15 | Placing and Ordering Puzzles

To solve the problems on seating arrangements, we should first focus on the actual information, keeping aside the useful secondary information (USI). The following steps should be followed in order to solve the problems on seating arrangements.

Draw a diagram of empty places. If the people are sitting in a row, draw a horizontal line. Otherwise draw the diagram as per the specifications given in the problem.

- Using the entire definite information, fill up as many empty places as possible.
- Then examine the comparative information, negative information, and USI, if any. After considering all the possibilities and without violating any of the conditions, complete the seating diagram. Once the seating diagram is completed, it is very easy to answer the questions asked in the problem.

Type 1: Mukesh is 12th from both ends of a row. How many candidates are there in the row?

Solution: Since Mukesh is 12 from both sides of the row. It means 11 persons are to his left and 11 are to his right. He is 12th from both ends. So, total candidates are $11 + 1 + 11 = 23$ candidates.

Type 2: Sita is 12th from left and 15th from right end of a row. How many persons are there in the row?

Solution: Shortcut trick to the solution of the problem is simple.

Just add the two given numbers and subtract 1 from them. You will find the number of person in the row. Total persons in the row = $12 + 15 – 1 = 26$ persons.

Type 3: Suman and Suresh are standing in a queue. Suman is 9th from left and Suresh is 6th from right. When both interchange their positions, Suman becomes 15th from left. Find out new position of Suresh from right end.

Solution: Ranking test shortcut trick to solve this problem is given below.

Suman's position changes from 9th to 15th from left end. So there is an increase of 6 ranks. Since Suman and Suresh both interchanged their positions, so there must be the same increase in rank of Suresh position from right. So, Suresh position = $6 + 6 = 12^{th}$ from right. So determine the increase or decrease in position of common end and add the increase or subtract the decrease.

Type 4: Sonal and Mahi are standing in a row of boys. Sonal is 14th from left and Mahi is 7th from right. If both interchange their positions, Mahi becomes 15th from the right. Find out the total number of boys in that row.

Solution: The ranking test problem can easily be solved by the shortcut trick given below.

Find out the common person who's position is given two times. In this question, Mahi's position changes from 7th to 15th from right. Since he is at 15th position after interchanging, so it means 14 boys are to his right. Now Mahi is at Sonal's position which is 14th from left means 13 boys are to his left. Add all these left and right means $14 + 13 + 1$ (Mahi's own position) = 28 boys in row.

Note

Why the seating plan is the single most important piece of behavioural modification equipment you have in your toolbox in classroom.

You are not necessarily the cleverest person in your classroom. You may not even be in the top ten. Yes, you are the one with a degree. You are the big shot, for now. But, let's face it, you have no idea what the children in front of you may one day become. Something altogether more impressive than a piffling, cardigan clad, Cornish-pasty-shoe-wearing school teacher, perhaps?

Any survey of students that asks them the important question, "How do you learn best?" finds the same answer at the top of the list. "Groups," their replies will scream, with one impassioned voice. "We learn best in groups. WHY WON'T ANYONE LISTEN TO US?"

Having your desks set out in groups is the right way to organise your classroom. Period. No discussion. No arguing.

Linear Arrangement

Example 1. Five friends, A, B, C, D, and E are sitting on a bench in a park.

a: A is sitting next to B.

b: C is sitting next to D.

c: D is not sitting with E.

d: A is to the right of B and E.

e: E is at the left end of the bench.
f: C is at the second position from the right.
g: A and C are sitting together.

1. Where is A sitting?
   a. Between B and D   **b.** Between D and C
   c. Between C and E   **d.** Between B and C

2. Who are sitting on either side of C?
   a. A and E   **b.** A and D   **c.** B and D   **d.** D and E

3. What is the position of B?
   a. Extreme left   **b.** Centre
   c. Second from left   **d.** Second from right

4. Who is sitting at the centre?
   a. B   **b.** D   **c.** C   **d.** A

5. What is the position of D?
   a. Extreme right   **b.** Second from left
   c. Third from left   **d.** Extreme left

Answer: 1. (d)   2. (b)   3. (c)   4. (d)   5. (a)
Solution (1 to 5): In the given statements, observe that statements (f) and (g) constitute definite information. Statements (b), (c), (e), and (f) constitute comparative information, whereas statement (d) gives negative information. Starting with the definite information given in statements (f) and (g), we can draw the following seating diagram.

