Directions (Q. 1 – 5): Study the given information carefully to answer the given questions.

Eight people – E, F, G, H, Q, R S and T are sitting around a square table (but not necessarily in the same order) in such a way that four of them sit at four corners while four sit in the middle of each of the four sides. The ones sitting at the corners are facing the centre and the ones sitting in the middle of sides are facing outward (ie opposite the centre).

Q sits in the middle of one of the sides. Only two people sit between Q and R. Only one person sits between R and E. E is an immediate neighbour of both T and F. S sits on the immediate left of F. Only one person sits between G and S.

1. Who sits third to the left of G?
   1) H  2) T  3) F  4) R  5) E

2. What is the position of T with respect to R?
   1) Second to the right  2) Third to the left  3) Immediate left  4) Third to the right  5) Immediate right

3. How many people sit between T and F when counted from the left of T?
   1) One  2) None  3) Three  4) Two  5) More than three

4. Which of the following is true with respect to the given arrangement?
   1) Only three people sit between E and Q
   2) Q is an immediate neighbour of S.
   3) F sits second to the left of H.
   4) H sits at one of the corners of the table.
   5) None of the given statements is true.

5. Which of the following pairs represent the people sitting between Q and the one sitting second to the left of E when counted from the left of Q?
   1) F, S  2) H, G  3) F, G  4) T, S  5) R, T

Directions (Q. 6 – 10): Study the following information to answer the given questions.

Rohan speaks about seven different companies, viz., Egypt, China, Indonesia, Japan, Malaysia, France and Austria, in a seminar held on seven different days of the same week starting from Monday and ending on Sunday but not necessarily in the same order. Thus, on one day Rohan speaks about only one country.

Rohan speaks about Japan on Friday. He speaks about Egypt on one of the days after Japan. He speaks about only two countries between Egypt and China. He speaks about only one country between China and
France. He speaks about France on one of the days before he speaks about China. He speaks about only one country between Japan and Malaysia. He speaks about Austria on one of the days before he speaks about China but not on Monday.

6. Rohan speaks about which country on Thursday?
   1) Malaysia   2) Egypt   3) Indonesia   4) Austria
   5) China

7. Which of the following is not true as per the given arrangement?
   1) All the given statements are true
   2) Rohan speaks about France on the day immediately before the day he speaks about Austria.
   3) Rohan speaks about China on Wednesday
   4) Rohan speaks about Egypt on Saturday
   5) Rohan speaks about Indonesia on the day immediately after Japan.

8. On which day does Rohan speak about France?
   1) Saturday   2) Wednesday   3) Monday   4) Sunday
   5) Tuesday

9. How many countries does Rohan speak about between China and Malaysia?
   1) Four   2) Three   3) Two   4) One
   5) None

10. Four of the following five are alike in a certain way based on the given arrangement and thus from a group. which is the one that does not belong to that group?
    1) Saturday, Malaysia   2) Tuesday, France
    3) Sunday, Egypt   4) Monday, Austria
    5) Wednesday, France

Directions (Q. 11 – 15): In this question, two/three statements followed by two conclusions are given. You have to take the given statements to be true even if they seem to be variance with commonly known facts and then decide which of the given conclusions logically follows disregarding commonly known facts.

Give answer

1) if only conclusion I follows
2) if only 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

11. Statements: All papers are woods
    Some woods are leaves
    All leaves are trunks

Conclusions: I. Some leaves are papers
              II. At least some trunks are woods.
12. **Statements:**
   - No mobile is a band
   - All bands are pillows
   - Some pillows are sheets

**Conclusions:**
1. No mobile is a pillow
2. All sheets are bands

13. **Statements:**
   - All papers are woods
   - Some woods are leaves
   - All leaves are trunks

**Conclusions:**
1. All trunks being woods is a possibility
2. Some trunks are papers

14. **Statements:**
   - All ladders are snakes
   - Some snakes are frogs

**Conclusion:**
1. No ladder is a frog
2. At least some ladders are frogs

15. **Statements:**
   - No mobile is a band
   - All bands are pillows
   - Some pillows are sheets

**Conclusion:**
1. Some pillows are mobiles
2. All bands are sheets

16. How many such pairs of digits are there in the number 31748296 (both in forward and backward directions), each of which has as many digits between them as in the arithmetic series?
   1) Three 2) More than three 3) One 4) None 5) Two

