ 17000, T = 4$
 $SI = ₹ 6800$
 $SI = \frac{P \times R \times T}{100}$
 $\Rightarrow R = \frac{SI \times 100}{P \times T} = \frac{6800 \times 100}{17000 \times 4} = 10\%$
 $\therefore CI = P \left(1 + \frac{R}{100}\right)^T - P$
 $= 17000 \left(1 + \frac{10}{100}\right)^2 - 17000$
 $= 17000 \left(\frac{11}{10}\right)^2 - 17000$
 $= 20570 - 17000 = ₹ 3570$

42. (1) Suppose first number = x and second number = y
 Then, $\frac{3}{7}$ of x = 45% of y

$\Rightarrow \frac{3}{7} \times x = \frac{45}{100} \times y$

$\Rightarrow \frac{3}{7} \times x = \frac{9}{20} \times y$

$\Rightarrow \frac{x}{y} = \frac{7 \times 9}{20 \times 3}$

$\Rightarrow \frac{x}{y} = \frac{21}{20} = 21:20$

43. (1) Let $AB = x$ Km

$\therefore \frac{x}{75} + \frac{x}{125} = 11$

$\Rightarrow \frac{5x + 3x}{375} = 11$

$\Rightarrow 8x = 11 \times 375$

$\therefore x = 516 \text{ km}$

44. (2) Remaining mixture = $120 - 45 = 75 \text{ L}$

Quantity of water in the remaining mixture = $75 \times \frac{4}{15} = 20 \text{ L}$

$\therefore 5 \text{ L extra water is added.}$

$\therefore \text{Required percentage} = \frac{25}{80} \times 100 = 31.25\%$

45. (1) Let cost price of the book be ₹ x.

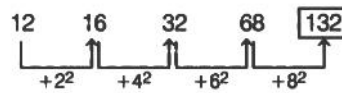
According to the question,
 $(558 - x) = 2 \times (504 - x)$

$\Rightarrow x = 1008 - 558$

$\therefore x = 450$

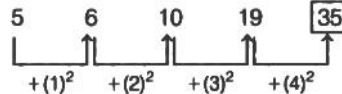
$\therefore \text{Marked Price} = 450 + 450 \times \frac{30}{100} = 585$

46. (2) The pattern of the series is



$\therefore ? = 132$

47. (4) The pattern of the series is



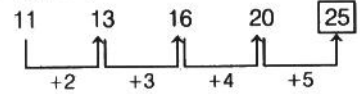
$\therefore ? = 35$

48. (1) The pattern of the series is

$8 \times 1 + 1 = 9$
 $9 \times 2 + 2 = 20$
 $20 \times 3 + 3 = 63$
 $63 \times 4 + 4 = 256$

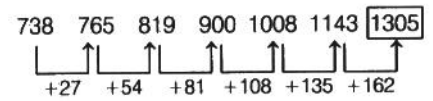
$\therefore ? = 256$

49. (5) The pattern of the series is



$\therefore ? = 25$

50. (3) The pattern of the series is



$\therefore ? = 1305$

51. (5) Let number = x

According to the question,

$6x - 168 = 168 - x$

$7x = 168 + 168$

$\therefore x = \frac{336}{7} = 48$

$\therefore \text{Required number}$

$= 48 \times \frac{15}{100} = 7.2$

52. (5) Suppose Amitesh's monthly stipend = ₹ x

Monthly spend on food and

transport $x \times \frac{45}{100} = ₹ \frac{45x}{100}$

Remaining amount = $x - \frac{45x}{100} = ₹ \frac{55x}{100}$

Monthly spend on books

$= \frac{55x}{100} \times \frac{20}{100}$

$= ₹ \frac{11x}{100}$

Remaining amount

$= x - \left(\frac{45x}{100} + \frac{11x}{100}\right)$

$= x - \frac{56x}{100} = ₹ \frac{44x}{100}$

Monthly spend on other expenses

$= \frac{44x}{100} \times \frac{1}{2} = ₹ \frac{22x}{100}$

Then, according to the question,

$\left[x - \left(\frac{45x}{100} + \frac{11x}{100} + \frac{22x}{100}\right)\right] = 880$

$\frac{22x}{100} = 880$

$\Rightarrow x = \frac{100 \times 880}{22} \Rightarrow x = ₹ 4000$

53. (5) Simple interest

$= \frac{P \times 3 \times 12}{100} = \frac{36P}{100}$

$\therefore \text{Amount} = P + \frac{36P}{100} = ₹ \frac{136P}{100}$

$$\begin{aligned} \text{Again, } A &= (P + 400) \left(1 + \frac{10}{100}\right)^2 \\ &= (P + 400) \left(\frac{11}{10}\right)^2 \\ &= (P + 400) \left(\frac{121}{100}\right) \\ &= ₹ \left(\frac{121P}{100} + 484\right) \end{aligned}$$