$\underline{E}$ _ _ $\underline{C}$ _

Now, let us go to comparative information that tells us about E and C. Consider statements (g) and (b), which state that A and C are sitting together and also A and B are next to each other. It implies that A is sitting between B and C. Further, statement (5) states that A is to the right of B and E.
This leads to the following position :

$\underline{E}$ $\underline{B}$ $\underline{A}$ $\underline{C}$ _

Now, consider statement (c). C is sitting next to D. On plotting this information we get the complete seating diagram as under.

$\underline{E}$ $\underline{B}$ $\underline{A}$ $\underline{C}$ $\underline{D}$

Example 2. Seven girls, Ramya, Simran, Vinutha, Mandakini, Urmila, Preethi, and Kinnera, are sitting in a row. Simran is sitting to the immediate left of Vinutha and third to the right of Ramya, whereas Mandakini, who is sitting at the extreme left, is sitting next to Kinnera.

1. Who is sitting to the immediate left of Ramya?
   a. Mandakini   **b.** Urmila
   c. Kinnera   **d.** Preethi
   e. Cannot be determined

2. If Vinutha and Kinnera mutullay exchange their places without any change in the arrangement of other positions, who will be sitting to the immediate left of Ramya?
   a. Kinnera   **b.** Preethi
   c. Urmila   **d.** Vinutha
   e. None of these

3. If only Simran is sitting between Preethi and Vinutha, who is sitting exactly at the centre?
   a. Preethi   **b.** Urmial
   c. Vinutha   **d.** Ramya
   e. None of these

4. If Ramya exchanges her place with Mandakinini and Vinutha exchanges her place with Urmila, then how many girls will be there between Urmila and Ramya?
   a. Two   **b.** Three
   c. Four   **d.** Five
   e. Cannot be determined.

5. In addition to the above statements, which of the following statements cannot specify the seating position of every girl?
   a. Ramya and Simran have two girls sitting between them.
   b. Vinutha and Urmila have two girls between them.
   c. Mandakini and Preethi have two girls between them.
   d. There are two girls sitting between Preethi and Kinnera.
   e. Every statement given above specifies the seating arrangement of every girl.

Analysis

Based on the data given above, let us draw the seating diagram. Let us represent these seven girls by the first letter of their name as R-Ramya, S-Simran, V-Vinutha, M-Mandakini, U-Urmila, P-Preethi, K-Kinnera. M-Mandakini, who is sitting at the extreme left, if sitting next to Kinnera.

M   K   __   __   __   __   __
L →   → R

Simran is sitting to the immediate left of Vinutha and third to the right of Ramya. This can be denoted as under.

R   __   __   S   V

Combining the above two diagrams, we can deduce the Vinutha is sitting at the extreme right end of the row. Thus, the seating arrangement will be:

M   K   R   __   __   S   V

The two vacant positions between Ramya and Simran are to be occupied by Preethi and Urmila.

1. **Solution (c):** From the final seating diagram we notice that Kinnera is sitiing to the immediate left of Ramya.
2. **Solution: (d)** If Vinutha and Kinnera mutually exchange their positions, then Vinuth will be sitting to the immediate left of Ramya.
3. **Solution: (b)** If Simran sits between Preethi and Vinutha, then the seating diagram takes the following form.

   <u>M</u>   <u>K</u>   <u>R</u>   <u>U</u>   <u>P</u>   <u>S</u>   <u>V</u>

   It is clear that Urmila is sitting at the centre of the row.
4. **Solution: (d)** The seating arrangement is:

   <u>M</u>   <u>K</u>   <u>R</u>   <u>P / U</u>   <u>U/P</u>   <u>S</u>   <u>V</u>

   If Ramya exchanges her place with Mandakini and Urmila with Vinutha, then the seating arrangement will be as follows:

   <u>R</u>   <u>K</u>   <u>M</u>   <u>P /V</u>   <u>V/P</u>   <u>S</u>   <u>U</u>

   Observe from the above seating diagram that there are five girls sitting between Ramya and Urmila.
5. **Solution: (a)** Based on statement (1), the seating arrangement will be

   <u>M</u>   <u>K</u>   <u>R</u>   <u>P / U</u>   <u>U/P</u>   <u>S</u>   <u>V</u>

   The position of all the seven girls cannot be determined since position of Preethi and Urmila ar not certain. Based on statement (2), the seating arrangement is as follows:

   <u>M</u>   <u>K</u>   <u>R</u>   <u>U</u>   <u>P</u>   <u>S</u>   <u>V</u>

   Based on statement (3), the seating arrangement is as follows:

   <u>M</u>   <u>K</u>   <u>R</u>   <u>P</u>   <u>U</u>   <u>S</u>   <u>V</u>

   Based on statement (4), the seating arrangement is as follows:

   <u>M</u>   <u>K</u>   <u>R</u>   <u>U</u>   <u>P</u>   <u>S</u>   <u>V</u>

   Form the above arrangements, we can infer that only statement (1) does not specify the seating position of every girl.

