

Seating Arrangement and Puzzle

INTRODUCTION

In this chapter you will see some typical problems in which you would be given a series of interlinked information and on the basis of those informations you would be expected to reach certain conclusions. Such questions are the essential part of certain examinations.

TYPES OF INFORMATIONS IN A GIVEN PROBLEM

1. Basic information

(Useful secondary information): It is given in first couple of sentences of given data such that they give you some basic information that is essential to give you general idea of the situation.

2. Actual information

Whatever remains after the basic information is known as actual information.

While trying to solve a problem one should begin with actual information and useful secondary information should be solve by mind.

3. Negative information

Actual information having negative sentences are called negative information. A negative information does not inform us anything exactly but it gives a chance to eliminate a possibility.

For example, A is not the brother C.

TYPES OF PROBLEMS

1. Simple problems (based on categorisation)
2. Problems based on arrangement (Linear, circular, rectangular/square).
3. Problems based on comparison.
4. Problems based on blood relations.
5. Blood relations and profession based problems.
6. Problems based on conditional selection.
7. Miscellaneous problems.

Now, we will discuss all the types of problems one by one

1. Simple Problems (Based on Categorisation)

Tips to Solve Problems

These type of problems can easily be solved by construction of table.

Example 1.

(Qs.1-5): Read the following information carefully and answer the questions that follows:

1. There are six cities L, M, N, O, P and Q.
 2. L is not a hill station
 3. M and P are not historical places
 4. O is not an industrial city
 5. L and O are not historical cities
 6. L and M are not alike
1. Which two cities are industrial centers?
(a) L and M (b) P and Q
(c) N and O (d) M and Q
(e) L and O
 2. Which two cities are historical places?
(a) L and M (b) M and Q
(c) N and Q (d) M and P
(e) L and O
 3. Which two cities are hill stations?
(a) L and M (b) N and L
(c) M and O (d) L and Q
(e) None of these
 4. Which city is a hill station and an industrial centre but not a historical place?
(a) P (b) Q (c) L (d) M
(e) N
 5. Which two cities are neither historical place nor industrial centre?
(a) L and M (b) O and P
(c) Q and N (d) M and O
(e) None of these

Ex. 1 (Problem format) is such type of problem and it can be solved by preparing a table in the manner given below.

| | L | M | N | O | P | Q |
|------------------|---|---|---|---|---|---|
| Historical place | | | | | | |
| Industrial city | | | | | | |
| Hill station | | | | | | |

(2), (3), (4), (5) are negative informations. Therefore as per such informations. We put 'X' (not) mark wherever applicable. As a result the table looks like the one below.

| | L | M | N | O | P | Q |
|------------------|---|---|---|---|---|---|
| Historical place | × | × | | × | × | |
| Industrial city | | | | × | | |
| Hill station | × | | | | | |

As above table gives definite informations about L, O. L is neither a historical place nor a hill station. So, it must be an industrial city. In the same manner O is neither a historical nor an industrial city. So, O must be a hill station. Hence, we put '✓' mark at the appropriate place which give the table following look:-

| | L | M | N | O | P | Q |
|------------------|---|---|---|---|---|---|
| Historical place | × | × | | × | × | |
| Industrial city | ✓ | | | × | | |
| Hill station | × | | | ✓ | | |

Now, as per the condition (6) (L and M are not alike), M can not be an Industrial city. Also M is not a historical place either. Therefore, it is very obvious that M is a hill station.