17. In a certain code language, 'send the tests' is coded as 'al vx se' and 'all tests solved' is coded as 'se pg nb'. How will 'tests' be coded as in the given code language? (Note: All codes are two-letter codes only)
   1) nb 2) vx 3) Either 'nb' or 'pg' 4) se 5) Either 'al' or pg'

18. Among five people – A, B, C, D and E, each scoring different marks, only two persons scored more marks than A. D scored more than A. B scored less than D but not the lowest. C scored more than B but not the highest. Who scored the second highest marks?
   1) Can't be determined 2) B 3) E 4) C 5) D

19. Four of the following five are alike in a certain way (Based on their position of alphabets in English alphabetical series) and hence form a group. Which is the one that does not belong to that group?
   1) BFD 2) EIH 3) KOM 4) TXV 5) LPN

Directions (Q.20 – 22): Study the following information carefully and answer the questions given below.

L is the only child of K. R is married to L. S is sister of R. S is the only daughter of B. J is father of B and has only two children. Q is daughter of J.

20. How is J related to S?
   1) Grandfather 2) Brother-in-law 3) Uncle 4) Cousin 5) Father-in-law
21. If J has only one daughter, then how is B related to L?
   1) Nephew  2) Niece  3) Father-in-law  4) Brother
   5) Mother-in-law

22. How is Q related to R?
   1) Daughter-in-law  2) Grandmother  3) Niece  4) Aunt
   5) Mother-in-law

Directions (Q. 23 – 27): In this question, relationship between different elements is shown in the statement(s) are followed by two conclusions. Study the conclusions based on the given statement(s) and select the appropriate answer.

23. Statements: M ≤ A ≥ N; E ≤ A < G
   Conclusions: I. M ≤ E   II. G > N
   1) Either conclusion I or II is true
   2) Only conclusion I is true
   3) Only conclusion II is true
   4) Both conclusion I and II are true
   5) Neither conclusion I nor II is true

24. Statements: M ≤ A ≥ N; E ≤ A < G
   Conclusions: I. M ≤ G   II. E > N
   1) Only conclusion I is true
   2) Only conclusion II is true
   3) Either conclusion I or II is true
   4) Both conclusion I and II are true
   5) Neither conclusion I nor II is true

25. Statements: L ≥ Y ≥ A < R; P < A
   Conclusions: I. P ≤ L   II. R > P
   1) Either conclusion I or II is true
   2) Neither conclusion I nor II is true
   3) Only conclusion I is true
   4) Only conclusion II is true
   5) Both conclusion I and II are true

26. Statements: M ≤ A ≥ N; E ≤ A < G
   Conclusions: I. N ≤ E   II. G > M
   1) Both conclusion I and II are true
   2) Either conclusion I or II is true
   3) Only conclusion I is true
   4) Neither conclusion I nor II is true
   5) Only conclusion II is true

27. Statements: W > Q = U ≥ I < T ≤ C
   Conclusions: I. W > T   II. Q ≥ C
   1) Neither conclusion I nor II is true
   2) Both conclusion I and II are true
   3) Only conclusion I is true
   4) Either conclusion I or II is true
   5) Only conclusion II is true

Directions (Q. 28 – 30): Study the given information carefully to answer the given questions.

R is 15 m west of Q. J is 6 m north of Q. W is 2 m west of J. L is 10 m south of W. K is 6 m west of L.

28. If F is 4 m to the south of R and V is 2 m east of K, how far is point F from point V?
   1) 8 m   2) 11 m   3) 5 m   4) 9 m   5) 4 m
29. Kabir walks 10 m towards south from point J, takes a right turn and walks for 3 m. How far will he be from point K?
   1) 4 m  
   2) 10 m  
   3) 9 m  
   4) 6 m  
   5) 5 m

30. In which directions is R with respect to J?
   1) West  
   2) Southeast  
   3) Northeast  
   4) North  
   5) Southwest

**Directions (Q. 31 – 35):** Study the given information carefully to answer the given questions.

Nine persons G, H, I, J, K, R, S, T and U are seated in a straight line facing north, with equal distance between each other but not necessarily in the same order.

Only two people sit to the left of I. Only one person sits between I and U. H sits fourth to the right of R. R is not an immediate neighbour of U. Less than three people sit between R and U. The number of people sitting between I and U is half that between H and J. Only three people sit between K and T. K is not an immediate neighbour of J. Only two people sit between T and G.

