Test-I: Reasoning Ability

Directions (1-5): Study the following information carefully to answer the given questions.

Eight friends A, B, C, D, E, F, G and H are sitting around a circle facing the centre. A sits third to the left of B, and second to the right of F. D does not sit next to A or B. C and G always sit next to each other. H never sits next to D and C does not sit next to B.

1. Which of the following pairs sits between H and E?
   1) F, D  2) H, B  3) G, G  4) E, G  5) None of these

2. Starting from A's position, if all the eight friends are arranged in alphabetical order in clockwise direction the seating positions of how many members, excluding A, do not change?
   1) None  2) One  3) Two  4) Three  5) Other than those given as options

3. Which of the following pairs has only one person sitting between them, if the counting is done in clockwise direction?
   1) A, B  2) C, D  3) F, E  4) G, H  5) Other than those given as options

4. Who sits on the immediate right of E?
   1) A  2) D  3) F  4) H  5) Other than those given as options

5. What is the position of B with respect to C?
   1) Second to the left  2) Third to the right  3) Third to the left  4) Can't be determined  5) Other than those given as options

Directions (Q. 6-10): In this question, relationship between different elements is shown in the statements. The statements are followed by conclusions. Study the conclusions based on the given statement and select the appropriate answer.

   Conclusions: I. R = H  II. R > H
   1) if only conclusion I is true
   2) if only conclusion II is true
   3) if neither conclusion I or II is true
   4) if both conclusion I and II are true
   5) if either conclusion I or II is true

7. Statement: M < T ≥ K = D
   Conclusions: I. D < T  II. K < M
   1) if both conclusion I and II are true
   2) if either conclusion I or II is true
   3) if only conclusion I is true
   4) if neither conclusion I nor II is true
   5) if only conclusion II is true

8. Statement: R ≤ N ≥ F > B
   Conclusions: I. F = R  II. B < N
   1) Neither conclusion I nor II is true
   2) Both conclusion I and II are true
   3) Only conclusion II is true
   4) Only conclusion I is true
   5) Either conclusion I or II is true

   Conclusions: I. K < W  II. H > M
   1) Only conclusion II is true
   2) Both conclusion I and II are true
   3) Neither conclusion I nor II is true
   4) Only conclusion I is true
   5) Only conclusion II is true

10. Statement: R ≥ T = M > D
    Conclusions: I. D < T  II. R ≥ M
    1) Either conclusion I or II is true
    2) Both conclusion I and II are true
    3) Neither conclusion I nor II is true
    4) Only conclusion I is true
    5) Only conclusion II is true

Directions (Q. 11-15): Study the following information carefully and answer the questions given below:

E 4 B % R 3 A 6 # FH @ 1 2 D 9 © K U S W 1 M 5 * Q 8 T

11. If all the numbers are dropped from the above arrangement, which of the following will be ninth to the left of W?
    1) A  2) #  3) R  4) ©  5) Other than those given as options

12. How many such numbers are there in the given arrangement each of which is immediately preceded by a symbol and immediately followed by a letter?
    1) None  2) Two  3) Three  4) More than three  5) One

13. Which of the following is fifth to the right of the eighteenth from the right end of the above arrangement?
    1) ©  2) I  3) A  4) M  5) Other than those given as options
14. Which of the following is fourth to the right of twelfth from the left end of the above arrangement?
   1) 2  
   2) D  
   3) 9  
   4) M  
   5) Other than those given as options

15. Four of the following are alike in a certain way based on their positions in the given arrangement and hence form a group. Which is the one that does not belong to that group?
   1) F@#  
   2) D©2  
   3) UWK  
   4) 963B  
   5) 5QM

Directions (Q. 16-20): In each of these questions two/three statements followed by two conclusions numbered I and II have been given. You have to take the given statements to be true even if they seem to be at variance with commonly known facts and then decide which of the given conclusions logically follows. Give answer
   1) if conclusion I follows.  
   2) if conclusion II follows.  
   3) if either conclusion I or II follows.  
   4) if neither conclusion I nor II follows.  
   5) if both conclusion I and II follow.