Circular Arrangement

The seating positions of people around a table depends on the shape of tables: could be a square, a rectangle, a circle, a hexagon, etc. These types of problems will have statements such as persons sitting opposite to each other, a particular person sitting to the right or left of another person, etc. If four persons are sitting around a square, rectangular, or circular table, the positions can be marked as follows:
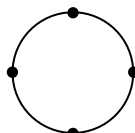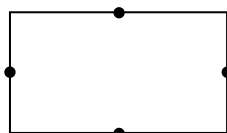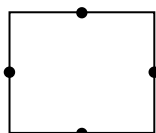

If six persons are sitting around a circular or rectangular table, there positions can be marked as under.
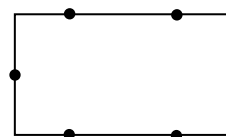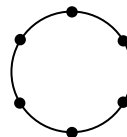
If eight persons are sitting around a square table – four persons at the middle of the sides and four persons at the corners – the positions can be shown as:

Note

Whenever the phrase 'A is sitting one seat away from B' is used, students should understand that there is one person between A and B. It is as good as saying that A is sitting in the second seat from B. Similarly, if A is sitting two seats away from B, it implies that there are two persons between A and B. This is the same as saying that A is sitting in the third seat from B.
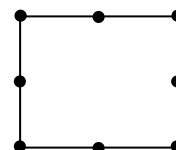

Example 3. P, Q, R, S and T, sit around a circular table and play 'Rummy'. P is sitting one seat away to the left of R, and Q is sitting one seat away to the right of R.

1. If S sits between Q and R, who sits to the immediate right of P?

   a. T   **b.** S   **c.** Q   **d.** R

2. Which of the following cannot be the **correct** seating arrangement of these persons either in clockwise or anticlockwise direction?

   a. P Q R S T   **b.** P S R T Q

   c. P Q S R T   **d.** P T R S Q

3. If S is not sitting next to Q, who is sitting between Q and S?

   a. R   **b.** P

   c. T   **d.** Cannot be determined

4. If another person U joins the game, but does not sit next to R, whereas the others sit in their earlier positions, then which of the following statements is **correct**?

   a. U sits to the immediate right of S

   b. U sits to the immediate left of P

   c. U sits to the immediate left of T

   d. Either (a) or (b)

Solution (1 to 5): Based on the conditions given in the statements, P sits one seat away to the left of R and Q sits one seat away to the right of R. We can draw their positions as shown in the adjacent figure.

S or T
Q   R
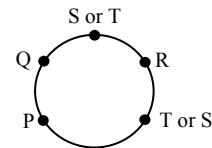P   T or S
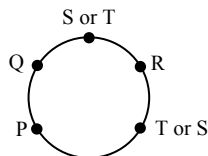
Now, the questions can be answered as under:

1. **Solution (a):** If S sits between Q and R, then the arrangement will be as shown in the adjacent figure. So, T is sitting to the immediate right of P.
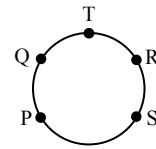
S
Q   R
P   T
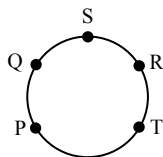
2. **Solution (a):** Try each of the given options and find out which option fails to indicate a correct seating arrangements?
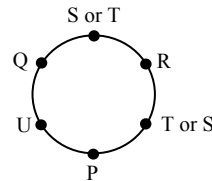
S or T
Q   R
P   T or S

3. **Solution (b):** If S is not sitting next to Q, then the arrangement will be as shown in the adjacent diagram.

T
Q   R
P   S

Now, P is between Q and S.

4. **Solution (b):** On the basis of the positions of P, Q, R, S, and T in the diagram, U can be positioned between P and Q. If U sits in any other positions, original conditions get violated.

