



LearnFrenzy
QUALITY EDUCATION

REASONING ABILITY

LINEAR, CIRCULAR & ARRANGEMENTS

Develop proficiency in solving seating arrangements, directional placements, and multi-variable complex puzzles through advanced logical mapping techniques.

ONE DAY EXAM SERIES

SESSION 2027-2028

EXAM PREP EDITION

LearnFrenzy

Linear, Circular and Complex Arrangements

In this chapter we have to arrange some persons, objects or groups in a sequence according to a certain rule or find out some information. The information given in the question is sometimes clear and sometimes hidden, which creates confusion, but if the question is read with a calm mind and concentration and slowly the line is analysed and arranged in the correct order, then the questions can be answered easily. The arrangement is mainly linear, circular and complex or mixed.

Linear Arrangement

There can be four situations:

(1) When facing North 	(2) When facing South
(3) When facing East 	(4) When facing West

Example:

1. 5 girls are standing facing south. P is between Q and R while Q is to the left of S. S and T are at the ends, so who is exactly in the middle?

- (1) R (2) P
(3) Q (4) None of these.

Sol. Step 1: Arrange 5 girls facing south.



Step 2:

1. Situation-I

 or
 Situation-II

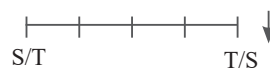
 (Not possible)
 2. Q is to the left of S
 In other words,
 (∵ facing towards South)
 Left

It is known from this statement that the second Situation of point 1 is not possible. Hence the second Situation is removed.

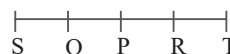
On combining the two-

⇒ S Q P R

3. S and T are at the ends.



Step 3: Combining all the points of step 2, Q, P and R are seated after S respectively and either S or T is at the end i.e. T cannot come before S (at the first end). So, he will come at the last end.



Thus, from the above arrangement it can be seen that P is sitting exactly in the middle. Hence option (2) is correct.

2. J, K, L, M, N and O are six boys standing in a straight line. L is standing to the immediate left of K while he is standing to the right of O. M is fifth from the left. J and N are at the ends. What will be O's position from the right?

- (1) Third (2) Fifth
(3) Second (4) None of these

Sol. Step 1: Arrange 6 boys standing in a straight line.

(∵ The direction is not clear here so let us assume that they are standing facing North.)



Step 2:

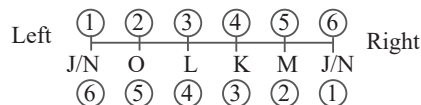
1. L K
 2. O L
 3. M
 4. J/N J/N

Step 3:

Combining all the results of the second step, we get J O L K M N or N O L K M J.

In the question, the position of O is being asked from the right side, so whether J or N is in the first or last position, there will be no problem in answering the question.

From Left Side →



← From Right Side

Thus, from the above arrangement it can be seen that O is fifth from the right. Hence option (2) is correct.

Directions (Q. No. 3-5): Answer the questions based on the following information:

5 people (whose profession is different) are standing in a row facing north. There is only one person between the police officer and the leader. The magistrate is to the immediate left of the police officer and the lawyer is to the immediate right of the leader. The teacher is also at some place in the same row.

3. Who is exactly in the middle of the line?
 - (1) Police officer (2) Leader
 - (3) Lawyer (4) Teacher
4. Which of the following pairs of persons is standing at the ends?
 - (1) Magistrate and leader (2) Leader and lawyer
 - (3) Magistrate and lawyer (4) None of these.
5. If the police officer and the lawyer interchange their places and similarly the teacher and the leader also interchange their places then who will be at the fourth place from the right?
 - (1) Lawyer (2) Leader
 - (3) Teacher (4) None of these.

Sol. Step 1: 5 persons from different professions are to be arranged in a line with everyone facing north.



Step 2:

1. **Situation-I**

Police Politician Or Politician Police

Situation-II

It is not possible because the magistrate is directly to the left of the inspector and the lawyer is directly to the right of the leader (while there cannot be two separate professionals at the same location).

2. Magistrate Police Politician Advocate

Exact Left Side

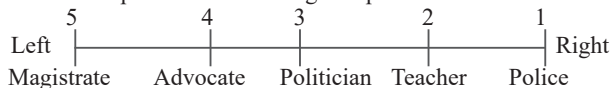
Exact Right Side

3. Magistrate Police Teacher Politician Advocate

(∵ One place is vacant so the teacher will take that place.)

