



LearnFrenzy
QUALITY EDUCATION

REASONING ABILITY

RANKING ORDER AND SEQUENCE

Master the techniques of determining positions, comparing heights or weights, and arranging data in logical sequences for competitive examination excellence.

ONE DAY EXAM SERIES
SESSION 2027-2028

EXAM PREP EDITION

LearnFrenzy

In the questions asked under this chapter, a group of some numbers, letters, words, objects, places, persons etc. is given. But the elements of the group are not in any fixed order. Some comparative facts are given on the basis of the characteristics of the elements, on the basis of which questions are asked.

Sequencing

Arranging the elements of a given group on the basis of a specific property is called ‘sequencing’, in which each element is related to the element before and after it due to some property.

For example, there are 4 members in a family, in which P and Q are husband and wife, wife P is younger than the husband and they have two children R and S, out of which the younger boy S is 5 years old.

On the basis of the above information, we can establish a relation between the ages of the four members of the family and by placing the ages in descending order, we will get the following sequence.

$$Q > P > R > S$$

Based on the questions asked in the exam, we can divide sequencing into four parts-

1. Number Sequencing
2. Letter or Word Sequencing
3. Ranking
4. Miscellaneous

1. Number Sequencing

In this type of questions, a group or series of some numbers or symbols is given. They are changed according to some given conditions or information is asked about the position of a number/symbol based on some other property. There is no direct rule to solve this type of questions. The nature of the questions can be understood through continuous practice.

Example:

1. How many '5's are there in the following series each of which is not immediately preceded by an odd number?
4 7 3 2 5 1 6 7 9 8 5 2 3 4 1 5 7 8 9 5 6 4 3 5

Sol. To solve this question first we have to find all '5' in the given series.

$\checkmark$ $\checkmark$ $\times$ $\times$ $\times$
 4 7 3 2 (5) 1 6 7 9 8 (5) 2 3 4 1 (5) 7 8 9 (5) 6 4 3 (5)

Now we will count only those 5's which are immediately preceded by an even number, there are only 2 such '5's.

2. In the given series, if the first digit is replaced by the fourth digit and the second digit is replaced by the 8th digit, then what will be at the right place of the second digit from the left?

5 7 3 9 8 1 4 2 5 9 6

Sol.

1	2	3	4	5	6	7	8	9	10
↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
5	7	3	9	8	1	4	2	5	6

↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑

= 9 2 (3) 5 8 1 4 7 5 6

Just to the right of the second digit from the left will be 3.

2. Letter or Word Sequencing

1. In this type of questions, some English letters or words are given, which can be arranged in dictionary form to reach the answers of the questions.

Example: Arrange the following words in the order of the English alphabet.

disprin, dispensary, dispute, display

- Sol.** The first four letters are the same in all the words. So we leave the first four letters and arrange all the words alphabetically based on the remaining letters.

dispensary display disprin dispute

2. Some questions are directly based on the English alphabet. The position of a letter is told from the right or left and the question is asked which letter it is?

Example: What will be the second letter to the right of D in the English alphabet?

Sol. Left Right
 $\longleftarrow \quad \longrightarrow$
A B C D E (F) G H I J K
 ↑ ↘
 F

Example: What will be the third letter to the left of the sixth letter from the left end of the English alphabet?

Sol. $\overline{ABCDEF} \xrightarrow{3^{rd}} GHIJK \dots$
 $\downarrow \qquad \qquad \downarrow$
 $C \qquad \qquad 6^{th}$

Important Points:

1. To solve such questions, we must know the place value of all the letters of the English alphabet.

A	B	C	D	E	F	G	H	I	J	K	L	M
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
1	2	3	4	5	6	7	8	9	10	11	12	13
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
14	15	16	17	18	19	20	21	22	23	24	25	26

Generally we take the position of all letters from the left.

As- $D \rightarrow L_4$

$L \rightarrow L_{12}$

$S \rightarrow L_{19}$

2. If the position of a letter is given from one end and it needs to be found from the other end, then we find it by subtracting it from 27.

Position from left = 27 - Position from right

3. While taking out a letter of the alphabet, if we have to move from left to right then we add the place value, and if we have to move from left to left then we subtract it.

As- Left - Right $\rightarrow +$

Right - Left $\rightarrow +$

Left - Left $\rightarrow -$

Right - Right $\rightarrow -$

And always count as per the first position.

Note: 1. If the answer comes at the end is '0' then the letter will be Z.

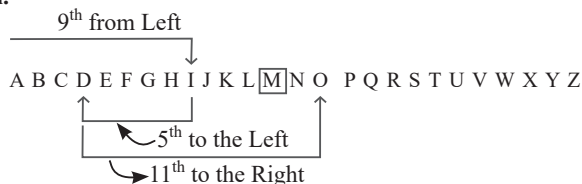
2. If the answer is more than 26 then subtract 26.