Again, in the given problem there is no negative information about N. Hence, we can assume that N is a hill station as well as a historical place and an industrial city. Combining all these aspects, the following table will be prepared finally.

| | L | M | N | O | P | Q |
|------------------|---|---|---|---|---|---|
| Historical place | × | × | ✓ | × | × | ✓ |
| Industrial city | ✓ | × | ✓ | × | ✓ | ✓ |
| Hill station | × | ✓ | ✓ | ✓ | ✓ | ✓ |

Now, after analysing the given questions we get the following answer:-

1. (b) 2. (c) 3. (c) 4. (a) 5. (d)

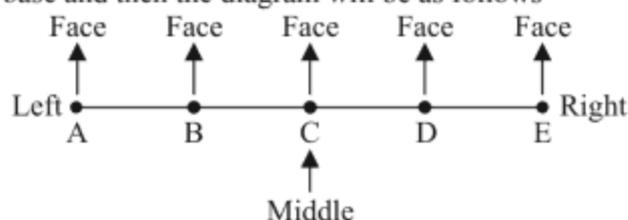
2. Problems Based on Arrangement

In such problems a group of people, objects, etc, may have to be arranged in a row, or in a circle or any other way. Let us see the example given below:-

LINEAR ARRANGEMENT

One Row Sequence

(A) When direction of face is not clear, then we take ourself as base and then the diagram will be as follows

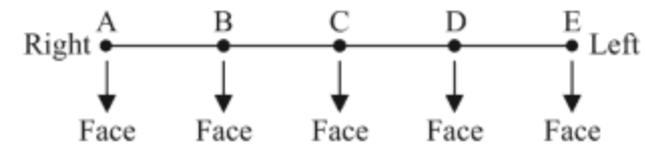


From the above diagram, it is clear that

(i) B, C, D, E are **right** of A but **only** B is the **immediate right** of A.

(ii) D, C, B, A are **left** of E but **only** D is the **immediate left** of E.

(B) When direction of face is towards you, then the diagram will be as follows



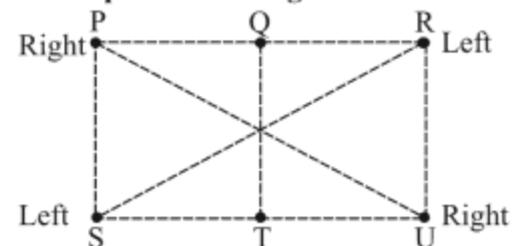
From the above diagram, it is clear that

(iii) B is **immediate left** of A, C is **immediate left** of B; D is **immediate left** of C and E is **immediate left** of D.

(iv) D is **immediate right** of E; C is **immediate right** of D; B is **immediate right** of C; and A is **immediate right** of B.

Two Rows Sequence

Let us see 6 persons seating in two rows



From the above diagram, it is clear that

(i) P is sitting **opposite** S.

(ii) Q is sitting **opposite** T.

(iii) R is sitting **opposite** U.

(iv) P and U are sitting at **diagonally opposite** positions.

(v) S and R are sitting at **diagonally opposite** positions.

Example 2.

Directions (Qs.1-5): Just read the following informations carefully to answer the questions given below it:

Five friends P, Q, R, S, and T are sitting on a bench.

(1) P is sitting next to Q.

(2) R is sitting next to S.

(3) S is not sitting with T.

(4) T is on the last end of the bench.

(5) R is on the 2nd position from the right.

(6) P is on the right of Q and T.

(7) P and R are sitting together.

1. At what position is P sitting?

(a) Between S and R (b) Between S and R

(c) Between T and S (d) Between S and T

(e) Between Q and R

2. Who is sitting in the centre?

(a) P (b) Q (c) R (d) S

(e) T

3. R is sitting between.....

(a) Q and S (b) P and T (c) S and T (d) P and S

(e) P and Q

4. What is the position of S?

(a) Extreme left (b) Extreme right

(c) Third from left (d) Second from left

(e) None of these

5. What is the position of Q?
 (a) 2nd from right (b) Centre
 (c) Extreme left (d) 2nd from left
 (e) None of these

Now, point to be noted that in arrangement problems the actual information can be classified into 2 categories:-

(a) Definite information

A definite information is one when the place of object/man is definitely mentioned.

(b) Comparative information

In such information the place of object/man is not mentioned definitely but only a comparative position is given. In other words the positions of objects/men are given in comparison to another objects/men.

Now, to solve the problem go as per the following steps:-

Step I Sketch a diagram of empty places

Step II. Fill up as many empty places as possible using all the definite informations.