3. From the above arrangement it can be seen that the teacher is definitely in the middle of the row. Hence option (4) is correct.
4. At the ends are the magistrate and lawyer. So option (3) is correct.

5. New position after change of place:



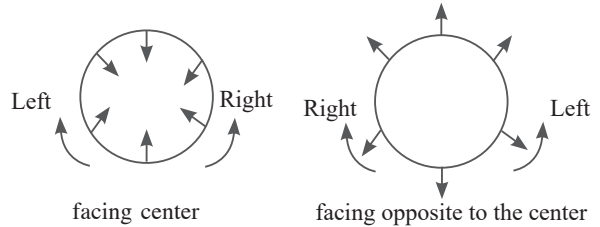
The lawyer is at the fourth place from the right. Hence option (1) is correct.

Circular Arrangement

There can be three situations in this:

- (1) In which everyone faces the center.
- (2) In which everyone faces the opposite direction of the center.
- (3) In which some face the center and some face the opposite direction of the center.

In these situations, left and right order of rotation has to be taken into consideration.

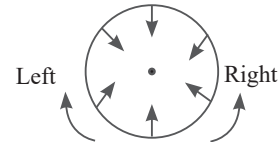


Example:

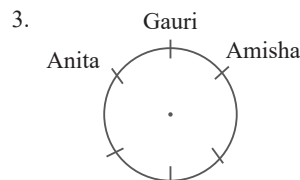
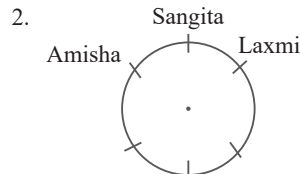
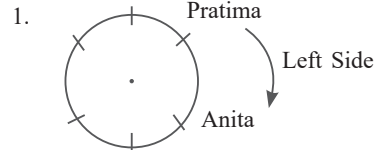
1. Six girls are sitting in a circle facing the centre. Anita is to the immediate left of the Pratima. Sangeeta is sitting between Amisha and Lakshmi. Gauri is sitting between Anita and Amisha. Who is to the immediate left of Lakshmi?

- (1) Gauri (2) Pratima
- (3) Amisha (4) Anita

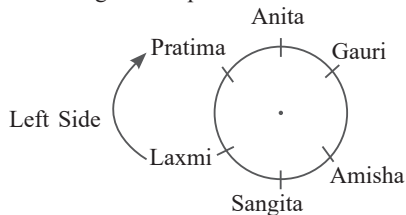
Sol. Step 1: 6 girls are to be arranged in a circular circle facing the centre.



Step 2:



Step 3: Joining all the points of the second step,



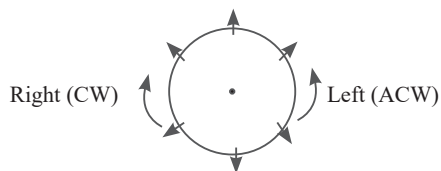
Pratima is just to the left of Lakshmi, hence option (2) is correct.

Directions (Q. Nos. 2–5): Answer the questions based on the following information.

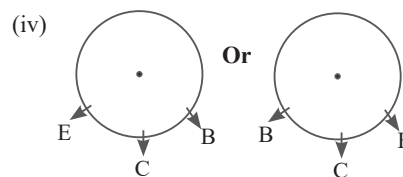
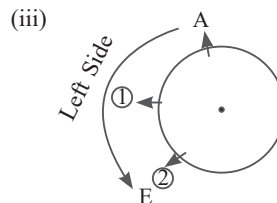
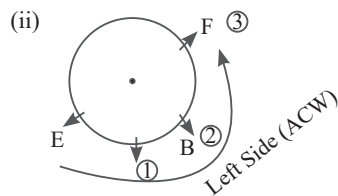
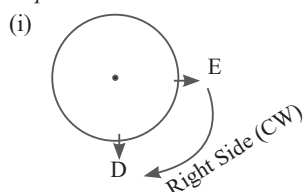
There are six security personnel A, B, C, D, E and F. There is a leader for whose security these security personnel are deployed. These security personnel surround the leader in a circular form. All the security personnel are facing the opposite direction of the centre.