16. Statements: No tea is coffee.  
   No sweet is tea.  
   Conclusions:  
   I. No coffee is sweet.  
   II. All sweets are coffee.

17. Statements: All medals are awards.  
   All rewards are medals.  
   Conclusions:  
   I. All rewards are awards.  
   II. All awards are medals.

18. Statements: Some leaves are plants.  
   All bushes are plants.  
   Conclusions:  
   I. At least some leaves are bushes.  
   II. Some leaves are definitely not bushes.

19. Statements: All bottles are mugs.  
   No cup is a mug.  
   Conclusions:  
   I. No bottle is a cup.  
   II. At least some mugs are bottles.

20. Statements: All windows are doors.  
   All entrances are windows.  
   No gate is a door.  
   Conclusions:  
   I. At least some windows are gates.  
   II. No gate is an entrance.

Directions (Q. 21-25): Study the following information carefully and answer the questions given below:
A, B, C, D, E, F and G are sitting in a straight line facing north, but not necessarily in the same order. There is only one person between F and C. E sits between A and D. There are only two persons between E and G. F sits on the immediate left of A, who sits in the middle of the row.

21. How many persons are there between E and F?
   1) One  
   2) Two  
   3) Three  
   4) Can't be determined  
   5) Other than those given as options

22. Who among the following sit at the extreme ends of the row?
   1) D, F  
   2) G, C  
   3) B, C.  
   4) Can't be determined  
   5) Other than those given as options

23. Who among the following sits on the immediate right of D?
   1) G  
   2) E  
   3) F  
   4) B  
   5) None of these

24. Who among the following sits third to the right of A?
   1) C  
   2) G  
   3) B  
   4) E  
   5) Other than those given as options

25. Which of the following statements is true with regard to B?
   1) B is second to the right of A.  
   2) B is fourth to the left of G.  
   3) B sits at the extreme right end of the row.  
   4) B sits at the extreme left end of the row.  
   5) Other than those given as options

26. The positions of how many digits in the number 59164823 will remain unchanged after the digits are rearranged in descending order within the number?
   1) None  
   2) One  
   3) Two  
   4) Three  
   5) More than three

27. What should come next in the following letter series based on English alphabet?
   CEA  
   IKG  
   OQM  
   ?

28. In a row of 40 children facing North, E is eighth to the right of V. If V is 18th from the right end of the row, what is the position of E from the left end of the row?
   1) 32nd  
   2) 10th  
   3) 31st  
   4) 29th  
   5) Other than those given as options

Directions (Q. 29-33): Following questions are based on the five three-digit numbers given below:
853 581 747 474 398

29. If all the digits in each of the numbers are arranged in descending order within the number, which of the following will form the lowest in the new arrangement of the numbers?
   1) 853  
   2) 581  
   3) 747  
   4) 398  
   5) 474

30. If all the numbers are arranged in ascending order from left to right, which of the following will be the sum of all three digits of the number which is exactly in the middle of the new arrangement?
   1) 17  
   2) 15  
   3) 14  
   4) 13  
   5) 19

31. What will be the resultant if the third digit of the lowest
Test-II: Quantitative Aptitude

Directions (Q. 41-45): What will come in place of question mark (?) in the following number series?

41. 12 13 17 26 42 ?
1) 57 2) 58 3) 59 4) 75 5) Other than those given as options

42. 1 2 8 48 384 ?
1) 3440 2) 3840 3) 3820 4) 3550 5) Other than those given as options

43. 157 150 136 115 87 ?
1) 50 2) 51 3) 52 4) 54 5) Other than those given as options

44. 1 4 18 44 83 ?
1) 131 2) 132 3) 135 4) 136 5) Other than those given as options

45. 8 4 4 6 12 ?
1) 30 2) 34 3) 38 4) 42 5) Other than those given as options

Directions (Q. 46-60): What will come in place of question mark (?) in the following questions?