S or T
Q   R
U   T or S
P

Multiple Choice Questions

1. In a March past, seven persons are standing in a row. Q is standing left to R but right to P.O is standing right to N and left to P. Similarly, S is standing right to R and left to T. Find out who is standing in the middle?
    a. P   **b.** Q   **c.** R   **d.** O

2. In a shop, there were 4 dolls of different heights A, B, C and D. D in neither as tall as A nor as short as C. B is shorter then D but taller than C. If Mani wants to purchase the tallest doll, which one should she purchase?
    a. Only A   **b.** Only B
    c. Either A or D   **d.** Either B or D

3. Six students A, B, C, D, E and F are sitting in a field. A and B are from Delhi while the rest are from Bangalore. D and F are tall while others are short A, C, D are girls while others are boys. Which is the tall girl from Bangalore?
    a. C   **b.** D   **c.** E   **d.** F

4. Six persons A, B, C, D, E and F are sitting in a circle. B is between F and C; A is between E and D; F is to the left of D. Who is between A and F?
    a. B   **b.** C   **c.** D   **d.** A

5. P, Q, R S and T are sitting around a circular table. R is to the right of P and is second to the left of S. T is not between P and S. Who is second to the left of R?
    a. Q   **b.** S
    c. T   **d.** Data inadequate

6. A, B, C, D, E and F are sitting around a round table. A is between E and F, E is opposite to D, and C is not in either of the neighbouring seats of E. Who is opposite to B?
    a. C   **b.** D   **c.** F   **d.** A

7. Six persons A, B, C, D, E and F are standing in a circle. B is between D and C. A is between E and C. F is to the right of D. Who is between A and F?
    a. B   **b.** C   **c.** D   **d.** E

8. What is T' is position with respect to W when T, W, R, J, and M are sitting around a circle facing the centre?
    I. R is second to the left of M and second to the right of W.
    II. J is not an immediate neighbour of M.

9. M, D, T and W are sitting around a circle facing at the centre. Who is to the immediate left of D?
    I. M is between T and W and D is the immediate left of T.
    II. D is second to the left of M.

10. A, B, C, D and E are sitting around a circular table facing the centre. Who is to the immediate left of C?
    I. Only A is between E and B.
    II. D is to the immediate left of B.

11. P, Q, R and S are sitting around a circle facing at the centre. Who is to the immediate right of Q?
    I. R is between P and S.
    II. S is to the immediate right of R.

12. P, Q, R, S and T are sitting around a circle facing towards its centre. Who is second to the right of P?

I. R is to the immediate left of T and second to the right of S.

II. Q is to the immediate right of S and third to the left of P.

13. Who is sitting to the immediate right of Tanisha among five friends sitting around a circle facing the centre?

I. Ayesha is sitting exactly between Kanak and Sneha and Raj is sitting to the immediate right of Sneha.

II. Tanisha is sitting exactly between Kanak and Raj and Ayesha is sitting to the immediate right of Kanak.

14. Whoa among A, B, C and D is sitting next to A if all the four are sitting in a straight line facing North?

I. A does not sit next to D, who does not sit next on the extreme right.

II. None sit to the left of A and on the right of B, while only one person sits between Ca and B.

15. Who is to the immediate right of P among five persons P, Q, R, S and T facing North?

I. R is third to the left of Q and P is second to the right of R.

II. Q is to be immediate left of T who is second to the right of P.

16. In a row of five children A, B, C, D and E who is standing in the middle?

I. D is to the immediate right of E and B is to the immediate left of E.

II. B is at the extreme left of the row.

17. In a row of five building P, Q, R, S and T, which building is in the middle?

I. Building S and Q are at the two extreme ends of the row.

II. Building T is to the right of building R.

18. Five friends P, Q, R, S and T are standing in a row facing East. Who is standing at the extreme right end?

I. Only P is between S and T. R is to the immediate right of T.

II. R is between T and Q.

19. Six students P, Q, R, S, T and U are sitting in the field. P and Q are from Noida while the rest are from Gurgaon. S and U are tall while others are others are short. P, R and S are girls while others are boys. Which is the tall girl form Gurgaon?

a. R   **b.** S   **c.** T   **d.** U

20. In an IPL cricket series, Mumbai Indians defeated Delhi Daredevils twice, Deccan Chargers defeated Mumbai Indians twice, Delhi Daredevils defeated Deccan Chargers twice, Mumbai Indians defeated Kolkata Knight Riders twice, and Deccan Chargers defeated Kolkata Knight

Riders twice. Which team has lost most number of times?

a. Mumbai Indians   **b.** Delhi Daredevils

c. Kolkata Knight Riders   **d.** Deccan Chargers

21. On a shelf in a public library are placed six volumes side-by-side labeled L, M, N, P, Q and R. M, N, Q, R have red covers while others have blue covers. L, M, P are new volumes while the rest are old volumes. L, M, N are dictionaries while the rest are encyclopaedias. Which two volumes are old encyclopaedias and have red covers?

a. M, N   **b.** N, P   **c.** N, Q   **d.** Q, R

22. Three persons A, B and C wore shirts of red, yellow and green colours (not necessarily in the order) and pants of black, white and green colours (not necessarily in that order). No person wore pant and shirt of the same colour.