According to the question,

$$\begin{aligned} \frac{121P}{100} + 484 - \frac{136P}{100} &= 304 \\ \Rightarrow 484 - \frac{15P}{100} &= 304 \\ \Rightarrow \frac{15P}{100} &= 180 \Rightarrow P = ₹ 1200 \end{aligned}$$

54. (2) (A + B)'s 6 days work

$$= 6 \left(\frac{1}{20} + \frac{1}{15}\right) = \frac{7}{10}$$

$$\text{Remaining work} = 1 - \frac{7}{10} = \frac{3}{10}$$

$$(A + C)'s 4 \text{ days work} = \frac{3}{10}$$

$$(A + C)'s 1 \text{ day work} = \frac{3}{40}$$

$$A's 1 \text{ day work} = \frac{1}{20}$$

$$\therefore C's 1 \text{ day work} = \frac{3}{40} - \frac{1}{20} = \frac{1}{40}$$

\therefore C alone can do the work in 40 days.

55. (1) Let salary of Krishna = ₹ x

$$\therefore \text{Amount gave to his mother} = ₹ \frac{x}{5}$$

$$\text{Remaining amount} = x - \frac{x}{5} = ₹ \frac{4}{5}x$$

\therefore Amount invested in Insurance and Provident fund

$$= \frac{4x}{5 \times 2} = ₹ \frac{2x}{5}$$

$$\therefore \text{Amount invested in Provident fund} = \frac{3}{8} \times \frac{2x}{5} = ₹ \frac{3x}{20}$$

According to question,

$$\begin{aligned} \frac{x}{5} + \frac{3x}{20} &= 12600 \\ \Rightarrow \frac{4x + 3x}{20} &= 12600 \end{aligned}$$

$$\therefore x = ₹ 36000$$

56. (2) Let the ages of A and B are 4x yr and 3x yr, respectively.

According to the question,

$$\frac{4x + 8}{3x + 8} = \frac{6}{5}$$

$$\Rightarrow 20x + 40 = 18x + 48$$

$$\Rightarrow 2x = 8$$

$$\Rightarrow x = \frac{8}{2} = 4$$

\therefore Ages of A and B are 4 × 4 = 16 yr and 3 × 4 = 12 yr, respectively.

5 yr (12 - 7 = 5) ago, age of B was 7 yr.

At that time the age of A = 16 - 5 = 11 yr

57. (3) Ratio of capitals of A and B = (42000 × 12) : (63000 × 4) = 2 : 1

$$B's \text{ share} = ₹ \left(\frac{1}{3} \times 9600\right) = ₹ 3200.$$

58. (2) Female employee

$$= 100 \times \frac{2}{5} = 40$$

and Male employee = 60

According to the question,

$$40 \times 7x + 60 \times 5x = 29 \times 100$$

$$\Rightarrow 14x + 15x = 29 \times 5$$

$$\Rightarrow 29x = 29 \times 5$$

$$\therefore x = 5$$

\therefore Average age of female employees = 7x = 7 × 5 = 35 yr

59. (2) Total number of users of Brand B = 600 + 500 + 650 + 700 + 550 = 3000

60. (3) Number of users of Brand A in City T = 700

Number of users of Brand B in City Q = 500

$$\begin{aligned} \therefore \text{Required percentage} &= \frac{700}{500} \times 100 = 140\% \end{aligned}$$

$$\begin{aligned} 61. (3) \therefore \text{Required difference} &= \frac{500 + 550 + 600 + 550 + 700}{5} \\ &\sim \frac{600 + 500 + 650 + 700 + 550}{5} \\ &= \frac{2900}{5} \sim \frac{3000}{5} \end{aligned}$$

$$= 580 \sim 600 = 20$$

62. (4) Number of users of Brand B and A together in City R

$$= 600 + 650 = 1250$$

Number of users of Brand B and A together in City P

$$= 500 + 600 = 1100$$

$$\begin{aligned} \therefore \text{Required difference} &= 1250 - 1100 = 150 \end{aligned}$$

63. (1) Number of users of Brand A in City P = 500

Number of users of Brand B in City S = 700

$$\begin{aligned} \therefore \text{Required ratio} &= \frac{500}{700} \\ &= \frac{5}{7} = 5 : 7 \end{aligned}$$