Step III. With the help of comparative information consider all possibilities and select the possibilities which does not violate any condition.

Now, we can solve the above example :

Here 4th and 5th sentences constitute definite information: Comparative informations are: 1st, 2nd, 6th and 7th sentences while 3rd is a negative information.

Now, start with definite information, sketch the following arrangement:-

T ___ R ___

Now, this is the time to look for the comparative informations that tell about T and R. Such informations are 2nd, 6th and 7th sentences. Take the 7th and the 1st sentence. If P and R are together and also Q and P are together, then P must be between Q and R. Now the arrangement take the form as:-

T Q P R ___

By the virtue of the 2nd sentence:

T Q P R S

Now, look at the given questions and check that you get the following answer:-

1. (e) 2. (a) 3. (d) 4. (b) 5. (d)

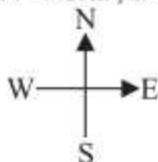
CIRCULAR ARRANGEMENT

Circle is the most important case from the exam point of view. Most of the times Circle kind of statements are there in exams.

From the exam point of view, in most cases they give 8 persons sitting in the circle.

But before solving, the important thing is their ' Sitting Position ' .

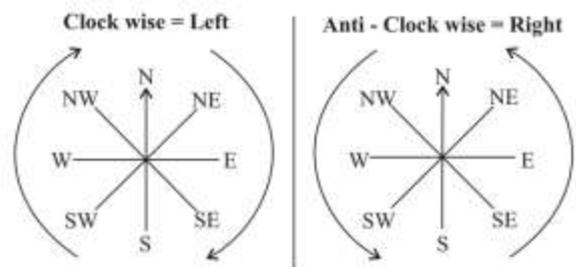
Step 1. Knowing NEWS! N= North , E= East , W=West , S= South



To remember this just remember combination 'North - South' & 'West - East' which comes together to each other respectively.

Step 2 : Picking Left & Right .

- Facing Center



- Facing Outside

If it is mention in the statement that all are facing outside then just do opposite of above like this:

Clock wise = Right & Anti- clock wise = Left

Step 3 : Solving step wise the statement or following the statement.

Example 3.

Directions (Qs.1-5): Study the following information carefully and answer the questions given below.

Bunty, Dev, Manav, Kavya, Payal, Qasturba, Wasir and Himmat are sitting around a circle facing at the centre. Manav is to the immediate right of Bunty who is 4th to the right of Kavya. Payal is 2nd to the left of Bunty and is 4th to the right of Wasir. Qasturba is 2nd to the right of Dev who is 2nd to the right of Himmat.

- Who is 3rd to the right of Bunty?
 (a) Wasir (b) Manav
 (c) Kavya (d) Himmat
 (e) None of these
- Which of the following represents the immediate neighbours of Dev?
 (a) Payal and Qasturba (b) Kavya and Himmat
 (c) Payal and Himmat (d) Kavya and Qasturba
 (e) Payal and Kavya
- Who is 3rd to the right of Wasir?
 (a) Payal (b) Dev
 (c) Kavya (d) Qasturba
 (e) Data inadequate
- Who is 2nd to the left of Payal?
 (a) Dev (b) Himmat
 (c) Kavya (d) Data inadequate
 (e) None of these
- Who is to the immediate left of Bunty?
 (a) Qasturba (b) Payal
 (c) Wasir (d) Data inadequate
 (e) None of these

Sol.



1. (d) 2. (e) 3. (b) 4. (c) 5. (a)

EXERCISE

DIRECTIONS (Qs. 1-7): Study the following information carefully and answer the given questions :

A, B, C, D, E, F, G and H are sitting around a circle facing the centre but not necessarily in the same order.