31. In which of the given pairs of people is an odd number of people sitting between them?
   1) H, T  
   2) I, H  
   3) U, R  
   4) J, K  
   5) G, K

32. Which of the following is true with respect to S as per the given arrangement?
   1) S is an immediate neighbour of U  
   2) None of the given options is true  
   3) S sits at one of the extreme ends of the line  
   4) More than two people sit between S and R.  
   5) S sits second to the left of G.

33. Who amongst the following sit exactly between T and G?
   1) I, J  
   2) H, J  
   3) R, U  
   4) H, S  
   5) J, R

34. Who sits second to the left of J?
   1) T  
   2) No one as J sits at one of the extreme ends of the line  
   3) I  
   4) C  
   5) S

35. Who amongst the following are the immediate neighbours of K?
   1) U, I  
   2) R, T  
   3) S, R  
   4) K, R  
   5) T, G

**Directions (Q. 36 – 40):** Study the given information carefully to answer the questions given below.

Nine friends P, Q, R, S, T, U, V, W and X live on nine different floors of a building but not necessarily in the same order. The lowermost floor of the building is numbered one, the one above that is numbered two and so on till the topmost floor is numbered nine.
Only two persons live below the floor on which V lives. Only one person lives between V and P. W lives on an odd-numbered floor but not on floor no. 7. Only two persons live between W and Q. X does not live on the topmost floor. P does not live on the lowermost floor. S lives immediately below R but R does not live on the topmost floor. Neither R nor T lives on floor no. 6. U lives immediately above P.

36. How many persons live between the floors on which P and S live?
   1) Three  2) More than three  3) None  4) Two  5) One

37. Who lives on the floor immediately below V?
   1) U  2) T  3) S  4) Q  5) X

38. On which of the following number floors does X live?
   1) Four  2) One  3) Two  4) Five  5) Seven

39. Which of the following is true with respect to U as per the given arrangement?
   1) Only three persons live between U and Q
   2) Only three persons live above U
   3) Only one person sits between U and S
   4) U sits on an odd-numbered floor
   5) None of these

40. Who lives on floor number 5?
   1) U  2) Q  3) S  4) P  5) Other than those given as options

**TEST — II: QUANTITATIVE APTITUDE**

41. A boat takes a total time of twelve hours to travel 105 km upstream and the same distance downstream. The speed of the boat in still water is six times that of the current. What is the speed of the boat in still water? (in km/hr)
   1) 12  2) 30  3) 18  4) 24  5) 36

42. At 60% of its usual speed, a train of length L meters crosses a platform 240 meters long in 15 seconds. At its usual speed, the train crosses a pole in 6 seconds. What is the value of L (in meters)?
   1) 270  2) 225  3) 220  4) 480  5) 240

43. P, Q and R have a certain amount of money with themselves. Q has 50% more than what P has and R has \(\frac{1}{3}\) of what Q has. If P, Q and R together have ₹ 240 then how much money does P alone have? (in ₹)
   1) 75  2) 60  3) 120  4) 80  5) 90
Directions (Q. 44 – 48): What will come in place of question mark (?) in the given number series?

44. 15 27 37 45 51 ?
   1) 58 2) 80 3) 65 4) 74
   5) 55

45. 700 457 376 349 340 ?
   1) 266 2) 329 3) 304 4) 337
   5) 307

46. 1 2 6 21 88 ?
   1) 425 2) 475 3) 295 4) 445
   5) 395

47. 19 20 16 25 9 ?
   1) 45 2) 55 3) 59 4) 34
   5) 81

48. 17 18 40 129 532 ?
   1) 2785 2) 2685 3) 2885 4) 2775
   5) 2875

49. A and B both start a small business with an investment of ₹ 2500 and ₹ 4000 respectively. At the end of a few months from the start of the business, A withdrew from the business completely. If the annual profit was divided between A and B in the ratio of 5 : 12, then after how many months from the start of the business did A leave the business?
   1) Eight 2) Nine 3) Ten 4) Five
   5) Four

Directions (Q.50 – 54): In each question, two equations numbered I and II have been given. You have to solve both the equations and mark the appropriate option.

