GS FOUNDATION (2023-24) BOOKLET 21
&
CSAT FOUNDATION 1.0 (2023-24) BOOKLET 20
ORDER AND RANKING/ SEATING ARRANGEMENTS

Contents

Order and Ranking

1) INTRODUCTION

Order and ranking mean relative position or standing or arrangement of an object or a person. Ranking is a process of confirming relative position of a person/thing/object in comparison to similar persons/things/objects.

Here you could be asked to determine order of students standing in a line; order of tenants living on different floors of a building.

Other possible arrangements based on height, weight, merit/marks, position are also asked in the exams.

More complicated questions like word problems can also be asked.

2) HOW TO SOLVE:

- Total number of people in a line = rank from left + rank from right – 1
- In NON overlapping case: Number of persons between two people = total number of persons – (rank of first person from left + rank of second person from right)
- In overlapping case: Number of persons between two people = (rank of first person from left + rank of second person from right) – total number of persons – 2

3) TYPES OF QUESTIONS/ARRANGEMENTS:

1. Rank of a person in a line from left or right end

Q. In a row of 75 cars, car X is 40th from the right end. What is the position of the car from left end?

(Total no. of cars + 1) – position from right end

2. Total number of people in a line/ student in class etc.

Q. Radhika's rank is 16th from the top and 13th from the bottom in certain exam. How many students are there in class?

Number of students = rank from bottom + rank from top – 1 = 28

3. Number of people between two people standing in a row

Q. In a row of 60 persons, P is 37th from left and Q is 26th from right. Find the number of persons between them.

37 + 26 = 63 > 60 (total)

Number of persons between = 63 – 60 – 2 = 1

4. Interchanging of positions of two people standing in a line

Q. Virat and Anushka are standing in a row of persons. Virat is 15th from left and Anushka is 34th from right. If positions of Virat and Anushka are interchanged now Virat becomes 18th from left. What's the total number of persons standing in a row?

Total persons = position from left + position from right – 1

Position of Virat from left = 18th (after interchanging)

Position of Virat from right = 34th from right (same as Anushka's position before interchanging)

Total = 18 + 34 – 1 = 51

5. Mix concepts: Ranking + Ratios

Q. There are 182 students in a class. Boys and girls are in the ratio 1:6. There was an exam. Arun is at 15th from top and 7 boys are in front of him. How many girls are behind him?

Total no. of students = 182

No. of boys = 26

No. of girls = 156

Arun is 15th from top and 7 boys are in front of him

Thus, 7 girls are in front of him

Thus, no of girls behind him = 156 – 7 = 149

6. Height of five people A, B, C, D and E are being compared. Height of B is more than two others. Height of D is more than E, whose height is more than B. How many are of smaller height than E?

Seating Arrangements:

1) INTRODUCTION:

In CSAT, seating arrangements is one of the most frequently asked question type.
Here, persons/objects are arranged in some definitive pattern like linear, circular, square etc.
The direction of such arrangement may also be also specified like clockwise or anticlockwise.
We are given some information about people/objects arranged and sitting at some distance.
We've to answer one or more questions based on such information.

2) THINGS TO REMEMBER:

This type of question requires us to know and recall:
- Various geometrical shapes and its properties
- Sense of direction like – left and right; clockwise and anticlockwise etc.
- Plot the given information in relevant diagram or flow chart
- Imagine all possibilities to come at conclusions

3) TYPES OF PROBLEMS:

1. Linear Sitting

Q. Five boys are standing in a row facing East. Pavan is to the left of Tavan, Vipin, Chavan. Tavan, Vipin, Chavan is to the left of Nakul. Chavan is between Tavan and Vipin. If Vipin is fourth from the left, then how far is Tavan from the right?

(a) First

(b) Second

(c) Third

(d) Fourth

Q. A, P, R, X, S and Z are sitting in a row. S and Z are in the centre. A and P are at the ends. R is sitting to the left of A. Who is to the right of P?