- (i) D is to the right of E.
 - (ii) F is third to the left of E and immediate left of B.
 - (iii) E is second to the left of A.
 - (iv) C is exactly in the middle of E and B.
2. Who is fourth to the left of A?
 - (1) B
 - (2) C
 - (3) D
 - (4) None of these.
 3. Who among the following is definitely the neighbour of E?
 - (1) A
 - (2) B
 - (3) C
 - (4) F
 4. Which of the following statements is completely false?
 - (1) Neighbors of A are D and F.
 - (2) A is to the immediate left of F.
 - (3) B is third to the right of D.
 - (4) Neighbors of B are D and E.
 5. If B and E interchange their places then who is immediate left of D?
 - (1) C
 - (2) B
 - (3) E
 - (4) None of these.

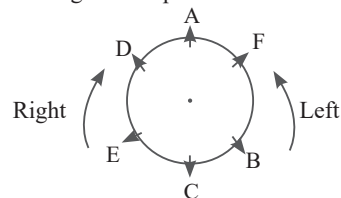
Sol. Step 1: Arrange six security guards facing opposite directions of the centre.



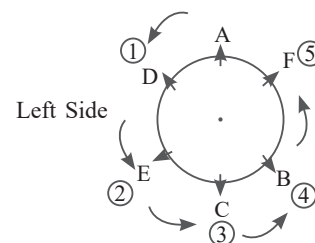
Step 2:



Step 3: Joining all the points of the second step,



2. It can be seen from the following figure that B is fourth to the left of A. Hence option (1) is correct.



3. It is clear from the figure obtained in the third step that E's neighbours are C and D. But only C is available in the given options. Hence option (3) is the correct answer.
4. It is clear from the picture of the third step that Option (1) is correct because A's neighbours are D and F. Option (2) is correct because A is to the immediate left of F. Option (3) is correct because B is third to the right of D. Option (4) is incorrect because B's neighbours are not D and E. Hence, the correct answer is option (4).

Diagram illustrating the convention for describing the direction of rotation around a circle. The circle has points A, B, C, D, E, and F marked. Arrows indicate the direction of rotation: clockwise (CW) is labeled "Right (CW)" and counter-clockwise (ACW) is labeled "Left (ACW)".

(i) 

(ii) 

(iii)

Diagram (iii) shows a circle with three points labeled 1, 2, and 3. Point 1 is at the bottom left, point 2 is at the top left, and point 3 is at the top. A line segment connects point 1 to point 2, and another line segment connects point 2 to point 3. The line segment connecting point 1 to point 3 is labeled 'S'.

(iv)



A circle with three points labeled P, T, and M on its circumference. P is on the left, T is at the top, and M is on the right. Each point is connected to the circle by a short line segment.

(v)

Q T

(vi)

Or

7. T, P, Q and M are facing towards the centre. Hence option (3) is the correct answer.

LF

- (I) The dog's house will be on the edge, but it will not live in the red house.
 (II) The rabbit will live in the golden house and the parrot in the blue house.
 (III) The rabbit and the parrot will always live next to each other. They will never live on the edge, and they can never live next to the dog.
 (IV) Pet house number 5 is yellow in colour and a pigeon lives in it but it will not live next to the parrot.

1. What color is the dog house?

- (1) Red (2) Green
 (3) Blue (4) Golden

2. Who are the squirrel's neighbors?

- (1) Dog and parrot (2) Rabbit and parrot
 (3) Pigeon and parrot (4) Only rabbit

3. Whose house is in the middle of the row?

- (1) Pigeon (2) Rabbit
 (3) Parrot (4) Squirrel

4. If the rabbit's house is removed from the row, which of the above statements will become false?

- (1) I (2) II
 (3) IV (4) None of these.

5. If in a row of five houses only the colours of the houses of the rabbit and the pigeon are interchanged then what are the colours of the neighbouring houses of the rabbit now?

- (1) Yellow and Blue (2) Golden and Blue
 (3) Red and Golden (4) Red and Yellow

Sol. The total number of houses (pet houses) is 5 and the dog lives in the corner house. So the dog will live in pet house no. 1 or 5. The dog cannot live in pet house no. 5 because it has a pigeon (from information IV). So the dog will live in pet house no. 1 only.

The dog cannot live in yellow, golden and blue coloured houses because pigeon, rabbit and parrot live in them respectively. (From information IV and II). The dog cannot live in the red coloured house also (From information I). Hence, the dog will live in the remaining coloured house i.e. green coloured house.

Dog → Green → 1

⇒ Rabbit and parrot will always live next to each other i.e. they can live in houses no. 2, 3 or 3, 4, but from information III we get to know that they can never live next to dog, hence they will live in houses no. 3, 4 only.