46. \(80.137 \times 9 + 2.11 \times 139.7 = ?\)
1) 916 2) 1016 3) 1216 4) 1026 5) 1256

47. \(7802 + 132 - 8963 + 1326 = ? \times 33\)
1) 6 2) 12 3) 21 4) 9 5) 14

48. 21.9\% of 650 = ? + 23.12
1) 121.23 2) 109.23 3) 119.32 4) 129.23 5) Other than those given as options

49. \(6666 + 66 + 0.25 = ?\)
1) 101 2) 404 3) 304 4) 40.4 5) Other than those given as options

50. \(\sqrt{? + 18} = \sqrt{2704}\)
1) 1256 2) 1156 3) 1296 4) 1024 5) 1466

51. \(217 + 435 - 317 + 5110 = ?\)
1) 9710 2) 7710 3) 8710 4) 8470 5) Other than those given as options

52. \(164 \times 43 - 6070 = ?\)
1) 682 2) 792 3) 882 4) 1082 5) 982

53. 14.5\% of 740 = ?% of 320 = 87.3
1) 6.75 2) 6.25 3) 12.5 4) 14.75 5) 8.25

54. \((27)^2 \times 3^4 \times (81)^{2/3}\)
1) 2 2) 5 3) 4 4) 3 5) Other than those given as options
55. 37.135 of 25 + 125 of 1.061 = \(\sqrt{7} + 894\)
   1) 28899 2) 29899 3) 27789 4) 27889
   5) Other than those given as options

56. 4376 + 3209 - 1784 + 97 = 3125 + ?
   1) 2713 2) 2743 3) 2773 4) 2793 5) 2737

57. \(\sqrt{7} + 14 = \sqrt{2601}\)
   1) 1521 2) 1369 3) 1225 4) 961 5) 1296

58. 85% of 420 + ?% of 1080 = 735
   1) 25 2) 30 3) 35 4) 40 5) 45

59. 3024 + 54 of 19 - 84 = ?
   1) 920 2) 940 3) 960 4) 980 5) 840

60. 30% of 1225 - 64% of 555 = ?
   1) 10.7 2) 12.3 3) 13.4 4) 17.5 5) Other than those given as options

**Directions (Q. 61-65):** Study the following table and answer the questions given below.

### Number of tourists who visit different cities by different modes of transport

<table>
<thead>
<tr>
<th>Cities</th>
<th>Vehicles</th>
<th>Car</th>
<th>Train</th>
<th>Bus</th>
<th>Bike</th>
<th>By 'Air'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delhi</td>
<td></td>
<td>192</td>
<td>188</td>
<td>172</td>
<td>191</td>
<td>174</td>
</tr>
<tr>
<td>Mumbai</td>
<td></td>
<td>180</td>
<td>166</td>
<td>178</td>
<td>187</td>
<td>182</td>
</tr>
<tr>
<td>Chandigarh</td>
<td></td>
<td>156</td>
<td>194</td>
<td>163</td>
<td>181</td>
<td>148</td>
</tr>
<tr>
<td>Dehradun</td>
<td></td>
<td>132</td>
<td>185</td>
<td>142</td>
<td>170</td>
<td>148</td>
</tr>
<tr>
<td>Mussoorie</td>
<td></td>
<td>149</td>
<td>159</td>
<td>155</td>
<td>149</td>
<td>183</td>
</tr>
<tr>
<td>Jaipur</td>
<td></td>
<td>168</td>
<td>163</td>
<td>158</td>
<td>142</td>
<td>174</td>
</tr>
</tbody>
</table>

61. What is the average number of tourists who come by Train?
   1) 190.5  2) 188.5  3) 175.83  4) 137.5  5) Other than those given as options

62. What is the difference between the total number of tourists who went to Mumbai and that to Mussoorie by all the vehicles?
   1) 78  2) 98  3) 88  4) 83  5) Other than those given as options

63. What is the percentage of tourists who went to Dehradun by Train compared to the number of tourists who went to Chandigarh by Air?
   1) 125  2) 145  3) 137  4) 160  5) Other than those given as options

64. What is the difference between the average number of tourists who went by Air to the average number of tourists who went by Bus?
   1) 7.58  2) 9.97  3) 6.83  4) 2.30  5) Other than those given as options

65. What is the ratio of the number of tourists to Delhi who went by Car to that to Mumbai who went by Air?
   1) 35 : 83  2) 45 : 71  3) 96 : 91  4) 32 : 7  5) Other than those given as options