(a) A

(b) X

(c) S

(d) Z

2. Circular Sitting

Directions: Answer the following question based on the information given below

- Six persons A, B, C, D, E and F are sitting, diametrically opposite, around a circular table facing the centre.
- C is sitting between A and F
- B is sitting two places to the left of E
- D is sitting two places to the right of F

Q1. Between which two persons, D is sitting?

   a) F - B   b) E - B   c) C - B   d) A – B

Q2. Who is sitting diagonally opposite to A?

   a) F   b) C   c) E   **d) None of the above**

Q3. Who is A's neighbour on his right?

   a) C   b) F   c) B   d) D

Q4. Who is sitting diagonally opposite to E?

   a) A   b) B   c) C   **d) F**

Q5. Between which two people is F is sitting?

   a) C - D   b) C - A   **c) C - B**   d) D – E

3. Sitting around a regular Polygon (triangle, quadrilateral, pentagon, hexagon, octagon etc.)

Six friends P, Q, R, S, T and U are sitting around the hexagonal table each at one corner and are facing the centre of the hexagonal. P is second to the left of U. Q is neighbour of R and S. T is second to the left of S.

Q. Which one is sitting opposite to P?

(a) R

(b) Q

(c) T

(d) S

Q. Who is the fourth person to the left of Q?

(a) P

(b) U

(c) R

(d) Data inadequate

Q. In the Diwali dinner, four men and four women are invited. They are sitting around a square table facing the centre. One person is sitting at each corner and at the mid-point of each side of the table. Kiran is sitting diagonally opposite to Mona who is to the right side of Piya. Kishan who is to the left side of Piya is diagonally opposite to Chander who is to the left of Deepak. Ravi is not sitting to the right of Kiran but in front of Sheela. Who is sitting opposite to Deepak?

(a) Chander

(b) Sheela

(c) Ravi

(d) Piya

4. Non-directional sitting comparison

Q. Six students A, B, C, D, E and F are sitting. A and B are from Mumbai, rest are from Delhi. D and F are tall but others are short. A, C and D are girls, others are boys. Which is the tall girl from Delhi?

a) F   b) D   c) E   d) C

CSE PYQs

CSE 2022: Three persons A, B and C are standing in a queue not necessarily in the same order. There are 4 persons between A and B, and 7 persons between B and C.

If there are 11 persons ahead of C and 13 behind A, what could be the minimum number of persons in the queue?

(a) 22

(b) 28

(c) 32

(d) 38

CSE 2022: Six lectures A B C D E and F, each of one hour duration, are scheduled between 8:00 am, and 2:00 p.m.

Consider the Question and two Statements given below:

Question: Which lecture is in the third period?

Statement-1: Lecture F is preceded by A and followed by C

Statement-2: There is no lecture after lecture B.

Which one of the following is correct in respect of the Question and the Statements?

(a) Statement-1 alone is sufficient to answer the question

(b) Statement-2 alone is sufficient to answer the question

(c) Both Statement-1 and Statement-2 are sufficient to answer the Question

(d) Both Statement-1 and Statement-2 are not sufficient to answer the Question

CSE 2021: Consider two Statements and a Question:

Statement-1: Priya is 4 ranks below Seema and is 31st from the bottom.

Statement-2: Ena is 2 ranks above Seema and is 37th from the bottom.

Question: What is Seema's rank from the top in the class of 40 students?

Which one of the following is correct in respect of the Statements and the Question?

(a) Statement-1 alone is not sufficient to answer the Question

(b) Statement-2 alone is not sufficient to answer the Question

(c) Either Statement-1 alone or Statement-2 alone is sufficient to answer the Question

(d) Both Statement-1 and Statement-2 are required to answer the Questions.

CSE 2020: A is 16th from the left end in a row of boys and V is 18th from the right end. G is 11th from A towards the right and 3rd from V towards the right end. How many boys are there in the row?

(a) 4

(b) 41

(c) 42

(d) Cannot be determined due to insufficient data

CSE 2020: A person is standing on the first step from the bottom of a ladder. If he has to climb 4 more steps to reach exactly the middle step, how many steps does the ladder have?

(a) 8

(b) 9

(c) 10

(d) 11

CSE 2020: Three Statements S1, S2 and S3 are given below followed by a Question

S1: C is younger than D, but older than A and B.

S2: D is the oldest.

S3: A is the older than B.

Questions: Who among A, B, C and D is the youngest? Which one of the following is correct in respect of the above Statements and the Question?

(a) S1 alone is sufficient to answer the Question.