Rabbit → 3 Rabbit → 4
 Parrot → 4 Parrot → 3

(This situation is not possible, because in house no. 5 lives pigeon which can never live next to parrot.)

Hence, Rabbit → Golden → 4
 Parrot → Blue → 3

⇒ The squirrel will stay in the remaining colour and house.

Hence, Squirrel → Red → 2

We will create a table which we will complete with the conclusions drawn based on the information.

Names of pets	pet houses no.	Colours of the houses
Dog	1	Green
Rabbit	4	Golden
Parrot	3	Blue
Pigeon	5	Yellow
Squirrel	2	Red

- It is clear from this table that the colour of the dog's house is green. Hence option (2) is correct.
- The squirrel lives in house number 2, so its neighbours will be from houses number 1 and 3 i.e. dog and parrot. Hence option (1) is the correct answer.
- 5 houses which are in a row (in order), in the middle of them will be the house of the pet from house number 3 i.e. parrot. Hence option (3) is the correct answer.
- Statement IV will be wrong. Hence option (3) is the correct answer.
- After changing the colour, the neighbouring houses of the rabbit are golden and blue. Hence option (2) is the correct answer.

Directions (Q. No. 6–9): Answer the questions based on the following information.

There are 7 students (both boys and girls) in a class A, B, C, D, E, F and G. All of them are sitting on benches I, II and III. There are at least two students on each bench and each bench must have at least one boy and one girl. C is a girl student who cannot sit with A, E and D. F is a boy student who will sit only with B. A will sit on a bench-I with his best friend. G will sit on bench-III. E is the brother of C.

- How many girls are there among these 7 students?
 (1) 3 (2) 4
 (3) 3 or 4 (4) None of these.
- Which one of the following is a possible group of students?
 (1) BAF (2) BFC
 (3) BCD (4) CDF
- Who is sitting with C?
 (1) B (2) D
 (3) G (4) E
- On which bench are three students sitting?
 (1) I (2) II
 (3) III (4) I or II

Sol. Step 1:

Students – A, B, C, D, E, F and G
 Bench – I, II and III

Step 2:

1. C is a girl student who cannot sit with A, E, D,
 $C^- \rightarrow A, E, D$
2. F is a boy student who will sit only with B, that means B will be a girl student and it is also clear that the bench on which they will sit will have only two students.
3. $I \rightarrow A$
 $II \rightarrow ?$
 $III \rightarrow G$
4. C cannot sit with B and F because only 2 students can sit on the bench on which B and F are sitting. So C will sit with only G and G will be a boy student.
5. $E^+ - C^-$ (E is C's brother)

Step 3:

Combining all the information from the second step

$I \rightarrow A, E^+, D$

$II \rightarrow F^+, B^-$

$III \rightarrow G^+, C^-$

6. The gender of A and D is not clear but it is necessary that one or both of them are girls. So if only one of them

is a girl, then the number of girls among 7 students will be 3, but if both are girls then in such a case the number of girls will be 4. So option (3) is correct.

7. The group of possible students is BCA or BCD. Only BCD is available in the given options. Hence option (3) is correct.
8. G is sitting with C. Hence option (3) is the correct answer.
9. Three students (A, E and D) are sitting on bench I. Hence option (1) is the correct answer.

Some important points to keep in mind while solving the questions:

First of all, in the given question, one has to understand what type of arrangement it is—linear, circular, complex or mixed. In linear arrangement, people and objects are arranged on a line in which their faces will be in one direction i.e. east, west, north or south. If no direction is given, then you can prepare the arrangement by taking any one direction as per your convenience and taking left and right relative to it. Generally, students prefer to take the 'north' direction in such a situation because it is easier to find left and right in this direction as compared to others.

Practice Questions

1. Five people Anil, Vinay, Chandan, Devesh and Ishant are sitting in a row facing you in such a way that Devesh is to the left of Chandan and Vinay is to the right of Ishant. Anil is to the right of Chandan and Vinay is to the left of Devesh. If Ishant is sitting in the corner, then who is sitting in the middle of the row?

- (1) Chandan
- (2) Devesh
- (3) Anil
- (4) Vinay

Directions (Q. Nos. 2–5): Answer the questions based on the following information:

5 boys P, Q, R, S and T are standing in a line.