A did not wear shirt of red colour.

B did not wear shirt of yellow colour.

C did not wear shirt of green colour.

A did not wear pant of black colour .

B wore pant of green colour .

What were the colours of pant and shirt wore by C, respectively?

a. Whit and red   **b.** White and yellow

c. Black and yellow   **d.** Green and red

23. In a bakery shop, the items were arranged in a shelf consisting of six rows. Biscuits are arranged above the tins of chocolates but below the rows of packets of chips, cakes are at the bottom and the bottles of peppermints are below the chocolates. The topmost row had the display of jam bottles. Where exactly are the bottles of peppermints? Mention the place from the top.

a. 2nd **b.** 3rd **c.** 4th **d.** 5th

24. Six ladies – P, Q, R, S, T and U – sat around a round table for a kitty party at the Kwality Hotel. Q is between S and R. P is between T and R. U is to the right of S. Who is between P and U?

a. Q   **b.** R   **c.** S   **d.** T

25. Six executives of the XYZ company – P, Q, R, S, T and U – sat around a round table in the conference room for a meeting. P is between T and U, T is opposite to S, and R is not in either of the neighboring seats of T. Who is opposite to Q?

a. R   **b.** S

c. U   **d.** None of these

26. In a pile of 10 books, there are 3 of science, 3 of english, 2 of economics and 2 of history.

Taking from above, there is a history book between a science and economics book, a science book between an

economics and a history book, an english book between a history and an economics book, an economics book between two english books, and two english books between an economics and a science book. Book of which subject is at the sixth position form the top?

a. History   **b.** English   **c.** Economics **d.** Science

27. Five children were administered psychological tests to know their intellectual levels. In the report, the psychologists pointed out that the child A is less intelligent than the child B, the child C is less intelligent than the child D, the child B is less intelligent than the child C and the child A is more intelligent than the child E. Which child is the most intelligent?

   a. A   **b.** B   **c.** D   **d.** E

28. P, Q, R, S and T are five typists in an office. Q types faster than R but not as fast as V. T types faster than R. S types faster than V. Who amongst the five types the fastest?

   a. S   **b.** T
   c. V   **d.** Insufficient information

29. Five girls took part in a race. Reena finished before Mohini but behind Gauri. Ananya finished before Sanchi but behind Mohini. Who won the race?

   a. Reena   **b.** Gauri   **c.** Mohini   **d.** Ananya

30. Six students participated in a 400-metre race.
   - Ram finished after Amar and 2 other students.
   - Amar finished after Sameer.
   - Firoz finished before Sameer.
   - Vinod finished before Hari.
   - Who came fifth?

   **a.** Ram   **b.** Amar   **c.** Firoz   **d.** Vinod

ANSWERS

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
b	a	b	c	a	c	d	e	a	e
11.	**12.**	**13.**	**14.**	**15.**	**16.**	**17.**	**18.**	**19.**	**20.**
e	b	c	b	c	e	d	e	b	c
21.	**22.**	**23.**	**24.**	**25.**	**26.**	**27.**	**28.**	**29.**	**30.**
d	c	d	d	c	b	c	d	b	d

SOLUTIONS

1. **(b)** Q is left to R and to the right of P $\Rightarrow$ P, Q, R.
   Q is to the right of N and left of P $\Rightarrow$ N, O, P.
   S is to the right of R and left of T $\Rightarrow$ R, S, T.
   Thus the order is N, O, P, Q, R, T and so Q is the middle.

2. **(a)** D is not as tall as A $\Rightarrow$ D < A
   D is not as short as C $\Rightarrow$ D > C.
   B is shorter than D but taller than C
   $\Rightarrow$ C < B < D.
   Thus we have C < B < D < A.
   So,   A is the tallest.

3. **(b)** Clearly D is tall girl, and from Bangalore.