66. If the wheel of a bicycle makes 560 revolutions in travelling 1.1 km, what is its radius? (use \(\pi = \frac{22}{7}\))
   1) 31.25 cm  2) 37.75 cm  3) 35.15 cm  4) 11.25 cm  5) Other than those given as options

67. Elena's age after 15 years will be 5 times her age 5 years back. What is her present age?
   1) 10 years  2) 37 years  3) 35 years  4) 11 years  5) Other than those given as options

68. A man purchased a cow for Rs 3000 and sold it the same day for Rs 3600, allowing the buyer a credit of 2 years. If the rate of interest be 10% per annum, then the man has a gain of
   1) 5%  2) 0%  3) 20%  4) 10%  5) Other than those given as options

69. A man takes 3 hours 45 minutes to row a boat 15 km downstream a river and 2 hours 30 minutes to cover a distance of 5 km upstream. Find the speed of the stream.
   1) 1 kmph  2) 3 kmph  3) 5 kmph  4) 2 kmph  5) Other than those given as options

70. A cistern 6 m-long and 4 m-wide contains water up to a height of 1 m 25 cm. Find the total area of the wet surface of the cistern.
   1) 42 sqm  2) 49 sqm  3) 52 sqm  4) 64 sqm  5) Other than those given as options

71. In terms of percentage profit, which of following is the best transaction?
   1) CP 36, Profit 17  2) CP 50, Profit 24  3) CP 40, Profit 19  4) CP 60, Profit 29  5) CP 45, Profit 21

72. The milk and water in two vessels A and B are in the ratio of 4 : 3 and 2 : 3 respectively. In what ratio should the liquids in both the vessels be mixed to obtain a new mixture in vessel C consisting of half milk and half water?
   1) 8 : 3  2) 7 : 5  3) 4 : 3  4) 2 : 3  5) Other than those given as options

73. The average price of 10 books is Rs 12 while the average price of 8 of these books is Rs 11.75. Of the remaining two books, if the price of one book is 60% more than
77. A bag contains ₹216 in the form of ₹1, 50-paisa and 25-paisa coins in the ratio of 2 : 3 : 4. The number of 50-paisa coins is

1) 140  
2) 175  
3) 184  
4) 160  
5) 144

78. A is twice as fast as B and B is thrice as fast as C. The distance covered by C in 42 min will be covered by A in

1) 14 min  
2) 4 min  
3) 5 min  
4) 8 min  
5) 6 min

79. The CP of two dozen mangoes is ₹32. After selling 18 mangoes at ₹12 per dozen, the shopkeeper reduced the rate to ₹4 per dozen. Then find the loss percentage.

1) 15  
2) 20  
3) 25  
4) 37.5  
5) Other than those given as options

80. How many kilograms of sugar costing ₹9 per kg must be mixed with 27 kg of sugar costing ₹7 per kg so that there may be a gain of 10% by selling the mixture at ₹9.24 per kg?

1) 60 kg  
2) 63 kg  
3) 50 kg  
4) 77 kg  
5) Other than those given as options

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RRB Assistant PT (Previous Paper)

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Answers

1-5:

1) 40/3  
2) 20  
3) 20  
4) 40/3  
5) Other than those given as options

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Check for conclusion II. We can't compare K and M. Hence II (K < M) is not true.

8: 3: Given statement: R ≤ N ≥ F > B
Thus, we can't compare F and R. Hence I (F = R) is not true. Again, N > B or B < N is true.
Hence only conclusion II is true.

9: 3: Given statement:
H > W ≥ M ≥ K
Thus, we can't compare W and K. Hence I (K < W) is not true.
Again, we can't compare H and M. Hence II (H > M) is also not true. So, neither conclusion I nor II is true.

10: 2: Given statement:
R ≥ T ≥ M > D
Check for conclusion I. Thus, T > D or D < T.
Check for conclusion II. R > M is true.

11: 5: The new arrangement becomes:

Thus, there is no such number.

12: 1: [Symbol] Number Letter
Thus, there is no such number.

13: 1: Fifth to the right of eighteenth from the right = (18 - 5) = 13th from the right end = D.

14: 3: Fourth to the right of twelfth from the left end = (12 + 4) = 16th from the left end = K.