I. T is between P and S.

II. T is to the immediate left of S.

III. R sits at one corner.

IV. At most 1 boy is standing between R and T.

2. Who is the fifth boy from the left?

- (1) T
- (2) Q
- (3) S
- (4) P

3. Who is exactly in the middle of the line?

- (1) S
- (2) R
- (3) Q
- (4) T

4. Who are the neighbours of Q?

- (1) R and S
- (2) P and R
- (3) T and S
- (4) None of these.

5. Who are at the ends of the line?

- (1) P and S
- (2) P and R
- (3) Q and S
- (4) R and Q

6. u, v, w, x, y and z are standing in a straight line. v has w to its right while x has w to its left. u and z are at the ends, what will be the position of y from the left?

- (1) Third
- (2) Second
- (3) Fifth
- (4) Both (2) and (3)

Directions (Q. Nos. 7–11): Answer the questions based on the following information.

I. P, Q, R, S, T, U and V are seated in a row facing north.

II. Q is sitting at one of the ends and R is his neighbour.

III. S is sitting between P and R.

IV. U is sixth from the west end, to the left of whom V is sitting.

V. At most 2 persons can sit between S and U.

7. Who among the following are the two persons who are sitting at the ends?

- (1) RU
- (2) UT
- (3) TV
- (4) QT

8. Which of the following groups has 2 people sitting in between?

- (1) RV
- (2) RU
- (3) UQ
- (4) SV

9. Between which two persons does V sit?

- (1) PT
- (2) RU
- (3) PU
- (4) QS

10. Q wants to change his position and sit third from the east. With whom among the following will he have to exchange his seat?

(1) P (2) V
(3) U (4) S

11. Who is sitting immediate left of the U?

(1) P (2) U
(3) V (4) T

Directions (Q. Nos. 12–16): Answer the questions based on the following information.

A shopkeeper in a trade fair in Delhi displayed televisions of different companies in a row. The row contains televisions of Onida, Samsung, Soni, LG, Videocon, BPL and Sansui.

- Onida is on the immediate left of Samsung.
 - Samsung is fourth to the left of Soni.
 - LG is between Sansui and Videocon.
 - Soni is third to the right of Sansui and is at one of the ends.
12. What is the correct position of BPL?
- (1) To the immediate right of Onida.
(2) To the immediate left of Videocon.
(3) Between Videocon and Samsung.
(4) Fourth to the left of LG.
13. Which of the following statements is completely true?
- (1) Samsung is between Sansui and Soni.
(2) Onida is to the immediate right of BPL.
(3) Samsung is to the immediate left of Onida.
(4) LG is fourth to the left of BPL.
14. Onida is between whom?
- (1) Sansui and LG (2) LG and Soni
(3) Soni and BPL (4) BPL and Samsung
15. Which of the following television is to the left of Sansui?
- (1) Onida, LG, Samsung
(2) LG, Videocon, Soni
(3) BPL, Onida, Samsung
(4) Onida, Videocon, Samsung
16. Which televisions will be at the ends?
- (1) BPL and Soni (2) Onida and Videocon
(3) Samsung and LG (4) None of these.
17. Five children L, M, N, O, P are standing in a row (not necessarily in the same order). L's neighbour is P but not N. N's neighbour is P but not O. O is at the right end, then what will be M's position from the left, if M is not at any end?
- (1) First (2) Second
(3) Third (4) Fourth
18. While taking a group photo of a family, the father is on the right of the grandfather but on the left of the son. The daughter is on the right of her mother. The grandfather is in the middle of everyone, so tell me who is third from the left?

(1) Mother (2) Daughter
(3) Grandfather (4) Son

19. Five girls are sitting in a row. R is neither sitting with A nor with S. N is not sitting with S. R is sitting with M. M is exactly in the middle of the row. Tell who is sitting with N?

(1) S (2) R
(3) M (4) Cannot be determined.

Directions (Q. No. 20–22): Answer the questions based on the following information:

Five radio jockeys A, B, C, D and E are sitting in a row facing north for an audition in a radio station. If A's position from the left end is the same as his position from the right end. D is not sitting at any end. B is sitting to the immediate right of D.

20. Who among the following is the Radio Jockey who is fourth from the left?

(1) D (2) E
(3) C (4) B

21. Which of the following pairs sits at the ends?

(1) DB (2) BE
(3) BC (4) Either (2) or (3)

22. If E sits second to the left of D, then between which two persons will A sit?

(1) DC (2) CE
(3) DE (4) None of these.

23. P, Q, R, S and T are playing Antakshari sitting in a circle facing the centre. Q is sitting next to R and T. S is a friend of T so T is sitting closest to S. Which of the following is not the position of Q?