4. **(c)** Clearly D is between A and F. All persons are facing each other

Questions 7 to 19.
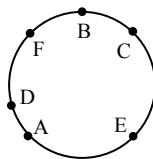
We have A + B > C + D   . . . (*i*)

A + C > B + D   . . . (*ii*)

And $A = \frac{1}{2}$ (B + D)   . . . (*iii*)
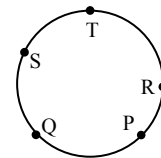
Putting the value of A in (ii), we get $C = \frac{1}{2}$ (B+D) i.e.,

A = C.
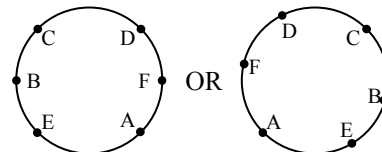Since A + B > C + D and A = C, we get B > D.
Thus from (iii) we get B > A and so B > C

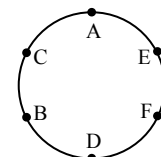5. **(a)** R is to the right of P and is second to the left of S.

Since T is not between P and S, so Q is second to the left of R.

6. **(c)** E is opposite to D. A is between E and F. Since C is not the neighbor of E,

So, the only neighbouring blank position of E is occupied by B.
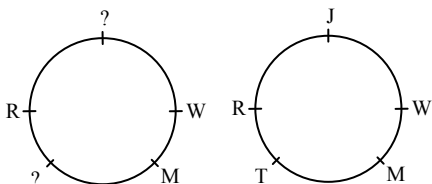

Clearly there are two possible arrangements. In each arrangement, F is opposite B.

7. **(d)** F is to the right of D. B is between D and C. A is between E and C. Thus the arrangement is shown in the adjoining figure. Clearly E is between A and F.
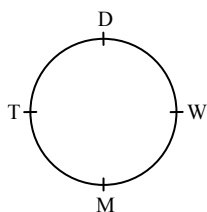
8. **(e)** Form statement I:

R → second to the left of M

R → second to the right of W.

From statement II:
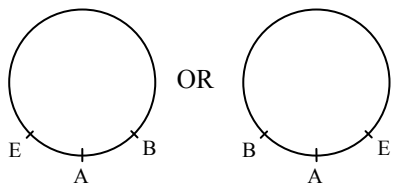
J → not an immediate neighbour of M.

Combining I and II, we get

So, T → second to the left of W.

Therefore, the data in both the statements I and II together are necessary to answer the given question.

9. **(a)** From statement I:

M → Between T and W.

D → Immediate left of T.
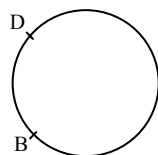
So, the circular sitting arrangement is as follows:

From statement II:

D → second to the left of M.

Therefore, data in statement I alone are sufficient to answer the given question.
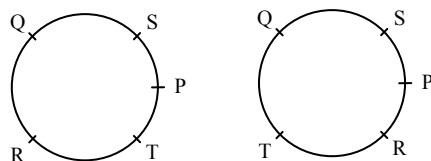
10. **(e)** From statement I: Between E and B → only A.

But there is no information regarding C. So, statement I alone is not sufficient.
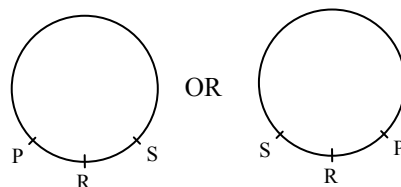
From statement II:

D → Immediate left of B.

But there is no information regarding C. So, statement II alone is not sufficient.
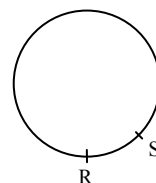
From (I) and (II), we get

So, E → immediate left of C. Therefore, the data in both statements I and II together are necessary to answer the given question.

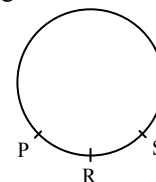**11.** **(e)** From statement I: Between P and S → R.

But there is not information regarding Q.

So, statement I alone is not sufficient.

From statement II: S → Immediate right of R.

But there is no information regarding Q.

So statement alone is not sufficient.

From I and II, we get

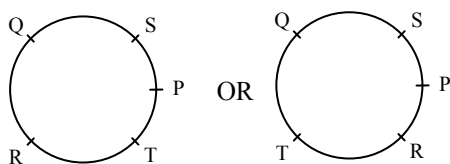So, P → Immediate right of Q.

Therefore, the data in both statements I and II together are necessary to answer the given question.

12. **(b)** From statement I:

R → Immediate left of T.