- B sits second to left of H's husband. No female is an immediate neighbour of B.
 - D's daughter sits second to right of F. F is the sister of G. F is not an immediate neighbour of H's husband.
 - Only one person sits between A and F. A is the father of G. H's brother D sits to the immediate right of H's mother. Only one person sits between H's mother and E.
 - Only one person sits between H and G. G is the mother of C. G is not an immediate neighbour of E.
1. What is position of A with respect to his mother-in-law ?
(a) Immediate left (b) Third to the right
(c) Third to the left (d) Second to the right
(e) Fourth to the left
 2. Who amongst the following is D's daughter ?
(a) B (b) C (c) E (d) G
(e) H
 3. What is the position of A with respect to his grandchild ?
(a) Immediate right (b) Third to the right
(c) Third to the left (d) Second to the left
(e) Fourth to the left
 4. How many people sit between G and her uncle in clockwise direction?
(a) One (b) Two (c) Three (d) Four
(e) More than four
 5. Four of the following five are alike in a certain way based on the given information and so form a group. Which is the one that does not belong to that group ?
(a) F (b) C (c) E (d) H
(e) G
 6. Which of the following is true with respect to the given seating arrangement ?
(a) C is the cousin of E
(b) H and H's husband are immediate neighbours of each other
(c) No female is an immediate neighbour of C
(d) H sits third to left of her daughter
(e) B is the mother of H
 7. Who sits to the immediate right of C ?
(a) F's grandmother (b) G's son
(c) D's mother-in-law (d) A
(e) G

DIRECTIONS (Qs. 8-12): Study the following information carefully and answer the given questions.

Eight people - E, F, G, H, J, K, L and M are sitting around a circular table facing the centre. Each of them is of different profession-Chartered Accountant, Columnist, Doctor, Engineer, Financial Analyst, Lawyer, Professor and Scientist but not necessarily in the same order. F is sitting second to the left

of K. The Scientist is an immediate neighbour of K. There are only three people between the Scientist and E. Only one person sits between the Engineer and E. The Columnist is to the immediate right of the Engineer. M is second to the right of K. H is the Scientist. G and J are immediate neighbours of each other. Neither G nor J is an Engineer. The Financial Analyst is to the immediate left of F. The Lawyer is second to the right of the Columnist. The Professor is an immediate neighbour of the Engineer. G is second to the right of the Chartered Accountant.

8. Who is sitting second to the right of E?
(a) The Lawyer (b) G
(c) The Engineer (d) F
(e) K
9. Who amongst the following is the Professor?
(a) F (b) L (c) M (d) K
(e) J
10. Four of the following five are alike in a certain way based on the given arrangement and hence form a group. Which of the following does not belong to that group?
(a) Chartered Accountant - H
(b) M - Doctor
(c) J - Engineer
(d) Financial Analyst - L
(e) Lawyer - K
11. What is the position of L with respect to the Scientist?
(a) Third to the left (b) Second to the right
(c) Second to the left (d) Third to the right
(e) Immediate right
12. Which of the following statements is true according to the given arrangement?
(a) The Lawyer is second to the left of the Doctor
(b) E is an immediate neighbour of the Financial Analyst
(c) H sits exactly between F and the Financial Analyst
(d) Only four people sit between the Columnist and F
(e) All of the given statements are true

DIRECTIONS (Qs. 13-19): Study the following information carefully and answer the questions given below:

Eight friends -R, S, T, U, V, W, X and Y - are sitting around a circular table facing the centre, but not necessarily in the same order. Each of the them studies in the different Standards viz, standards I to Standard VIII, but not necessarily in the same order. T is second to the right of the person who studies in standard VII. Only one person sits between T and the person who studies in standard V. X is sitting third to the left of the person who studies in Standard VIII. The person studying in Standard VIII is not an immediate neighbour of the person studying in Standard VII. T does not study in Standard VIII. The person studying in Standard VI to the left of U. U does not study in Standard V or Standard VIII. The persons studying in Standard VI and VII are immediate neighbours of each other. One of the immediate neighbours of the

person studying in Standard VIII, studies in Standard II. S and Y are immediate neighbours of each other. There is one person between S and R. V does not study in Standard I. R studies in Standard V. Y does not study in Standard II. W is sitting between the person who study in Standard VII and Standard IV. X is second to the right of the person studying in Standard I.