3. If the answer is negative (-ve) then add 26.

Example:

1. What will be the 11th letter to the right of the 5th letter from the left of the 9th letter from the left in the English alphabet?

Sol.



Or

$$\begin{aligned}
 L_9 - L_5 - R_{11} &= L_{(9-5)} - R_{11} \\
 &= L_4 - R_{11} \\
 &= L_{15} = O
 \end{aligned}$$

2. What will be the 20th letter to the right of the 21st letter to the left of the 8th letter from the right end of the English alphabet?

Sol. A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

$$= R_8 - L_{21} - R_{20}$$

$$= R_{29} - R_{20}$$

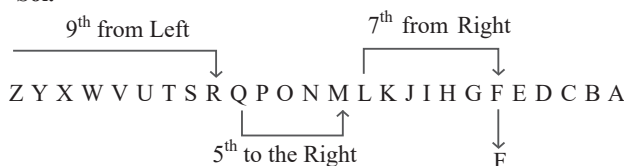
$$= R_9 \text{ (position from right)}$$

$$\text{Position from the left} = 27 - 9 = 18$$

$$L_{18} = R$$

3. If all the letters of the alphabet are written in reverse order then what will be the 7th letter to the right of the 5th letter to the right of the 9th letter from the left?

Sol.



Or

When letters are written in reverse order, then we solve it in a simple way by putting left to right and right to left.

So the converted form of

$$L_9 - R_5 - R_7 \text{ is } \rightarrow R_9 - L_5 - L_7$$

$$= R_{14} - L_7 = R_{21}$$

$$= L_{(27-21)} = L_6$$

$$= F$$

3. Ranking

Under hierarchy, a group of some persons, objects or places is given and comparative details of their age, length, height, position or any other quality are given. The group has to be arranged in a meaningful order on the basis of their qualities and the questions asked have to be answered in descending or ascending order. In which usually the position of a person, object or place is asked from above or below, from the right or from the left.

We can divide the questions related to hierarchy on two basis-

- (1) Based on position (2) Based on quality

(1) Based on the Position

In this type of questions the relative position of a person/thing is given from the right or left or top or bottom on the basis of a list:

1. When information is available about a single person:

Any two information from the person's rank from one end, rank from the other end and total number of persons are given and the third information is asked.

Total number of persons

= Position from one end + Position from the other end - 1

$$T = R_1 + R_2 - 1$$

Where, T = Total persons in the row

R_1 = Position from one end

R_2 = Position from the other end

When we calculate the total number of people, we add the rank of a person from both sides, but in this addition we count that person both times. Hence, we have to subtract '1' from the addition.

Example:

1. In a nomination list, Priyanka's name is at 23rd place from the beginning and 11th place from the end. So how many nominations are there in the list?

Sol. Total number of nominations

$$= \text{Position from start} + \text{Position from end} - 1$$

$$T = R_1 + R_2 - 1$$

$$= 23 + 11 - 1 = 33$$

Hence a total of 33 nominations have been made in the list.

2. In a row of 12 students, Raman is at the seventh position from the beginning, then find his position from the end.

Sol. Total Students = 12

$$R_1 = 7$$

$$\therefore T = R_1 + R_2 - 1$$

$$R_2 = T - R_1 + 1$$

$$R_2 = 12 - 7 + 1 = 6$$

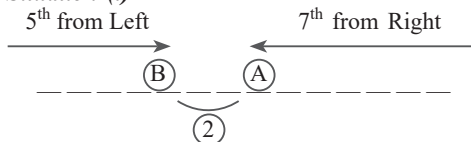
$$\therefore \text{Raman's position from the end in the row} = 6$$

2. **When information about two persons is given:** In this type of question, the rank of one person is given from one end and the rank of the other person is given from the other end and the total number of persons or the number of persons between the two persons is asked. Let us understand this through an example.

Example: A's position is 7th from the right and B's position is 5th from the left. If there are two persons sitting between them, then how many persons are sitting in the row?

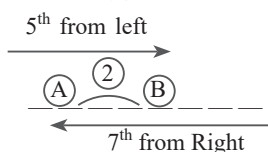
Sol. There can be two situations here-

Situation (i)



$$\text{Total Person} = 5 + 2 + 7 = 14$$

Situation (ii)



$$\text{Total Person} = 8$$

Here the total number of people is different in both situations. In the first situation the total number of people is 14, while in the second situation the total number of people is 8. Let us see why this is happening?