R → Second to the right of S.
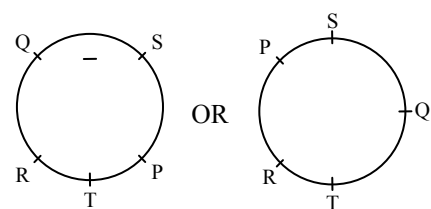
So, second to the right of P → Either Q or T. So, statement I alone is not sufficient

From statement II:

Q → immediate right of S.
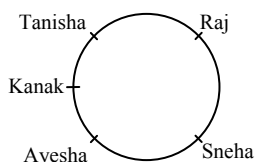
Q → third to the left of P.

So, second to the right of P → Q.

Therefore, statement II alone is sufficient.

13. **(c)** From statement I:
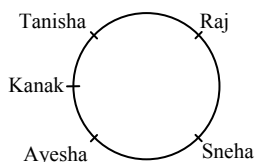
Between Kanak and Sneha → Ayesha.

Raj → immediate right of Sneha.

So, immediate right of Tanisha → Kanak.

So, statement I alone is sufficient.

From statement II:

Between Kanak and Raj → Tanisha.

Ayesha → Immediate right of Kanak.

So, immediate right of Tanisha → Kanak.

So, statement II alone is sufficient.

Therefore, the data either in statement I alone or in statement II alone are sufficient to answer the given question.

14. **(b)** From statement I:

From the given information sitting arrangement is not possible.

So, statement I is not sufficient.

From statement II:

The sitting arrangement is follows:

A   C   D   B

So, 'C' is sitting next to 'A'.

So, statement II is sufficient.

Therefore, data in statement II alone are sufficient to answer the given question.

15. **(c)** From statement I:

R → third to the left of Q.

P → second to the right of R.

So, the arrangement in the row is as follows:

<u>E</u>   <u>?</u>   <u>P</u>   <u>Q</u>   ↑ facing north

Left end   Right end

So, immediate right P → Q.

So, statement I alone is sufficient.

From statement II:

Q → Immediate left of T.

T → Second to the right of P.

So, the arrangement in the row is as follows:

<u>P</u>   <u>Q</u>   <u>T</u>   ↑ facing North.

So, Immediate right of P→ Q.

So, statement II alone is sufficient.

Therefore, the data either in statement I alone or in statement II alone are sufficient to answer the given question.

16. **(e)** From statement I:

D → Immediate right of E.

B → Immediate left of E.

So, the arrangement in the row is as follows:

<u>B</u>   <u>E</u>   <u>D</u>

But there is no information regarding A and C.

So, statements I alone is not sufficient.

From statement II:

B → Extreme left of the row.

But there is no information regarding A, B, C, D and E.

So, statement II alone is not sufficient.

Form I and II, we get

1	2	3	4	5
<u>B</u>	<u>E</u>	<u>D</u>	<u>A</u>	<u>C</u>
Extreme or left end		Middle		Extreme right or right end

Or,

1	2	3	4	5
<u>B</u>	<u>E</u>	<u>D</u>	<u>C</u>	<u>A</u>
Extreme or left end		Middle		Extreme Right

So, D→ third child.

So, Middle child → third child → D.

Therefore, the data in both statement

I and II together are necessary to answer the given question.

17. **(d)** From statement I:

S and Q → Extreme ends of the row.

So, the arrangement in the row is as follows:

<u>S</u>   <u>?</u> <u>?</u> <u>?</u>   <u>Q</u>
Extreme left   Extreme Rightt

Or,   <u>Q</u>   <u>?</u> <u>?</u> <u>?</u>   <u>S</u>
Extreme left   Extreme Rightt

But there is no information regarding P, R and T.

So, statements I alone is not sufficient.

From statement II:

T → to the right of R.

So, the arrangement in the row is as follows : R T.

But there is no information regarding P, Q and S.

So, statement II alone is not sufficient.

Form I and II, we get

1	2	3	4	5		1	2	3	4	5
S	R	T	P	Q	or,	S	P	R	T	Q

Or

1	2	3	4	5		1	2	3	4	5
Q	R	T	P	S	Or .	Q	P	R	T	S

So, either T or R is in the middle.

Therefore, the data in both statement

I and II together are not sufficient to answer the given question.

18. **(e)** Form statement I :

Between S and T → only P.

R → to the immediate right of T.

S →

P → facing east

T →

R →

Fig: Row arrangement

But there is no information regarding Q.