15: 5;
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(21-25):

21. 1 22. 3 23. 4 24. 3 25. 3
Thus, there is only one such digit.

26. 2: Given number 581 3 6 8 7 9 8 6 5 4 3 2 1

27. 4:

28. 3; V is 18th from the right end.
E's position from the right end
\(= (18 - 8) = 10\)
E's position from the left end
\(= (40 - 10 + 1) = 31\)
E.

29. 5: Original numbers: 853 581 747 474 398
New numbers become: 853 851 774 744 983
Thus, the lowest number will be 744, which comes from 474.

30. 3: New arrangement becomes:
398 474 581 747 853

31. 2: The lowest number is 398.

32. 3:

Original number:
435 872 149 754 321
After changing new numbers become:
Thus, there are two even numbers formed, ie 518 and 774.

33. 3: Original number:
8 5 3 1 4 7 2 9 0 3 4 2
Now, new numbers become:
5 8 3 4 1 7 2 9 0 3 4 2

34. 2: JANUARY \rightarrow Reverse the word.

Similarly, OCTOBER \rightarrow Reverse the word.

35. 2: If C is husband of B, then A is brother-in-law of C.

36. 2

37. 4

(38-39):

38. 1: \(Q = P + 6 = 16 \text{ km}\)

39. 4

40. 1: X's position from front
\(= (34 - 20 + 1) = 15\)
X's position from front
\(= (15 + 5) = 20\)

41. 5: The series is +1, +2, +3, +4, +5, ...
\(= 12 + 21 = 13, 12 + 21 = 17, 12 + 21 = 26, ...
12 + 21 = 42, 12 + 21 = 57, ...

42. 2: The series is +2, +4, +6, +8, +10, ...
\(= 12 + 21 = 48, 12 + 21 = 68, 12 + 21 = 88, ...
12 + 21 = 110, 12 + 21 = 140, 12 + 21 = 180 ...

43. 3: The series is -7, -14, -21, -28, ...
\(= 175 - 7 = 168, 175 - 7 = 168, ...
175 - 7 = 168, 175 - 7 = 168 ...

44. 4: The series is
\[\begin{array}{|c|c|c|c|}
\hline
& & & \\
\hline
& & & \\
\hline
& & & \\
\hline
& & & \\
\hline
\end{array}\]

45. 1: The series is +0.5, +1.5, +2, ...
\(= 8 + 0.5 = 8.5, 8 + 1.5 = 9.5, ...
8 + 2.5 = 11, ...

46. 2: \(= 80.137 \times 9 + 2.111 = 139.7 \)

47. 4: \(= 723 + 294.767 = 1016 \)

48. 5: \(= 23.12 = 21.9\% \text{ of } 650 \)

49. 2: \(= 6666 + 66 + 0.25 = 6732.25 \)

50. 2: \(= \sqrt{25} = 5 \)

51. 5: Units digit = 7 + 5 + 0 = 12

52. 5: Tens digit = 1 + 3 + 1 = 5

53. 2: Hundreds digit = 2 + 4 + 1 = 7

54. 2: \(= (27)^3 \times 3^4 \times (81)^3 = 3^7 \)

55. 4: \(= \frac{3^3 \times 3^4}{3^4} = 3 \)

56. 3: \(= \frac{3^3}{3^4} = 3 \)

57. 2: \(= \sqrt{2601} \)

58. 3: 85\% of 420 + 7\% of 1080 = 735 

59. 4: \(= 3024 - 54 \times 19 = 84 \)

60. 2: \(= 30 \times 12.25 + 64 \times 5.55 = 367.5 \times 35.2 = 12.3 \)

61. 3: Reqd average
\(= \frac{188 + 166 + 194 + 185 + 159 + 163}{6} = 168 \)

62. 2: Reqd difference = (180 - 149) + (166 - 159) + (178 - 165) + (178 - 169) + (182 - 183) = 31 + 7 + 23 + 8 = 63

63. 1: Reqd % = \(\frac{185}{148} \times 100 = 123\% \)

64. 3: Reqd average difference
\(= \frac{1}{6} [((174 - 172) + (182 - 178) + (148 - 163) + (148 - 142) + (183 - 155) + (174 - 158) = 21 \times 2 + 15 + 6 = 16 \]

65. 3: Reqd ratio = \(\frac{192}{182} = \frac{96}{91} \)

66. 1: No. of revolutions
Distance = \(\frac{2\pi}{2\pi} \)
5) \( \frac{21}{45} = 0.46 \)
Hence the best transaction in terms of percentage is option 4.