Both the cases fulfill the condition of the question. In the first case, no person is common on both sides based on rank i.e. the person whose rank is mentioned at the end is in the same direction as the person in the middle, while in the second case it is the opposite. The person situated between the two persons is common in rank of both. B is 5th from the left, but he is on the right of the person sitting in the middle. 2 persons who are sitting in the middle are counted in rank from both sides.

Note: When someone/some people are counted in the rank from both the sides i.e. are common, then this situation is called 'Overlapping'.

Overlap status:

1. If the rank of one person from one end is R_1 and the rank of another person from the other end is R_2 and $(R_1 + R_2)$ is more than the total number of persons.

$$\text{and } R_1 + R_2 > \text{Total}$$

2. The number of persons sitting between the two persons should be at least 2 less than the lower rank (the one with lower numerical value among R_1 and R_2).

$$M \leq (R_{\text{mini}} - 2)$$

For example, if the rank of A in a row is 5th and the rank of B is 7th, then to check whether there will be overlap or not, we will have to see how many people are there in total or how many people are sitting in the middle. If the total number of people is less than $(5 + 7 = 12)$ then there will be overlap.

Similarly, if there are less than $5 - 2 = 3$ people between the two then there will be overlap otherwise not.

If nothing specific about the total number is given in the question then instead of finding the total number of persons we can find the possible minimum or possible maximum number of persons.

If in a row the rank of one person (R_1) is from one end and the rank of another person (R_2) is from the other end and there are M persons between them-

1. If there is no overlapping,

$$T = R_1 + R_2 + M$$

(In this case the maximum possible number of persons always comes)

2. If there is overlapping,

$$T = R_1 + R_2 - M - 2$$

(In this case the minimum possible number of persons always comes)

T = Total number of persons

R_1 = Rank of one person from one end

R_2 = Rank of other person from the other end

M = Number of persons present between the two persons

Note: If the rank of both the persons is given from one end then the total number or maximum number cannot be found. In this case only the minimum number can be found. Whichever of R_1 and R_2 has the higher numerical value, will be the rank.

Example:

- In a row, A is at the tenth place from the beginning and B is at the sixth place from the end. If there are 2 persons between them, then find the maximum and minimum possible number of persons present in the row.

Sol. For maximum number of persons, overlapping is taken as zero.

$$\begin{aligned} T_{\max} &= R_1 + R_2 + M \\ &= 10 + 6 + 2 = 18 \end{aligned}$$

For a minimum number of persons the overlap is taken to be maximum.

$$\begin{aligned} T_{\min} &= R_1 + R_2 - M - 2 \\ &= 10 + 6 - 2 - 2 = 12 \end{aligned}$$

Or

$$T_{\min} = T_{\max} - (2M + 2)$$

$$T_{\min} = 18 - (2 \times 2 + 2) = 12$$

- If there are 13 people sitting in a row. Among them, A is 7th from the left and B is 11th from the right, then tell how many people are sitting between them?

Sol. $R_1 = 7$, $R_2 = 11$, $T = 13$

$$R_1 + R_2 = 18$$

Here, $R_1 + R_2 > T$ (so there will be overlap)

$$\therefore T = R_1 + R_2 - M - 2$$

$$13 = 18 - M - 2$$

$$M = 18 - 15 = 3$$

- If in a list the rank of A is 5th from the top and rank of B is 7th from the bottom and there are 4 persons between them then how many names are there in the list?

Sol. $R_1 = 5$ (mini)

$$R_2 = 7$$

$$M = 4$$

Here the smallest rank is 5 and the number of people in the middle is 4, which is more than $(5 - 2) = 3$. So there will be no overlap here.

$$\begin{aligned} \therefore T &= R_1 + R_2 + M \\ &= 5 + 7 + 4 = 16 \end{aligned}$$

- If in a row Meera is at 16th place from the beginning and Radha is at 6th place from the end then answer the following questions.

- What is the total number of people?
- What is the maximum number of persons that can be in the row?
- What is the minimum number of persons that can be in the row?

Sol. In the question, it is not given how many people are there between the two. Hence, due to insufficient information, the maximum number or the total number cannot be found, but the minimum number can be found which will be the one whose rank has a higher numerical value. Hence, the minimum number of people in the row can be 16.

(2) Based on Quality

In such questions, people or objects present in a group are usually compared on the basis of some specific quality. These qualities can be one or more than one like age, weight, height, qualification, marks etc.

Directions (Q. No. 1–3): Study the following information carefully and answer the questions given below.

- Rama's marks are more than Sapna's marks but less than Geetika's.
- Both Priyanka and Shivani's marks are less than Rama's marks.
- Priyanka's marks are less than Sapna's marks but more than Shivani's marks.