50. I. $2x^2 + 7x + 5 = 0$ II. $3y^2 + 5y + 2 = 0$
   1) $x < y$ 2) $x > y$ 3) $x \leq y$ 4) $x \geq y$
   5) $x = y$ or no relationship can be established

51. I. $2x^2 - 13x + 21 = 0$ II. $3y^2 - 14y + 15 = 0$
   1) $x \geq y$ 2) $x \leq y$ 3) $x < y$ 4) $x > y$
   5) $x = y$ or no relationship can be established

52. I. $2x^2 - 13x + 18 = 0$ II. $y^2 - 7y + 12 = 0$
   1) $x < y$
   2) $x \geq y$
   3) $x \leq y$
   4) $x = y$ or no relationship can be established
   5) $x > y$
53. I. $x^2 + 6x + 9 = 0$  
II. $y^2 - y - 20 = 0$

1) $x < y$
2) $x = y$ or no relationship can be established
3) $x \leq y$
4) $x \geq y$
5) $x > y$

54. I. $3x^2 - 10x + 8 = 0$  
II. $2y^2 - 19y + 35 = 0$

1) $x > y$
2) $x \geq y$
3) $x \leq y$
4) $x = y$ or no relationship can be established
5) $x < y$

55. Jar A had 60 litres of a mixture of milk and water in the ratio of 2 : 1. Jar B, which had 40 litres of mixture of milk and water, was emptied into Jar A. As a result in Jar A, the ratio of the milk to water became 13 : 7. What was the quantity of water in Jar B?

1) 8 litres  
2) 15 litres  
3) 22 litres  
4) 7 litres  
5) 1 litre

56. The sum of a series of 5 consecutive odd numbers is 195. The second lowest number of this series is 5 less than the second highest number of another series of 5 consecutive even numbers. What is 40% of the second lowest number of the series of consecutive even numbers?

1) 16.8  
2) 18.8  
3) 19.4  
4) 17.6  
5) 15.2

57. The sum of the dimensions of a room (ie length, breadth and height) is 18 meters and its length, breadth and height are in the ratio of 3 : 2 : 1. If the room is to be painted at the rate of ₹ 15 per m², what would be the total cost incurred on painting only the four walls of the room (in ₹)?

1) 3250  
2) 2445  
3) 1350  
4) 2210  
5) 2940

58. B is $\frac{4}{3}$ times as efficient as A. If A can complete $\frac{5}{8}$ of a given task in 15 days, what fraction of the same task would remain incomplete if B works on it independently for 10 days only?

1) $\frac{3}{4}$  
2) $\frac{2}{3}$  
3) $\frac{5}{8}$  
4) $\frac{4}{9}$  
5) $\frac{2}{3}$

59. In a class, the average weight of 60 boys is 64 kg and that of 75 girls is 70 kg. After a few days, 60% of the girls and 30% of the boys leave. What would be the new average weight of the class (in kg)? Assume that the average weight of the boys and the girls remains constant throughout.

1) 63  
2) 66.5  
3) 68.5  
4) 65.5  
5) 57.5
Directions (Q. 60 – 64): Refer to the graph and answer the given questions.

Date related to the number of scarves sold by two stores (M and N) during 5 years.

60. What is the difference between the total number of scarves sold by store M in 2003 and 2004 together and the total number of scarves sold by store N in 2005 and 2006 together?
   1) 160  2) 100  3) 140  4) 150  5) 120

61. The number of scarves sold by store M decreased by what percent from 2004 to 2005?
   1) 40 $\frac{5}{8}$  2) 45 $\frac{3}{8}$  3) 42 $\frac{3}{8}$  4) 30 $\frac{3}{8}$  5) 35 $\frac{5}{8}$

62. If the ratio of the total number of scarves sold by stores M and N together in 2002 to that in 2009 is 15 : 11, what is the total number of scarves sold by stores M and N together in 2009?
   1) 430  2) 450  3) 420  4) 460  5) 440

63. If the total number of scarves sold by stores M and N together in 2008 is 70% of that in 2006, what is the total number of scarves sold by stores M and N together in 2008?
   1) 408  2) 406  3) 414  4) 396  5) 522

64. What is the average number of scarves sold by store N in 2003, 2004 and 2005?
   1) 260  2) 270  3) 290  4) 250  5) 280
Directions (Q. 65 – 69): Refer to the pie-chart and answer the given questions.