So, statement I alone is not sufficient.

From statement II:

Between T and Q → R.

T → facing east

R →

Q →

Fig.: Row arrangement

But there is no information regarding P and S.

So, statement II alone is not sufficient.

From I and II, we get

Extreme left end

S →

P → facing east

T →

R →

Extreme right end Q →

Fig.: Final Row arrangement

So, At the extreme right end → Q.

Therefore, the data in both statements I and II together are necessary to answer the given question.

19. **(b)**

	Noida	Gurgaon	Tall	Short	Girl	Boy
P	✓			✓	✓	
Q	✓			✓		✓
R		✓		✓	✓	
S		✓	✓		✓	
T		✓		✓		✓
U		✓	✓			✓

Clearly, S is the tall girl from Gurgaon.

20. **(c)** Delhi Daredevils was defeated twice by Mumbai Indians. Mumbai Indians was defeated twice by Deccan Chargers. Deccan Chargers was defeated twice by Delhi Daredevils. Kolkata Knight Riders was defeated twice by Mumbai Indians and twice by Deccan Chargers, i.e., 4 times in all.

21. **(d)**

	Red Cover	Blue Cover	New Volume	Old Volume	Dictio-nary	Encyclo-paedia
L		✓	✓		✓	
M	✓		✓		✓	
N	✓			✓	✓	
P		✓	✓			✓
Q	✓			✓		✓
R	✓			✓		✓

Clearly, Q and R are old volumes which have red covers and are encyclopaedias.

22. **(c)** B wore pant of green colour. A didn't wear pant of black or green colour. So, A wore pant of white colour. Thus, C wore pant of black colour. B wore pant of green colour and so didn't wear shirt of green colour. Also, B didn't wear shirt of yellow colour. So, B wore shirt of red colour. Thus, C didn't wear shirt of red or green colour.
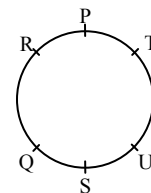
Hence, C wore shirt of yellow colour.

23. **(d)** Jam bottles are at the top. Biscuits are below chips, chocolates are below biscuits, peppermints are below chocolates and cakes are at the bottom.

So, the sequence from top to bottom is:

jam bottles, chips, biscuits, chocolates, peppermint, cakes.

24. **(d)** U is to the right of S. Q is between S and R. P is between T and R.
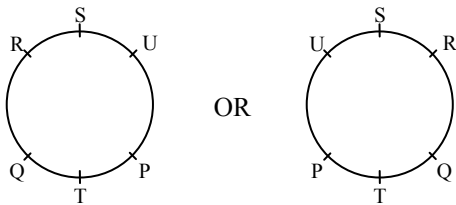

Thus, we have the arrangement as shown in the adjoining figure.

Clearly, T is between P and U.

25. **(c)** T is opposite S. P is between T and U. Since R is not the neighbour of T, so the only neighbouring blank position of T is occupied by Q.

Thus, we have two possible arrangements:

OR

In each of the arrangements, U is opposite to Q.

26. **(b)** Let us denote history–H, science–S, english–E and economics–Eco.

Starting from above, history is between science and economics, i.e., S, H, Eco.

Science is between economics and history, i.e., S. H, Eco, S, H.

English is between history and economics, i.e., S, H, Eco, S, H, E, Eco.

Economics is between two english books, i.e., S, H, Eco, S, H, E, Eco, E.

Two English books are between economics and science, i.e, S, H, Eco, S, H, E, Eco, E, E, S.

Clearly, English book is at sixth position from the top.

27. **(c)** We have: B > A, D > C, C > B, A > E.

Combining all the above, we have: D > C > B > A > E.

Clearly, child D is the most intelligent.

28. **(d)** From the given information, we have; V>Q>R, S > V.

Combining the above, we have; S > V > Q > R, T > R.

So, either S or T is the fastest.

29. **(b)** Reena finished before Mohini but behind Gauri.

So, the order is—Gauri, Reena, Mohini.

Ananya finished before Sanchi but behind Mohini.

So, the order is—Mohini, Ananya, Sanchi.

Thus, the order of race is—Gauri, Reena, Mohini, Ananya, Sanchi.

Clearly, Gauri won the race.

30. **(d)** Ram finished after 3 students. So, Ram is fourth.

Sameer finished after Firoz and Amar finished after Sameer

So, Firoz is first, Sameer second and Amar third. Han finished after Vinod. So, Vinod is fifth and Han is sixth.

□ □ □