1. Who has the highest marks?

2. Who has the lowest marks?

3. Who ranks third when arranged according to marks?

Sol. (i) Geetika > Rama > Sapna

(ii) Rama > Priyanka and Shivani

(iii) Sapna > Priyanka > Shivani

Combining (i), (ii) and (iii),

Ranks based on marks:

(1) Geetika (2) Rama (3) Sapna

(4) Priyanka (5) Shivani

1. Highest marks - Geetika

2. Lowest marks - Shivani

3. Third rank - Sapna

- Shyam is younger than Naman but elder than Vinay. Monu is elder than Vinay but younger than Shivam. Who is the eldest among them, if Shivam is not elder than Naman?

Sol. Based on each statement,

Vinay < Shyam < Naman ... (i)

Vinay < Monu < Shivam ... (ii)

Shivam < Naman ... (iii)

From (i), (ii) and (iii),

(In such a situation, we cannot put everyone in one order, but we can tell who is the eldest.)

Naman will be the eldest.

Miscellaneous

In such questions, information is not given on a particular basis but various properties are included. Different statements are given on the basis of some properties. We have to determine the sequence by drawing conclusions from all the statements. Then based on that, the questions can be answered easily.

Example:

- There are 6 cards on a table. Their colours are red, yellow, green, blue, white and pink. (Not necessarily in this order) Red is between white and yellow. Red is at the same distance from the white card as red is from the yellow card. Pink is just below yellow. There is only one card above the green card, which is not blue. So tell in which order the cards are placed?

Sol. Write each information sequentially and draw conclusions:

white	or	yellow
red		red
yellow		white

Here we see that there can be 1 card or even 3 cards between the white and yellow cards. There cannot be 5, because the total number of cards is only 6.

Just below the yellow card is the pink card.

(i)		(ii)
white	or	yellow
red		pink
yellow		red
pink		—
		white

There is only one card above the green card i.e. the green card is at the second position from the top or the fifth position from the bottom.

Now let us look at both the situations (i) and (ii).

In situation (ii) if the pink card is just below the yellow card then the distance of the red card from the yellow and white cards is the same. There are a total of 6 cards.

In situation (ii) there is no possibility of the green card being at the fifth position, hence case (ii) is left out.

Situation (i)

white
red
yellow
pink

It is known in the question that the top card is not blue so green cannot be on top. It will be in the 5th place. This is possible only when green is below white. So white will be on top. Now only blue card is left, which can only be between red and yellow.

Hence the correct order will be as follows-

white		white
green		green
red	→	red
— blue		
yellow		yellow
pink		pink

Directions (Q.No. 2–4): There are 3 boys and 3 girls P, Q, R, S, T and U working in an office. T's salary less than Q but more than R and S. Q's Salary is less than U but not less than P. S is not the lowest paid. Only one girl is less paid than the boys and two employees have the same salary, one of whom is T.

On the basis of above information answer the following questions:

- Which boy gets the lowest salary?
- Which two employees have equal salary?
- Who has the highest salary?

Sol. → T's salary is less than Q but more than R and S
i.e.

$$Q > T > R \text{ and } S$$

→ Q's salary is less than U but not less than P

$$U > Q > P$$

S's salary is not the lowest i.e. either R or P's salary can be the lowest.

Since two people have the same salary. One of whom is T. This is possible only if the salary of T is equal to the salary of P.

$$U > Q > T = P > R \text{ and } S$$

If S does not have the lowest salary then R will have the lowest salary.

So in descending order according to salary

$$U > Q > T = P > S > R$$

It is given in the question that only one girl's salary is less than the boys, i.e. two will have more salary, which tells us who the boys and girls are?

$$\begin{array}{ccccccc} U > Q > T & = & P > S > R \\ \underbrace{\hspace{1cm}} & & \underbrace{\hspace{1cm}} & & \downarrow \\ \text{Girls} & & \text{Boys} & & \text{Girl} \end{array}$$

- On seeing it appears that R has the lowest salary, but in the question the lowest salary among boys has been asked, which would be of S.
- Clearly, the salaries of T and P are equal.
- The highest salary will be of U, who is a girl.

Example:

- How many '4' are there in the following series, each of which is immediately preceded by 8 and not immediately followed by 3?

5 9 3 2 1 8 4 2 6 9 8 4 6 1 3 2 8 8 4 3 8 3 2 5 6 8 4
7 9 7 8 2 0 7 3 8 4 5 3 2 7 8 4

- | | |
|-------|-------|
| (1) 4 | (2) 5 |
| (3) 6 | (4) 7 |

Sol. To solve this type of question, first of all we mark the given number.