64. (2) The number of words formed with the letter A.

$$F, O, U, S \text{ and } M \text{ is } 6! = 720$$

There is only one favourable case

$$\therefore \text{The required probability} = \frac{1}{720}$$

$$\begin{aligned} 65. (3) \frac{4}{5} &= \frac{36}{45}, \frac{6}{7} = \frac{36}{42}, \frac{2}{9} \\ &= \frac{36}{162}, \frac{9}{11} = \frac{36}{44} \end{aligned}$$

$$\text{and } \frac{3}{8} = \frac{36}{96}$$

In descending order,

$$\frac{36}{42}, \frac{36}{44}, \frac{36}{45}, \frac{36}{96}, \frac{36}{162}$$

$$\Rightarrow \frac{6}{7}, \frac{9}{11}, \frac{4}{5}, \frac{3}{8}, \frac{2}{9}$$

66. (4) Statements D ≥ E > P > L < H; R < N < L

Therefore, D ≥ E > P > L > N and R < N < L < H

Conclusions I. N > D (✓)

II. H > R (✗)

So, only Conclusion II is true.

67. (3) Statements S = H ≤ J ≤ K = L; H > N < B; D ≥ L

Therefore, N < H ≤ J ≤ K = L

and B > N < H ≤ J ≤ K

Conclusions I. N < L (✓)

II. K = B (✗)

So, only Conclusion I is true.

68. (5) Statements S = H ≤ J ≤ K = L; H > N < B; D ≥ L

Therefore, S = H ≤ J ≤ K = L ≤ D

Conclusions

I. S = D (May be true)

II. D > S (May be true)

So, either Conclusion I or II is true.

69. (1) Statements B ≥ Z < X ≤ Q; B ≥ Y = L

Therefore, L = Y ≤ B ≥ Z < X ≤ Q

Conclusions I. L = Q (✗)

II. L > Q (✗)

So, neither Conclusion I nor II is true.

70. (3) Statements $P \geq Q < R = M, R \geq F$
 $\Rightarrow P \geq Q < R = M \geq F$

Conclusions I. $M \geq F$ (True)
 II. $F > P$ (False)

Hence, only conclusion I is true.

71. (2) According to the question, after changing the letters of the words, we get

TGE MND COU RZM SGE
 Hence, there is only one word COU which have more than one vowel.

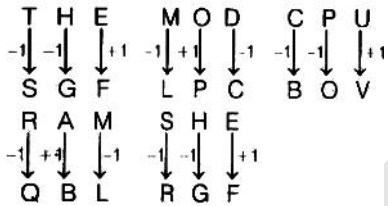
72. (2) According to the question, after rearranging the letters, we get
 EHT DMO CPU AMR EHS
 Hence, only two words will begin with a constant.

73. (2) Third letter of the second word from left is D. Second letter of the second word from right is A. There are two letters between A and D.
 A B C D

74. (4) After arranging the words, we get
 THE SHE RAM MOD CPU

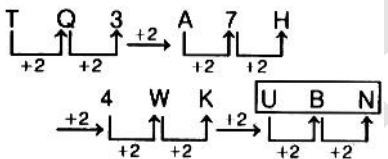
Fourth from left

75. (1) According to the question, after changing the letters, we get.



Hence, there is one word which have atleast one vowel.

76. (3) Pattern is as

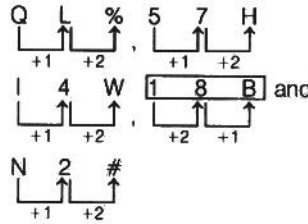


77. (2) There is only one such symbol @ which is immediately preceded by a number and also immediately followed by a consonant.

78. (5) After dropping all the symbols the new arrangement will be
 TQL3A57JHI4WEK1U8BN296F
 So, from the left end seventh element is 7.

79. (1) Third to the right of eleventh element from the right end is $11 - 3 = 8$ th element from the right end i.e. B.

80. (4) Pattern is as



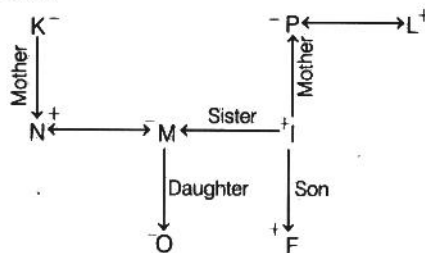
Hence, 18B does not belong to such group.