(1) Third to the left of S (2) First to the left of R
(3) Second to the right of P (4) Immediate left of P

Directions (Q. Nos. 24–27): Read the following information and answer the four questions that follow:

A, B, C, D, E and F are sitting in a circular circle facing the centre. F is third to the right of C and second to the left of B. D is an immediate neighbour of neither B nor C. E is second to the right of D.

24. How many people are sitting between B and C?

(1) 1 (2) 2
(3) 3 (4) None of these.

25. Who will sit between F and A?

(1) C (2) D
(3) B (4) E

26. Who is sitting fourth to the right of D?

(1) C (2) B
(3) A (4) E

27. In which of the following groups the second person is to the immediate left of the first person?

(1) CA (2) BC
(3) EF (4) DF

Directions (Q. Nos. 28–30): Read the following information and answer the three questions that follow:

6 doctors are standing around a patient and treating him in such a way that Dr. Deepak is standing between Dr. Deepali and Dr. Pankaj. Dr. Supriya is between Dr. Shalini and Dr. Rathore. Dr. Deepali and Dr. Rathore are standing opposite to each other and Dr. Rathore is on the immediate left of Dr. Supriya.

28. Who is to the immediate left of Dr. Shalini?
 (1) Dr. Deepak (2) Dr. Supriya
 (3) Dr. Deepali (4) None of these.
29. Who is third to the right of Dr. Supriya?
 (1) Dr. Deepak (2) Dr. Deepali
 (3) Dr. Pankaj (4) Dr. Rathore
30. Which of the following groups of doctors standing close to each other?
 (1) Dr. Shalini, Dr. Deepak (2) Dr. Shalini, Dr. Rathore
 (3) Dr. Deepak, Dr. Deepali (4) Dr. Deepak, Dr. Rathore
31. A, B, C, D, E and F are seated around a round dining table at equal distance from each other. E is seated exactly opposite to F. E and D are neighbours of B. A is not seated immediately next to D. Two persons are seated between F and E. A is to the immediate left of F. Who is seated exactly opposite to C?
 (1) E (2) D
 (3) F (4) B
32. Six friends are sitting in a circle and playing cards. Kunal is to the left of David. Manish is between Badal and Johnson. Rajan is between Kunal and Badal. Who is sitting to the right of Manish?
 (1) David (2) Johnson
 (3) Kunal (4) Badal

Directions (Q. Nos. 33–34): Answer the questions based on the following information.

Archana, Bunty, Chaudhary, Devyani, Ishita are five friends sitting in a circular circle facing inside. Chaudhary is sitting to the immediate left of Ishita. Archana is sitting between Devyani and Ishita.

33. Who is sitting immediate left of Choudhary?
 (1) Ishita (2) Archana
 (3) Bunty (4) Devyani
34. Who is third to the right of Bunty?
 (1) Choudhary (2) Ishita
 (3) Archana (4) No one

Directions (Q. Nos. 35–37): Answer the questions based on the following information.

Five friends are playing Antakshari sitting in a circular ground. Among them, Sanskriti is sitting facing south. To her right is Sabhyata who is sitting exactly in front of Sweekrita and looking at her. To the left of Sweekrita is sitting Rohini who is sitting exactly in front of Shalini. Rohini is to the right of Sabhyata.

35. Who is to the immediate left of Sanskriti?
 (1) Shalini (2) Sweekrita
 (3) Sabhyata (4) Sanskriti
36. Between which two people is Rohini sitting?
 (1) Sanskriti and Sweekrita (2) Sabhyata and Shalini
 (3) Sabhyata and Sweekrita (4) None of these.
37. Who is sitting right in front of Sabhyata?
 (1) Shalini (2) Sweekrita
 (3) Sanskriti (4) Rohini

Directions (Q. Nos. 38–40): Answer the questions based on the following information:

I. Six friends L, M, N, O, P and Q are sitting in a circular circle facing the centre.

II. P is to the left of O.

III. N is sitting between L and M.

IV. Q is sitting between P and L.

38. Who is the immediate right of 'N'?
 (1) Q (2) P
 (3) L (4) M
39. Who is immediate left of M?
 (1) L (2) O
 (3) It is not possible to find out.
 (4) N
40. Which of the following statements is unnecessary to answer the above question?
 (1) I (2) II
 (3) III (4) None of these.
41. 5 persons α , β , γ , ϕ , ψ are sitting in a circle facing each other. γ is not sitting next to any of β and ψ . Where is the position of ϕ .
 (1) to the left of ψ (2) to the left of β
 (3) between β and ψ (4) cannot be determined.
42. Four girls Anju, Bitti, Charu and Diya are sitting in a circle. Bitti and Charu are facing each other. Which of the following is literally true?
 (1) Anju and Diya are facing each other.
 (2) Diya is to the left of Charu.
 (3) Anju is to the left of Charu.
 (4) None of these.