13. Who among the following is sitting third to the right of T.
 - (a) S
 - (b) The person studying in Standard II
 - (c) The person studying in Standard V
 - (d) Y
 - (e) The person studying in Standard I
14. Who among the following is sitting just opposite to 'R'?
 - (a) The person studying in Standard VI
 - (b) W
 - (c) The person studying in Standard V
 - (d) S
 - (e) The person studying in Standard VII
15. Which of the following pairs represents the immediate neighbours of 'V'?
 - (a) R and person studying in Standard VIII
 - (b) S and the person studying in Standard III
 - (c) The person studying in Standard V and Y
 - (d) Cannot be determined
 - (e) None of these
16. What is the position of 'W' with respect to 'S'?
 - (a) Fourth to the right
 - (b) Fourth to the left
 - (c) Third to the right
 - (d) Fifth to the right
 - (e) Sixth to the left
17. Starting from R, if all the persons are made to sit in the alphabetical order in clockwise direction, the positions of how many (excluding R) will remain unchanged?
 - (a) Two
 - (b) Three
 - (c) Four
 - (d) One
 - (e) None
18. Who among the following is sitting fourth to the left of the person who studies in Standard II?
 - (a) U
 - (b) W
 - (c) X
 - (d) S
 - (e) Cannot be determined
19. Who among the following is sitting exactly between the person who studies in Standard III and W?
 - (a) T
 - (b) U
 - (c) R
 - (d) V
 - (e) Y

DIRECTIONS (Qs. 20-24): Study the following information carefully and answer the given questions :

Twelve persons are sitting in two parallel rows containing six persons each, in such a way that there is an equal distance between adjacent persons. In Row-1, A, B, C, D, E and F are seated (but not necessarily in the same order) and all of them are facing south. In Row-2, P, Q, R, S, T and U are seated (but not necessarily in the same order) and all of them are facing north. Therefore, in the given sitting arrangement each person seated in a row faces another person of the other row.

S sits immediate the right of U. S does not sit at any extreme end. Two persons sit between P and Q. T sits third to the left of U. R is not an immediate neighbour of U.

F sits third to the right of D. C does not sit at any extreme end. One person sits between B and D. D sits second to the left of C. C is not an immediate neighbour of B and A.

20. Who among the following are sitting at the extreme ends of any row?
 - (a) ST
 - (b) EB
 - (c) FB
 - (d) TP
 - (e) DE
21. What is the position of S with respect to R?
 - (a) Third to the right
 - (b) Second to the right
 - (c) Third to the left
 - (d) Second to the left
 - (e) Fourth to the right
22. Four of the following five are alike in a certain way based on their sitting arrangement and hence form a group. Which one does not belong to the group?
 - (a) CR
 - (b) BQ
 - (c) FT
 - (d) AS
 - (e) EU
23. What is the position of A with respect to E?
 - (a) Second to the right
 - (b) Second to the left
 - (c) Third to the left
 - (d) Third to the right
 - (e) Immediate left
24. If all the six persons of Row-1 (A, B, C, D, E and F) are asked to sit in an alphabetical order from left to right, the positions of how many will remain unchanged as compared to their original sitting position?
 - (a) None
 - (b) Two
 - (c) Three
 - (d) One
 - (e) More than three

DIRECTIONS (Qs. 25-29): Study the following information carefully to answer the given questions