72. 2: In vessel A, milk = \( \frac{3}{7} \) of the weight of the mixture.
In vessel B, milk = \( \frac{2}{5} \) of the weight of the mixture.
Now, we want to form a mixture which will be \( \frac{1}{2} \) of the weight of the mixture.

By alligation method

\[ \begin{array}{c|c|c}
3 & 1 & 14 \\
5 & 2 & \end{array} \]

\[ \text{Reqd ratio} = 14 : 10 = 7 : 5 \]

73. 3: Average price of the remaining two books = \( 12 \times 10 - 8 \times 11.75 = 120 - 94 = 26 \)
Now, let the price of one book be \( x \).
Then that of the other will be 1.6x.
Now, \( x + 1.6x = 26 \)
or, \( 2.6x = 26 \)
\[ \therefore x = \frac{26}{2.6} = 10 \]
\[ \therefore \text{Price of the other book} = 1.6 \times 10 = \text{Rs. 16} \]

74. 2: Let there be \( x \) men.
After 15 days, 500 men are added.
Now, remaining days = 60 - 15 = 45
Then, \( 45 \times x = (x + 500) \times 40 \)
or, \( 5x = 20000 \)
\[ \therefore x = 4000 \]

75. 1: MP SP CP
\[ 100 \rightarrow 10\% \rightarrow 90 \]
\[ \text{CP} = 90 \left( \frac{100}{120} \right) = \text{Rs. 75} \]
Again, if 15% commission is given
\[ \text{SP} = 785 \]
\[ \text{Gain} = 85 - 75 = \text{Rs. 10} \]
\[ \therefore \text{Percentage gain} = \frac{10}{75} \times 100 = 10 \times \frac{4}{3} = 40\% \]

76. 3: For dividing 12 into two natural numbers the sum of the terms of the ratio must be a factor of 12. So, they can't be in the ratio of 3 : 2 because 3 + 2 = 5, which is not a factor of 12.

77. 5: Re 1 : 50P : 25P
\[ \text{Ratio no. of coins} = 2 : 3 : 4 \]
\[ \text{Ratio of values of coins} = \frac{2 \times 1}{3 \times \frac{1}{2}} : \frac{4 \times \frac{1}{4}}{4} \]
\[ = 2 : \frac{3}{2} : 1 \]
\[ = 4 : 3 : 2 \]
\[ \therefore \text{Value of 50P coins} = \frac{2}{9} \times 216 = \text{Rs. 72} \]

79. 4: Cost of 2 dozen mangoes = Rs. 32
SP of 18 mangoes = 1.5 dozen at Rs. 12
Then 1.5 \times 12 = Rs. 18
SP of 6 mangoes = 0.5 \times 4 = Rs. 2
\[ \therefore \text{Total SP of 2 dozen mangoes} = (18 + 2) = 20 \]
\[ \therefore \text{Loss} = 32 - 20 = 12 \]
\[ \therefore \text{Loss} \% = \frac{12}{32} \times 100 = 37.5\% \]

80. 2: SP of 1 kg mixture = Rs. 9.24; gain 10%
\[ \therefore \text{CP} = \frac{100}{110} \times 9.24 = \text{Rs. 8.4} \]

By alligation method:

<table>
<thead>
<tr>
<th>CP of 1 kg sugar</th>
<th>CP of 1 kg sugar of 1st kind</th>
<th>CP of 1 kg sugar of 2nd kind</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>8.4</td>
<td>0.6</td>
</tr>
<tr>
<td>1.4</td>
<td>7</td>
<td>7</td>
</tr>
</tbody>
</table>

Now, \( 7 : 3 = x : 27 \)
\[ \therefore x = \frac{27 \times 7}{3} = 63 \text{ kg} \]