5 9 3 2 1 8 (4) 2 6 9 8 (4) 6 1 3 2 8 8 (4) 3 8 3 2 5 6 8 (4)
 7 9 7 8 2 0 7 3 8 (4) 5 3 2 7 8 (4)

Now each time we look at the numbers on the right and left of the number to see whether it is as per the condition of the question or not.

In this manner there are 5 such 4 which are immediately preceded by 8 and not immediately followed by 3.

2. How many pairs of digits are there in the number 5 8 2 7 9 3 1 4 6 which have as many digits between them as there are between consecutive natural numbers?

- (1) 1 (2) 2
(3) 3 (4) 4

Sol. $\overbrace{5\ 8\ 2\ 7\ 9}^{1\ 2\ 3\ 4\ 5\ 6\ 7\ 8\ 9}$
 $\overbrace{1\ 2\ 3\ 4\ 5\ 6\ 7\ 8\ 9}$

Or,

$\overbrace{5\ 8\ 2\ 7}^{6-7-8-9} \rightarrow 4-5-6$
 $\overbrace{9\ 3\ 1\ 4\ 6}$

To solve such questions, count the numbers to the right of each number in ascending order from that number and in the counting order, count all the numbers which are the same as the given number.

So, there are only two such pairs (5, 9) and (3, 6).

3. Which word will be at the second position from the bottom when the following words are arranged according to the English alphabet?

- (i) Arrest (ii) Arrangement
(iii) Arrears (iv) Arrival
(v) Arrogant
(1) Arrangement (2) Arrogant
(3) Arrival (4) Arrears

Sol. To solve this type of questions, first of all we remove those letters from all the words which are the same in the beginning of all. Here 'Arr' is same in all the words. So the remaining syllables will be-

est
angement
ears
ival
ogant

After this, all the letters are arranged sequentially according to the English alphabet.

1. angement
2. est
ears
3. ival
4. ogant

Now let us arrange the words in this order.

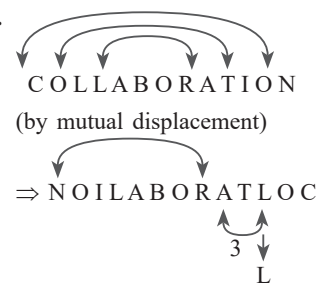
Arrangement, Arrears, Arrest, Arrival, Arrogant

∴ 'Arrival' will be at the second position from bottom.

4. If the 1st, 3rd and 5th letters of the word 'COLLABORATION' are interchanged with 13th, 11th and 9th letters respectively, then what will be the 3th letter to the right of 8th letter from the beginning?

- (1) L (2) A
(3) R (4) O

Sol.



5. If the letters of the first half of the English alphabet are written in reverse order, then what will be the 21st letter to the right of the 3rd letter to the left of the 5th letter from the left?

- (1) I (2) L
(3) Z (4) W

Sol. First method: By inverting the first half.



Second method:

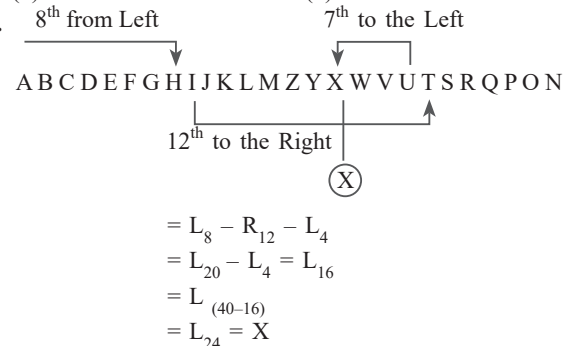
$$L_5 - L_3 - R_{21} = L_2 - R_{21} = L_{23} = W$$

Note: If the first half is written in reverse order and the answer is less than 14, then the answer will always be reduced by 14. If the answer is 14 or more, then the same will be the answer.

6. If the letters of the second half of the English alphabet are written in reverse order and the remaining letters remain as before, then which letter will be the fourth to the left of the 12th letter to the right of the 8th letter from the left?

- (1) L (2) A
(3) R (4) O

Sol.

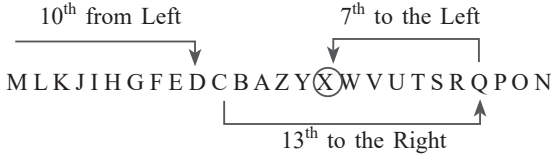


(If the answer is more than 13 after reversing the second half, then subtract it from 40.)

7. If both the halves are written in the reverse order of the English alphabet, then which letter will be 7th to the left of the 13th letter which is the right of the 10th letter from the left?

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

Sol. First method:



Answer = X

Second method:

$$\begin{aligned} L_{10} - R_{13} - L_7 &= L_{23} - L_7 \\ &= L_{16} \text{ (more than 13)} \\ &= L_{(40-16)} = L_{24} \\ &= X \end{aligned}$$

Note: If both the halves of the English alphabet are written in reverse order, then if the answer is 13 or less than 13, then subtract it from 14. If the answer is more than 13, then subtract it from 40.