- Gopi, Nithya, Shilpa, Renu, Gowtham, Priya, Prasanth and Sridhar are sitting around a square table in such a way that four of them sit at four corners of the square while four sit in the middle of each of the four sides. The ones who sit at the four corners face the centre while those who sit in the middle of the sides face outside.
 - Two females sit in the middle of the sides and two at the corners. Shilpa sits second to the left of Prasanth. Prasanth sits in the middle of one of the sides. Gopi sits fourth to the right of his wife and his wife is not an immediate neighbour of Shilpa or Prasanth.
 - Nithya sits third to right of her husband. Nithya does not sit at any of the corners. Only Renu sits between Nithya and Sridhar. Sridhar is the husband of Shilpa. Gowtham is a male.
25. Which of the following is true with respect to the given seating arrangement?
 - (a) No two males are immediate neighbours of each other
 - (b) Prasanth and Sridhar do not face each other in the seating arrangement
 - (c) Gowtham and Renu are immediate neighbours of each other
 - (d) Priya sits diagonally opposite to Gowtham
 - (e) Gowtham sits in the centre of one of the sides of the square table
 26. Who amongst the following is Nithya's husband?
 - (a) Gopi
 - (b) Prasanth
 - (c) Gowtham
 - (d) Priya
 - (e) Cannot be determined
 27. How many people sit between Nithya and Gopi when counted in anti-clockwise direction from Nithya?
 - (a) None
 - (b) One
 - (c) Two
 - (d) Three
 - (e) Four

28. Who amongst the following is the wife of Gopi?
 (a) Renu (b) Priya (c) Nithya (d) Shilpa
 (e) Cannot be determined
29. What is the position of Gowtham with respect to Gopi?
 (a) Immediately to the left (b) Second to the left
 (c) Third to the right (d) Immediately to the right
 (e) Second to the right

DIRECTIONS (Qs. 30-34): Study the following information and answer the given questions:

A, B, C, D, E, F, G & H are eight friends and sitting around a circular table but not necessarily in same order. Some of them are facing inside and some of them are facing outside. A sits third to right of H. There is two people sits between H and B. C sits second to left of B. There is three people sits between B and E. D is second to left of F, who is not immediate neighbor of A. Immediate neighbours of H faces same direction as H. F sits third to left of A, who faces centre. The immediate neighbours of A face opposite to the direction of A.

30. Who is sitting third to right of F?
 (a) C (b) B (c) A (d) E
 (e) D
31. Who is facing inside?
 (a) AD (b) AGH (c) AB (d) ADC
 (e) None of these
32. Who sits opposite to H?
 (a) A (b) D (c) F (d) E
 (e) G
33. How many people are sitting between C and B, when counted from left of C?
 (a) Two (b) Three (c) One (d) Four
 (e) Five
34. Who is sitting exactly between D and C when counted from right of D?
 (a) HE (b) CE (c) FH (d) BF
 (e) DF

DIRECTIONS (Qs. 35-39): Study the following information carefully and answer the following questions.

There are eight persons - M, N, O, P, Q, R, T and S - who are sitting around a square table such that four of them sit on the middle side of table and facing away from the center and other four of them sit at the corner of table and they are facing towards the center of the table. They all are doing research in different field viz. Heart surgery, Obesity, Cancer, Autism, Depression, Plastic Surgery, Sleep and Drug Abuse but not necessarily in the same order. They like different colour's viz. Red, Green, Black, White, Yellow, Violet, Blue and Orange but not necessarily in the same order.

The one who likes violet, researchers on Depression and he does not faces inside. N sits third to the right of T who like Green. Q sits second to the right of P. Q researches on Sleep. S researches on Drug abuse and he does not like white or red or orange. The one who researches on Plastic surgery sits opposite to the one who is doing his research on Heart surgery. R is doing his research on Cancer and sits third to the left P who likes Blue. P faces inside. P is an immediate neighbour of N. S sits second to

the right of R. M likes Black and he does not research on Heart or Plastic surgery. P does not research on Plastic Surgery. O does not sit in the middle. The one who research on Autism sits opposite to the one who likes yellow. O does not likes orange or Red. The one who likes orange faces outside. O does not research on obesity.