81. (1) Given letters = EQUALITY
 After interchanging the new sequence formed = LITYEQUA
 So, Q is the third from the right.

82. (5) After interchanging the positions, Suraj will be 27th from the left which is Rajan's earlier position.

\therefore Total number of boys
 $= (10 + 27 - 1)$
 $= 37 - 1 = 36$
 So, Rajan's position from the right
 $= (36 - 10) + 1$
 $= 26 + 1 = 27$

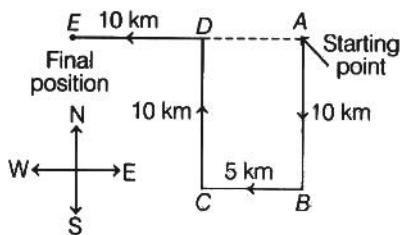
Sol. (Q. Nos 83 and 84) As per the given information, the relation diagram is as follows



83. (2) L is the grandfather of O.

84. (4) M is the daughter of L.

85. (2) According to the question, the direction diagram will be as follows

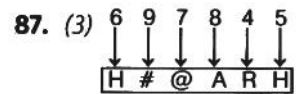


Now, $AB = DC = 10$ km, $BC = DA = 5$ km, $ED = 10$ km

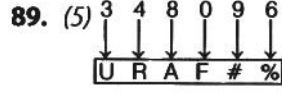
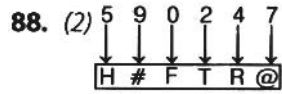
\therefore Required distance,
 $EA = ED + DA$
 $= 10 + 5 = 15$ km



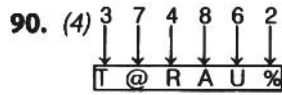
Conditions (ii) follows.



Conditions (iii) follows.

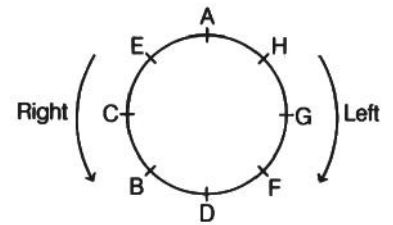


Conditions (i) follows.



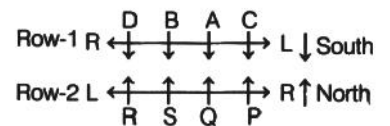
Conditions (i) follows.

Sol. (Q. Nos. 91-95) According to the given information the arrangement is as follows



- 91. (1) A is second to the left of C.
- 92. (2) B is to the immediate right of C.
- 93. (5) D is to the immediate right of B.
- 94. (3) F sits between G and D.
- 95. (4) B is Fourth to the right of H as well as fourth to the left of H.

Sol. (Q. Nos. 96-100) According to the given information the arrangement is as follows



- 96. (4) P faces C and S is second to the left of P.
- 97. (3) Except Q, all others are sitting at one of the ends of rows.
- 98. (2) Clearly, A sits to the immediate right of C, is true.
- 99. (3) R faces D.
- 100. (2) B faces S.

> ANSWER KEY

1. (e)	2. (d)	3. (d)	4. (e)	5. (e)	6. (e)	7. (a)	8. (c)	9. (c)	10. (d)
11. (e)	12. (e)	13. (d)	14. (b)	15. (b)	16. (a)	17. (e)	18. (d)	19. (a)	20. (d)
21. (b)	22. (e)	23. (c)	24. (a)	25. (d)	26. (b)	27. (c)	28. (c)	29. (a)	30. (d)
31. (a)	32. (c)	33. (d)	34. (b)	35. (a)	36. (b)	37. (b)	38. (d)	39. (b)	40. (d)
41. (c)	42. (a)	43. (a)	44. (b)	45. (a)	46. (b)	47. (d)	48. (a)	49. (e)	50. (c)
51. (e)	52. (e)	53. (e)	54. (b)	55. (a)	56. (b)	57. (c)	58. (b)	59. (b)	60. (c)
61. (c)	62. (d)	63. (a)	64. (b)	65. (c)	66. (d)	67. (c)	68. (e)	69. (a)	70. (c)
71. (b)	72. (b)	73. (b)	74. (d)	75. (a)	76. (c)	77. (b)	78. (e)	79. (a)	80. (d)
81. (a)	82. (e)	83. (b)	84. (d)	85. (b)	86. (a)	87. (c)	88. (b)	89. (e)	90. (d)
91. (a)	92. (b)	93. (e)	94. (c)	95. (d)	96. (d)	97. (c)	98. (b)	99. (c)	100. (b)

Gupta Classes