Directions (Q.No. 8–11): If the English alphabets from A to Z are written skipping every next letter, like A_C_E_G and the blank spaces are filled in the reverse order of the alphabet from A to Z, like A_Z_C_Y_E_X_G... then answer the following questions based on it.

8. What will be the 6th letter to the right of the 4th letter from the left?

- (1) V (2) Q
(3) I (4) K

9. Which letter / letter pair will be in the middle of this series?

- (1) UM (2) MT
(3) TO (4) OS

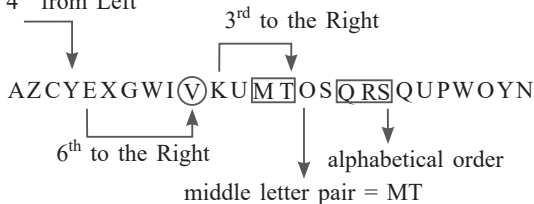
10. Which letter will be third to the right of K?

- (1) T (2) W
(3) G (4) X

11. How many letter pairs will there be according to the normal alphabet?

- (1) 1 (2) 2
(3) 3 (4) 4

Sol. 4th from Left



8. Clearly, the sixth letter to the right of the fourth letter from the left, which is Y, will be 'V'.

9. The letter pair in the middle of the series will be 'MT'.

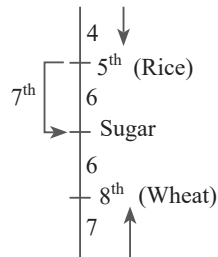
10. The third letter to the right of 'K' will be 'T'.

11. In the series, 'QRS' is as per the general alphabet. So, the total letter pairs will be 'QR' and 'RS'.

12. In a list of goods, rice is fifth from the top and wheat is eighth from the bottom. If sugar is seventh from rice and sugar is exactly in the middle of rice and wheat, then how many items are there in the list?

- (1) 23 (2) 24
(3) 25 (4) 26

- Sol.** First method: Since sugar is exactly in the middle of rice and wheat, if sugar is 7th from rice then it will be 7th from wheat as well. And there will be 6 items between sugar and rice and sugar and wheat.



$$\text{Total items} = 4 + 1 + 6 + 1 + 6 + 1 + 7 = 26$$

Second method:

For sugar, rank from wheat = Rank from rice = 7

So total items between rice and wheat = $7 + 7 - 1 = 13$

Now for rice $R_1 = 5$

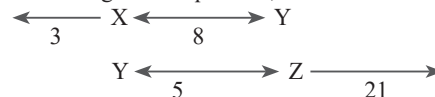
For wheat $R_2 = 8$ and $M = 13$

$$\begin{aligned} T &= R_1 + R_2 + 13 \\ &= 5 + 8 + 13 = 26 \end{aligned}$$

13. If X, Y and Z are standing in a row. There are a total of 8 persons between X and Y and a total of 5 persons between Y and Z. If there are 3 persons ahead of X and 21 persons behind Z, then what can be the minimum total number of persons in the row?

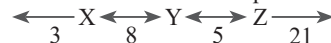
- (1) 29 (2) 28
(3) 27 (4) 26

Sol. According to the question,



Here two situations can arise.

1. When there is no overlap.



2. When there is overlap, then z will be between x and y.



According to case (ii) for the minimum value,
 $\begin{array}{ccccccc} \leftarrow & 3 & \rightarrow & X & \leftarrow & 2 & \rightarrow & Z & \leftarrow & 5 & \rightarrow & Y & \leftarrow & 15 & \rightarrow \end{array}$

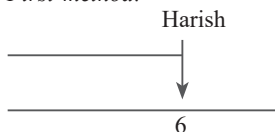
Total persons (minimum)

$$= 3 + 2 + 5 + 15 + 1 + 1 + 1 = 28$$

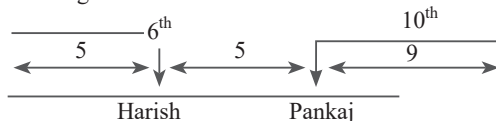
14. Harish and Pankaj are standing in a row. Harish's rank is 6th from the front and Pankaj is 10th from the back. There are as many people between them as are standing ahead of Harish. If 4 more people come and stand in the row, then tell me, what is Harish's rank from the back?

- (1) 32 (2) 19
(3) 20 (4) 21

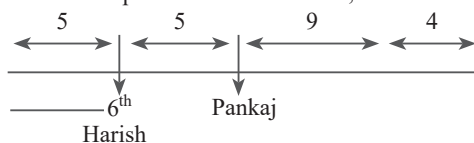
Sol. First method:



That means there are 5 people standing ahead of Harish, which will be the same number as the number of people standing between the two.