Directions (Q. No. 43–45): Answer the questions based on the following information-

A group of eight members (A, B, C, D, E, F, G and H) are sitting in a circle. D is sitting between A and F and opposite G. E is to the right of A but to the left of C whose partner is G. H is to the right of G and C is to the left.

43. Who is between A and F?
 (1) C (2) B
 (3) D (4) F

44. Who are the neighbours of G?
 (1) D and E (2) C and H
 (3) A and B (4) C and D
45. If B is in the North direction and G is in the East direction, then what will be the direction of E?
 (1) South (2) West
 (3) North (4) None of these.

Direction (Q. No. 46–49): All the given questions are based on the following information. Read this information carefully and answer the questions:

- (i) 6 boys are sitting in a circular circle facing the center.
 (ii) Rajesh is to the right of Manish but not to the immediate left of Vijay.
 (iii) Chandan is between Vipin and Vijay.
 (iv) Ajay is to the left of Vijay.
46. If Vijay and Manish interchange their positions, then who will be between Vijay and Chandan?
 (1) Chandan (2) Vipin
 (3) Ajay (4) Rajesh
47. Which of the following statements is not necessary to find the position of the boys?
 (1) (iii) (2) (i) or (ii)
 (3) (iv) (4) None of these.
48. Who is immediate left of Manish?
 (1) Rajesh (2) Chandan
 (3) Vijay (4) None of these.
49. Who is between Vijay and Rajesh?
 (1) cannot be determined. (2) Vipin
 (3) Chandan (4) Ajay
50. Six girls are sitting in a circle facing the centre. Nazia is to the left of Parveen and to the right of Eram. Sakira is in front of Nazia. Sakira is to the left of Sahida and to the right of Saba. If Sakira exchanges her place with Nazia and Saba with Parveen, then who will sit opposite to Eram?
 (1) Saba (2) Parveen
 (3) Sakira (4) None of these.

Directions (Q. Nos. 51–53): Answer the given questions based on the following information.

There is a pentagon shaped field in the middle of which some program is going on. This program is being watched by L, M, N, O and P. O is to the immediate left of M while O is to the immediate right of N. Between L and M is P which is at the top of the pentagon. P is in the north direction.

51. In which direction is N, if the direction is the same as it is normally assumed on paper.
 (1) North-east (2) South-west
 (3) East (4) South-east
52. Who is immediate left of P?
 (1) L (2) N
 (3) M (4) O

53. If counting starts from O and goes in an anticlockwise direction then who will be in fourth place?
 (1) P (2) M
 (3) N (4) L

Directions (Q. Nos. 54–57): Answer the questions based on the following information.

Six people A, B, C, D, E and F are sitting around a hexagon shaped table facing each other to play a game. A is on the right of F and left of B. E is on the left of F and right of C.

54. Who is fifth to the right of A?
 (1) D (2) F
 (3) B (4) C
55. How many persons are there between A and E?
 (1) 0 (2) 1
 (3) 2 (4) none of these
56. Who is the second person to the left of E?
 (1) F (2) C
 (3) D (4) B
57. Who is between A and D?
 (1) E (2) F
 (3) C (4) B

Directions (Q. Nos. 58–60): Read the following information carefully to answer the given questions.

Some people are seated in two parallel rows in such a way that there are six people in each row and the distance between adjacent persons is also equal. Row-1 has J, K, L, M, N and O seated and all of them are facing south. Row-2 has U, V, W, X, Y and Z seated and all of them are facing north. So, in the given seating arrangement each person seated in a row faces another person seated in the other row. U is seated third to the right of X. Neither U nor X is at the extreme end. N is facing X. O is on the immediate right of the person seated opposite to U. V is seated at one of the extreme ends. Only two people are seated between V and Y. Y is not facing O. Two people are seated between L and K. L is not seated adjacent to N. W is not seated opposite O. J is not seated adjacent to L.