(b) S1 and S2 together are sufficient to answer the Question.

(c) S2 and S3 together are sufficient to answer the Question.

(d) S1 and S3 together are sufficient to answer the Question

CSE 2019: Directions for the following 3 (three) items:
Read the following information and answer the three items that follow

Six students A, B, C, D, E and F appeared in several tests. Either C or F scores the highest. Whenever C scores the highest, then E scores the least. Whenever F scores the highest, B scores the least.

In all the tests they got different marks: D scores higher than A, but they are close competitors: A scores higher than B and C scores higher than A

Q. If F stands second in the ranking, then the position of B is
(a) Third
(b) Fourth
(c) Fifth
(d) Sixth

Q. If B scores the least, the rank of C will be
(a) Second
(b) Third
(c) Fourth
(d) Second or third

Q. If E is ranked third, then which one of the following is correct?
(a) E gets more marks than C
(b) C gets more marks than E
(c) A is ranked fourth
(d) D is ranked fifth

CSE 2019:
Directions for the following 2 (two) items:

Read the following statements S1 and S2 and answer the two items that follow:

S1: Twice the weight of Sohan is less than the weight of Mohan or that of Rohan.
S2: Twice the weight of Rohan is greater than the weight of Mohan or that of Sohan.

Q. Which one of the following statements is correct?
(a) Weight of Mohan is greatest
(b) Weight of Sohan is greatest
(c) Weight of Rohan is greatest
(d) Whose weight is greatest cannot be determined

Q. Which one of the following statements is correct?

(a) a Weight of Mohan is least

(b) b. Weight of Sohan is least

(c) c. Weight of Rohan is least

(d) d. Whose weight is least cannot be determined

CSAT 2018: Directions for the following 2 (two) items:
Read the following information and answer the two items that follow.

The plan of an office block for six officers A, B, C, D, E and F is as follows: Both B and C occupy offices to the right of the corridor (as one enters the office block) and A occupies on the left of the corridor. E and F occupy offices on opposite sides of the corridor but - their offices do not face each other. The offices of C and D face each other. E does not have a corner office. Fs office is further down the corridor than A's, but on the same side.

Q. If E sits in his office and faces the corridor, whose office is to his left?

(a) A

(b) B

(c) C

(d) D

Q. Who is/are F's immediate neighbour/ neighbours?

(a) A only

(b) A and D

(c) C only

(d) B and C

CSE 2017: Consider the following: A, B, C, D, E, F, G and H are standing in a row facing North. B is not neighbour of G. F is to the immediate right of G and neighbour of E. G is not at the extreme end. A is sixth to the left of E. H is sixth to the right of C. Which one of the following is correct in respect of the above?

(a) C is to the immediate left of A.

(b) D is immediate neighbour of B and F.

(c) G is to the immediate right of D.

(d) A and E are at the extreme ends.

CSE 2017: In a test, Randhir obtained more marks than the total marks obtained by Kunal and Debu. The total marks obtained by Kunal and Shankar are more than those of Randhir. Sonal obtained more marks than Shankar. Neha obtained more marks than Randhir. Who amongst them obtained highest marks?
(CSE CSAT-2017)

(a) Randhir

(b) Neha

(c) Sonal

(d) Data are inadequate

CSE 2017: Four tests—Physics, Chemistry, Mathematics and Biology are to be conducted on four consecutive days, not necessarily in the same order. The Physics test is held before the test which is conducted after Biology. Chemistry is conducted exactly after two tests are held. Which is the last test held?

(a) Physics

(b) Biology

(c) Mathematics

(d) Chemistry

CSE 2017: 15 students failed in a class of 52. After removing the names of failed students, a merit order list has been prepared in which the position of Ramesh is 22nd from the top. What is his position from the bottom?

(a) 18th

(b) 17th

(c) 16th

(d) 15th

CSE 2016: In a class of 60 students, where the number of girls is twice that of boys, Kamal, a boy, ranked seventeenth from the top. If there are 9 girls ahead of Kamal, the number of boys in rank after him is:

(a) 13

(b) 12

(c) 7

(d) 3

CSE 2016: Five people A, B, C, D and E are seated about a round table. Every chair is spaced equidistant from adjacent chairs.