When four persons stand in a line,



So, Harish's rank from the back

$$= (4 + 9 + 1 + 5) + 1 = 20^{\text{th}}$$

Second method:

$$R_1 = 6, R_2 = 10, M = 5$$

$$T = 6 + 10 + 5 = 21 \quad (T = R_1 + R_2 + M)$$

When four persons come, $T = 21 + 4 = 25$

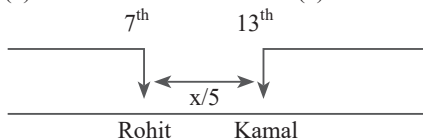
For Harish, $R_1 = 6$

$$\text{So } R_2 = 25 - 6 + 1 = 20$$

15. Rohit's position in a row is 7th from the start and there are a total of 12 people behind Kamal in the same row. If 20 percent of the total number of people are sitting between them, then tell how many people will be there in the row?

- (1) 20 (2) 23
(3) 25 (4) 26

Sol.



Let there be a total x persons sitting in the row. Total $\frac{x}{5}$ number of persons sitting between Rohit and Kamal is

20% of the total persons i.e. excluding the persons sitting in the middle, remaining will be 80%.

i.e.

$$R_1 + R_2 = 80\% \text{ of } x$$

$$7 + 13 = x \times \frac{80}{100}$$

$$20 = x \times \frac{8}{10}$$

$$x = 25$$

Or

Total number of persons in the row = $R_1 + R_2 + M$

$$x = 7 + 13 + \frac{x \times 20}{100}$$

$$x - \frac{x}{5} = 20$$

$$\frac{4x}{5} = 20$$

$$x = 25$$

Directions (Q. No. 16–18): Read the following information carefully and answer the questions given below:

Ramesh and Suresh are standing in a row, Ramesh is 15th from the left and Suresh is 19th from the right. If they interchange their positions then Ramesh will be 25th from the left, then answer the following questions based on this information.

16. What will be Suresh's new position from the right?

- (1) 28 (2) 29
(3) 30 (4) 31

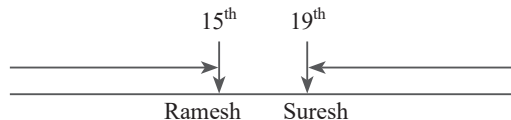
17. How many persons are there in total in the row?

- (1) 43 (2) 44
(3) 45 (4) None of these

18. How many people are there between them in total?

- (1) 8 (2) 9
(3) 10 (4) None of these

Sol.



Ramesh's position after changing the place

25th from Left 19th from Right



16. Suresh's new position from the right

$$= 43 - 15 + 1 = 29$$

17. Total persons in the row = $25 + 19 - 1 = 43$

$$(T = R_1 + R_2 - 1)$$

18. Total number of persons in the middle

$$= 25 - 15 - 1 = 9$$

19. 80 students are standing in a row, in which the ratio of boys and girls is 3:5. If Garima is at 25th position from the beginning and in the order of girls she is at 11th position, then tell how many boys are standing after Garima?

- (1) 14 (2) 16
(3) 18 (4) 20

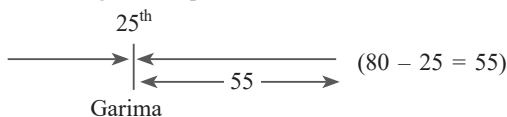
Sol. Total students = 80

Ratio of boys and girls = 3:5

Number of boys = 30

Number of girls = 50

According to the question,



Total girls till 25th position = 11

Remaining boys = 25 - 11 = 14

Remaining boys after Garima = 30 - 14 = 16

Directions (Q. No. 20–23): Read the following information carefully and answer the questions given below:

6 people Anu, Rahul, Monika, Saurabh, Manjeet and Sonam are called for an interview. Monika's marks are higher than Rahul's. Anu's marks are less than only Saurabh and Sonam. Rahul's marks are not the lowest and Saurabh's marks are not the highest.

20. Who is most likely to be selected?

- (1) Monika
(2) Manjeet
(3) Saurabh
(4) Sonam

21. Who is least likely to be selected?

- (1) Sonam
(2) Monika
(3) Manjeet
(4) Anu

22. Who is in third place on the basis of marks?

- (1) Monika
(2) Anu
(3) Saurabh
(4) None of these

23. How many people have less marks than Monika?

- (1) 1 (2) 2
(3) 3 (4) cannot be known

Sol. Write each statement as per the question:

Monika > Rahul

Saurabh & Sonam > Anu

Rahul is not at the end and Saurabh does not have the highest marks. There are only two persons before Anu, out of which only Sonam can have the highest marks.