58. Who among the following sit at the extreme ends of the row?
 (1) V, Y
 (2) M, N
 (3) J, L
 (4) V, Z
59. J is related to O in the same way as W is related to Z. Following the same pattern, Y is related to which of the following?
 (1) V (2) X
 (3) M (4) None of these.
60. Who among the following is facing U?
 (1) K (2) M
 (3) N (4) Y

61. A, B, C, D and E are standing in two rows. There should be a minimum of two persons in any row, along with that it is mandatory to have one woman and one man. A cannot stand in the row with (B, C and E). C and E are men. So how many women are there in both the rows together?

(1) 0 (2) 1
(3) 2 (4) Data is insufficient.

62. Four friends P, Q, R and S are sitting in a coffee shop. P and Q are sitting face to face. S is not sitting next to P but he can clearly see P's facial expressions. Q is talking to R who is sitting in front of him. Who are sitting together?

(1) Q and R (2) R and S
(3) P and Q (4) P and R

Directions (Q. Nos. 63–66): Answer the questions based on the following information-

Four boys P, Q, R, S and four girls A, B, C, D are standing at the corners of a square or in the middle of the sides facing the centre.

- All the girls are standing at the corners of the square while all the boys are standing in the middle of the sides.
- P is in the north and R in the south. While Q is in the east and S in the west.
- C's neighbours are Q and R while A's neighbours are P and S.
- D is exactly south of A.

63. B is in between which of the following?

(1) P and Q (2) Q and R
(3) R and S (4) P and S

64. Who is in the south-west?

(1) C (2) D
(3) A (4) B

65. Who is standing exactly in front of C?

(1) Q (2) B
(3) A (4) D

66. Which statement is completely false?

(1) A and B are neighbours of P.
(2) B is in the north-east.
(3) S is in the east.
(4) S and Q are face to face.

67. There are seven persons K, L, M, N, O, P and Q standing in a row in the same order. All are wearing hats of different colours viz. purple, indigo, blue, green, yellow, orange and red (not necessarily in the same order). N can see green, yellow and blue hats in front of him but not purple. O can see purple and yellow hats in front of him but not red. Q can see hats of all colours except orange. If O is wearing a purple hat then what is the colour of P's hat?

(1) blue (2) purple
(3) red (4) orange

68. Examine the following statements-

1. Samridhi attends cooking class on Monday.
2. She attends yoga class on Wednesday.
3. Her Kathak dance class is not on Friday.
4. She attends painting class the day after yoga class.
5. She attends swimming class on Tuesday.

If she attends one class in a day and she has holiday on Sunday, then on which other day will she also have holiday?

(1) Monday (2) Thursday
(3) Saturday (4) Friday

69. A, B, C, D, E and F are sitting on chairs permanently placed around a round table, but their seating order is not necessarily the same.

- D is seated at equal distance from E and B.
- C and F are facing each other.
- A is in the west direction while D is not in the north or south direction.
- B and C are on neighboring chairs.

Which of the following is incorrect?

- (1) D is seated in the east direction.
- (2) F and E are on neighboring chairs.
- (3) A is sitting at equal distance from F and C.
- (4) B and A are sitting face to face.

70. Three persons Vivek, Priyanshu and Saket wore shirts of black, blue and orange colours (not necessarily in the same order) and ties of green, yellow and orange colours (not necessarily in the same order). No person wore a shirt and tie of the same colour.

It is again given that-

1. Vivek is not wearing a green tie.
2. Priyanshu is not wearing a blue shirt.
3. Priyanshu is wearing an orange tie.
4. Saket is not wearing an orange shirt.
5. Vivek is not wearing a black shirt.

Which colour tie and shirt did Saket wear respectively?

(1) Orange and black (2) Green and Blue
(3) Yellow and Blue (4) Yellow and Black

71. Four political parties JDU, RJD, SP and Congress have decided to field a joint candidate for the upcoming parliamentary elections. The basis for selection of a candidate is the acceptance of the maximum number of parties by any candidate. Four candidates W, X, Y and Z come to these parties to get a ticket.

1. Candidate W is acceptable to JDU but not to Congress.
2. X candidate is acceptable to SP but not to RJD.
3. Y candidate is acceptable to JDU and SP.
4. Z candidate is acceptable to JDU and RJD.

When candidate X was preferred by JDU and Congress, candidate Y was preferred by RJD and Congress and candidate W was acceptable to RJD but not to SP, then who ultimately got the ticket?

(1) W (2) X
(3) Y (4) Z