(i) C is seated next to A

(ii) A is seated two seats from D

(iii) B is not seated next to A

On the basis of above information, which of the following must be true?

1. D is seated next to B

2. E is seated next to A

3. D and C are separated by two seats

Select the correct answer using the code given below:

(a) 1 only

(b) 1 and 2 only

(c) 3 only

(d) Neither 1 nor 2 nor 3

CSE 2015:

Directions for the following 2 (two) items:

Read the following passage and answer the 2 (two) items that follow:

A, B, C, D, E and F are cousins. No two cousins are of the same age, but all have birthdays on the same day of the same month. The youngest is 17 years old and the oldest E is 22 years old. F is somewhere between B and D in age. A is older than B. C is older than D. A is one year older than C

Q. Which one of the following is possible?

(a) D is 20 years old
(b) F is 18 years old
(c) F is 19 years old
(d) F is 20 years old

Q. What is the number of logically possible orders of all six cousins in terms of increasing age?

(a) 1
(b) 2
(c) 3
(d) 4

CSE 2014: Four children are sitting in a row. A is occupying the seat next to B but not next to C. If C is not sitting next to D, who is/are occupying seat/seats adjacent to D?

(a) B
(b) A
(c) B and A
(d) Impossible to tell

CSE 2014: There are seven persons up on a ladder, A, B, C, D, E, F and G (not in that order). A is further up than E but is lower than C. B is in the middle. G is between A and B. E is between B and F. If F is between E and D, the person on the bottom step of the ladder will be

(a) B
(b) F
(c) D
(d) E

CSE 2014: Examine the following statements: 1. George attends Music classes on Monday. 2. He attends Mathematics classes on Wednesday. 3. His Literature classes are not on Friday. 4. He attends History classes on the day following the day of his Mathematics classes. 5. On Tuesday, he attends his Sports classes. If he attends just one subject in a day and his Sunday is free, then he is also free on

(a) Monday
(b) Thursday
(c) Saturday
(d) Friday

CSE 2014: In a row 'A' is in the 11th position from the left and 'B' is in the 10th position from the right. If 'A' and 'B' interchange, then 'A' becomes 18th from the left. How many persons are there in the row other than 'A' and 'B'?

(a) 27

(b) 26

(c) 25

(d) 24

CSE 2014: Consider that:

1. A is taller than B.

2. C is taller than A.

3. D is taller than C.

4. E is the tallest of all.

If they are made to sit in the above order of their height, who will occupy the mid position?

(a) A

(b) B

(c) C

(d) D

CSE 2013: In a class of 45 students, a boy is ranked 20th. When two boys joined, his rank was dropped by one. What is his new rank from the end?

(a) 25th

(b) 26th

(c) 27th

(d) 28th

CSE 2013: Five people A, B, C, D and E are, seated about a round table, Every chair is spaced equidistant from adjacent chairs,

 I. C is seated next to A.

II. A is seated two seats from D.

III. B is not seated next to A.

Which of the following must be true?

I. D is seated next to B.

II. E is seated next to A.

Select the correct answer from the codes given below:

(a) I only

(b) II only

(c) Both I and II

(d) Neither I nor II

CSE 2013: Four friends, A, B, C and D distribute some money among themselves in such a manner that A gets one less than B, C gets 5 more than D, D gets 3 more than B. Who gets the smallest amount?

(a) A

(b) B

(c) C

(d) D

CSE 2012: Directions for the following 5 (five) items:

Examine the information given in the following paragraph and answer the items that follow: Guest lectures on five subjects viz., Economics, History, Statistics, English and Mathematics have to be arranged in a week from Monday to Friday. Only one lecture can be arranged on each day. Economics cannot be scheduled on Tuesday. Guest faculty for History is available only on Tuesday. Mathematics lecture has to be scheduled immediately after the day of Economics lecture. English lecture has to be scheduled immediately before the day of Economics lecture.