**Percentage of bags available in different stores in July**

Total number of bags available in all stores together is 600

**65.** What is the central angle corresponding to the number of bags available in store T? (in degrees)
   1) 91.2 2) 95.6 3) 93.6 4) 94.2 5) 92.5

**66.** What is the difference between the average number of bags available in stores P and R together and the average number of bags available in stores S and T together?
   1) 12 2) 22 3) 15 4) 18 5) None of these

**67.** The ratio of the number of bags available in store P in August to that available in the same store in July was 5 : 4. How many bags were available in store P in August as compared to July?
   1) 150 2) 90 3) 24 4) 60 5) None of these

**68.** In September, the total number of bags available in all the stores together was 90 more than that available in July. What was the percentage increase in the total number of bags available in all the stores together from July to September?
   1) 10 2) 12 3) 20 4) 18 5) 15

**69.** In July, \(\frac{4}{15}\) of the available bags in store Q remained unsold and \(\frac{5}{12}\) of the available bags in store S remained unsold. How many bags were sold by stores Q and S together in July?
   1) 159 2) 146 3) 154 4) 168 5) None of these

**70.** Two years ago, the ratio A's age at that time to B's age at that time was 5 : 9. A's age three years ago was 13 years less than B's age six years ago. What is B's present age?
   1) 38 years 2) 30 years 3) 34 years 4) 32 years 5) 36 years

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

**71.** \(\sqrt{7} \times 479.87 + 12.01 = 179 + 139.99\)
   1) 36 2) 100 3) 64 4) 4 5) 16
72. \( 629 \div 9.02 - 139.996 \div 7.06 = ? \)

1) 75  
2) 35  
3) 50  
4) 65  
5) 25

73. \( 45\% \text{ of } 401 \div 3 - ? = 6.02^2 \)

1) 38  
2) 52  
3) 6 
4) 24  
5) 12

74. \( 55\% \text{ of } 259.96 - ? - 54 = 19 \)

1) 80 
2) 70 
3) 73 
4) 90 
5) 78

75. \( 7 \times 23.846 - ? = \sqrt{18 + 2 + (4.06)^2} \)

1) 143 
2) 163 
3) 183 
4) 173 
5) 181

Directions (Q. 76 - 80): Based on the following table answer the given question.

<table>
<thead>
<tr>
<th>University</th>
<th>Total number of faculty members</th>
<th>Percentage of Assistant Professors</th>
<th>Number of Associate Professors</th>
</tr>
</thead>
<tbody>
<tr>
<td>J</td>
<td>250</td>
<td>60</td>
<td>75</td>
</tr>
<tr>
<td>K</td>
<td>180</td>
<td>75</td>
<td>24</td>
</tr>
<tr>
<td>L</td>
<td>150</td>
<td>80</td>
<td>16</td>
</tr>
<tr>
<td>M</td>
<td>100</td>
<td>63</td>
<td>21</td>
</tr>
</tbody>
</table>

Note: The faculty members include Assistant Professors, Associate Professors and Professors only.

76. What is the difference between the total number of Associate Professors in University J and M together and the total number of Professors in the same universities together?

1) 54  
2) 55  
3) 68 
4) 58  
5) 65

77. In University M, \( \frac{8}{21} \) of the Assistant Professors are males and in University L, \( \frac{3}{5} \) of the Assistant Professors are males. What is the ratio of male ratio of male Assistant Professors in University M to those in University L?

1) 2 : 5  
2) 1 : 3  
3) 3 : 5  
4) 2 : 7  
5) None of these

78. What is the average number of Assistant Professors in University K, L and M?

1) 102 
2) 106 
3) 105 
4) 104 
5) 108

79. The total number of Professors in University J and K together is approximately what percent less than the number of Assistant Professors in University M?

1) 16  
2) 27  
3) 35 
4) 40  
5) 17
80. In University J, 72% faculty members are females. If three-fifths of the total Assistant Professors are females, then what percent females are either Associate Professors or Professors?

1) 160  2) 55  3) 50  4) 65  5) 75

ANSWERS
1-3; 2-5; 3-1; 4-2; 5-2; 6-3; 7-5; 8-3; 9-2; 10-5; 11-2; 12-4; 13-1; 14-3; 15-4; 16-5; 17-4; 18-4; 19-2; 20-1; 21-3; 22-4; 23-3; 24-5; 25-5; 26-5; 27-1; 28-4; 29-5; 30-3; 31-1; 32-5; 33-4; 34-3; 35-1; 36-5; 37-5; 38-3; 39-2; 40-4; 41-3; 42-4; 43-4; 44-5; 45-4; 46-4; 47-4; 48-2; 49-5; 50-3; 51-1; 52-4; 53-2; 54-5; 55-2; 56-5; 57-3; 58-4; 59-2; 60-5; 61-1; 62-5; 63-2; 64-2; 65-3; 66-3; 67-1; 68-5; 69-1; 70-1; 71-3; 72-3; 73-4; 74-2; 75-2; 76-2; 77-2; 78-2; 79-2; 80-3.