Sonam > Saurabh > Anu > Monika > Rahul > Manjeet

20. (2) Sonam

21. (3) Manjeet

22. (2) Anu

23. (2) 2 (Rahul and Manjeet)

Directions (Q. No. 24–27): Read the following information carefully and answer the questions given below:

Four persons A, B, C and D took part in an examination. Some information is given about the ability of those four based on their marks in the examination.

- (i) C is less qualified than D.
(ii) A is less qualified than B but more qualified than C.
(iii) A is more qualified than D.

Based on the above information, answer the following questions.

24. Who is the least qualified?

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

25. Who is the most qualified?

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

26. Which statement is not correct?

- (1) A is more qualified than C.
(2) C is less qualified than B.
(3) B is more qualified than A but less qualified than C.
(4) D is more qualified than C but less qualified than A.

27. Who is second from the bottom in terms of merit?

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

Sol. Read each information carefully and establish relation between the abilities of the four persons.

- (i) $C < D$

- (ii) $C < A < B$

From (i) and (ii)

$B > A > C < D$

- (iii) $A > D$ and $D > C$

$A > D > C$

$\therefore B > A > D > C$ This would be the correct order.

24. Least qualified = C, Hence option (3) is correct.

25. Most qualified = B, Hence option (2) is correct.

26. (1) $A > C$ (Correct)

- (2) $C < B$ (Correct)

- (3) $A < B < C$ (Not Correct)

- (4) $C < D < A$ (Correct)

Hence option (3) is correct.

27. Placed according to merit,

B

A

D → D will be second from the bottom.

C

Hence, option (4) is correct.

28. Deepak remembers that Kiran's birthday is before 26 June but after 18 June, while Anjali says that Kiran's birthday is before 20 June but after 10 June. So tell me when will be Kiran's birthday?

- (1) 17 June (2) 18 June
(3) 19 June (4) Cannot be determined

Sol. In this type of question, some dates of the month are given in such a way that the result of all of them leaves either one date or a group of dates, from which the answer can be found easily.

After 18th June Before 26 June

Deepak:  = 19 to 25 June

Anjali:  = 11 to 19 June

After 10 June Before 20 June

Common date in both = 19

So Kiran's birthday will be on 19 June.

Hence, option (3) is correct.

Practice Questions

- How many letter-pairs are there in the word 'DISTURBANCE' each of which has as many letters between them as there are in the English alphabet?

(1) 3 (2) 4
(3) 5 (4) 6
- Which word will come third if the following words are arranged alphabetically?

(1) Dictionary (2) Diastote
(3) Didactic (4) Dictate
- What will be the 5th letter to the left of the 7th letter to the right of the 4th letter from the left in the English alphabet?

(1) G (2) F
(3) K (4) L
- If all the letters of the English alphabet are written in reverse order then what will be the 7th letter to the left of the 11th letter to the left of the 19th letter from the left?

(1) A (2) C
(3) Z (4) X
- If all the letters in the English alphabet are written in reverse order, then what will be the 12th letter to the left of the 7th letter to the right of the 11th letter from the left?

(1) V (2) T
(3) X (4) U
- If the first half letters of the English alphabet are written in reverse order then what will be the 9th letter to the left of the 7th letter to the right of the 5th letter from the left?

(1) M (2) O
(3) K (4) R
- The letters of the other half of the English alphabet are written in reverse order. Which letter will be the 10th letter to the right of the 5th letter to the right of the 9th letter from the left?

(1) P (2) O
(3) Q (4) S
- If both the halves of the English alphabet are written in reverse order, then what will be the 6th letter to the right of the 11th letter to the right of the 15th letter from the left?

(1) G (2) H
(3) L (4) K
- How many letters are there between the 5th letter from the left and the 7th letter from the right in the English alphabet?

(1) 12 (2) 13
(3) 14 (4) 15
- How many letters are there between the 15th letter from the left and the 19th letter from the right in the English alphabet?

(1) 5 (2) 6
(3) 12 (4) 15
- How many letters are there between the 17th letter from the left and the 9th letter from the right in the English alphabet?

(1) 0 (2) 1
(3) 2 (4) 3
- Which letter in the English alphabet will be exactly in the middle between the 5th letter from the left and the 10th letter from the right?

(1) L (2) M
(3) K (4) P
- Which letter pair will be exactly in the middle of the 10th letter from the left and the 8th letter from the right in the English alphabet?

(1) OP (2) NO
(3) KL (4) MN
- Which letter will be exactly in the middle of the 7th letter from the right and the 21st letter from the right in the English alphabet?