1. Which lecture is scheduled on Monday?

(a) History

(b) Economics

(c) Mathematics

(d) Statistics

2. Which lecture is scheduled between Statistics and English?

(a) Economics

(b) History

(c) Mathematics

(d) No lecture

3. Which lecture is the last one in the week?

(a) History

(b) English

(c) Mathematics

(d) Economics

4. Which lecture is scheduled on Wednesday?

(a) Statistics

(b) Economics

(c) English

(d) History

5. Which lecture is scheduled before the mathematics lecture?

(a) Economics

(b) History

(c) Statistics

(d) English

CSE 2012: In five flats, one above the other, live five professionals. The professor has to go up to meet his IAS officer friend. The doctor is equally friendly to all, and has to go up as frequently as go down. The engineer has to go up to meet this MLA friend above whose flat lives the professor's friend. From the ground floor to the top floor, in what order do the five professionals live?

(a) Engineer, Professor, Doctor, IAS officer, MLA

(b) Professor, Engineer, Doctor, IAS officer, MLA

(c) IAS officer, Engineer, Doctor, Professor, MLA

(d) Professor, Engineer, Doctor, MLA, IAS officer

CSE 2011: In a queue, Mr. X is fourteenth from the front and Mr. Y is seventeenth from the end, while Mr. Z

is exactly in between Mr. X and Mr. Y. If Mr. X is ahead Mr. Y and there are 48 persons in the queue,

how many persons are then between Mr. X and Mr. Z ?

(a) 6

(b) 7

(c) 8

(d) 9

4) COMPREHENSION

One of the biggest ironies around water is that a comes from rivers and other wetlands. Yet it is seen as divorced from them. While water is used as a resource, public policy does not always grasp that it is a part of the natural ecosystem. Efforts at engineering water systems are thus effort at augmenting water supply rather than strengthening the capacities of ecological systems.

Q. Which one of the following is the most logical and rational inference that can be made from the above passage?

(a) Rivers and other wetlands should be protected under Ramsar Convention.

(b) Engineering water systems should be modernized and further augmented.

(c) Wetlands need to be reinforced as more than just open sources of water.

(d) Water supply should not be free of cost so as to prevent its misuse or overuse

The 27th session of the Conference of Parties (COP) is underway at Egypt's sea-side city of Sharm el-Sheikh where, over two weeks, heads of government, diplomats, business heads, activists, journalists, and lobbyists will converge. Shifting from fossil fuels to renewable

sources is expensive and the large developing countries (India, China, Brazil, South Africa) while committing to a carbon-free future also underline their right to rely on fossil fuels in the interim. While there is agreement that developed countries foot the bill, the bulk of the wrangling is over determining how the bill is paid. The 'implementation COP', India has said, must set out a transparent payment system and spell out how countries already reeling under climate disasters can be compensated. This will also mean greater transparency from recipient nations on how these investments measurably improve a transition away from polluting sources. Unlike Glasgow 2021, when 'net zero' or commitments to be carbon neutral were the flavour of the season, implementation COPs are unlikely to result in ambitious breakthroughs. Often, however, it is the unspoken and the subterranean that get the job done. COP27 must send the message, loud and clear, that be it war or peace, poverty or plenty, securing the world's future comes at a price that only gets costlier every passing day.

Q. Which of the following assumptions have been made in the passage?
1. High cost of renewables automatically makes it imperative on developing countries to reserve right to use fossil fuels for development
2. Developed countries are entirely responsible for climate change
3. COP27 will not yield any great breakthrough
Choose the most appropriate option
(a) 1 only
(b) 2 and 3 only
(c) 1 and 2 only
(d) 1, 2 and 3

Q. Asset allocation is the most important investment decision we will ever make, and sadly, most of us do not give that decision the importance it deserves. We are adamant about seeking predictability with our future. We tend to think of investing in risky assets as extremely volatile and value eroding. We also dislike fluctuating returns and the loss of control of investment. We think our money is best left idle, unproductive but safe. There is no asset that is risk free. We could lose our jobs, our homes can lose value, our banks can go bankrupt, our bonds can default, the government can collapse and companies we chose fondly may cease to exist. But we cannot live life assuming that all these extreme events are waiting to happen, and all at the same time. All these extreme forms of risks we know will not manifest at the same time.
Q. Which one of the following statements best implies the suggestion given by the author of the passage?
(a) Distribute your wealth across different kinds of assets so that your risks would be minimized.
(b) Risk-taking behaviour should be a necessary component of your personality if you want to generate wealth
(c) While making investments, find a trustworthy asset management organization which would manage your wealth for you
(d) You should know that investing your money is a risky business