35. Who among the following likes yellow?
 (a) M (b) S (c) N (d) R
 (e) P
36. Who among the following research on Obesity?
 (a) R (b) S (c) M (d) T
 (e) None of these
37. Who among the following sits opposite the one who research on Depression?
 (a) Both c and d
 (b) S
 (c) R
 (d) The one who research on Cancer
 (e) The one who research on obesity
38. P is doing research in which field?
 (a) Obesity (b) Plastic surgery
 (c) Heart Surgery (d) Cancer
 (e) None of these
39. Who among the following sits second to the right of the one who is doing research on Depression?
 (a) S (b) R (c) Q (d) O
 (e) M

DIRECTIONS (Qs. 40-44): Study the following information carefully and answer the given questions.

A, B, C, D, E, G, and I are seven friends who study in three different standards namely 5th, 6th and 7th such that not less than two friends study in the same standard. Each friend also has a different favourite subject namely History, Civics, English, Marathi, Hindi, Maths and Economics but not necessarily in the same order.

A likes Maths and studies in the 5th standard with only one other friend who likes Marathi. I studies with two other friends. Both the friends who study with I like languages. (Here languages include only Hindi, Marathi and English). D Studies in the 6th standard with only one person and does not like civics. E studies with only one friend. The one who likes history does not study in 5th or 6th standard. E does not like languages. C does not like English, Hindi or Civics.

40. Which combination represents E's favourite subject and the standard in which he studies?
 (a) Civics and 7th (b) Economics and 5th
 (c) Civics and 6th (d) History and 7th
 (e) Economics and 7th
41. Which of the following is I's favourite subject?
 (a) History
 (b) Civics
 (c) Marathi
 (d) Either English or Marathi
 (e) Either English or Hindi

42. Which amongst the following combinations studies in the 7th standard?
 (a) G (b) C (c) E (d) D
 (e) Either D or B
43. Which of the following is definitely correct?
 (a) I and Hindi (b) G and English
 (c) C and Marathi (d) B and Hindi
 (e) E and Economics
44. Which of the following subjects does G like?
 (a) Either Maths or Marathi
 (b) Either Hindi or English
 (c) Either Hindi or Civics
 (d) Either Hindi or Marathi
 (e) Either Civics or Economics

DIRECTIONS (Qs. 45-49) : Study the following information carefully and answer the questions given below.

P, Q, R, S, T, V and W are seven students of a school. Each of them studies in different standard from Standard IV to Standard X not necessarily in the same order. Each of them has favourite subject from English, Science, History, Geography, Mathematics, Hindi and Sanskrit not necessarily in the same order.

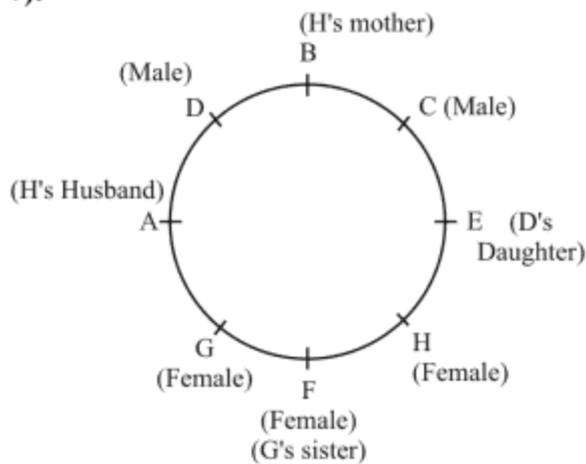
Q studies in VII Standard and does not like either Mathematics or Geography. R likes English and does not study either in V or in IX. T studies in VIII Standard and likes Hindi. The one who

likes Science studies in X Standard. S studies in IV Standard. W likes Sanskrit. P does not study in X Standard. The one who likes Geography studies in V Standard.

45. In which standard does W study?
 (a) VII (b) IX
 (c) X (d) Data inadequate
 (e) None of these
46. Which subject does P like?
 (a) Geography (b) Mathematics
 (c) English (d) History
 (e) None of these
47. Which subject does S like?
 (a) History (b) Geography
 (c) Mathematics (d) Data inadequate
 (e) None of these
48. In which standard does P study?
 (a) IV (b) VII (c) IX (d) X
 (e) None of these
49. Which of the following combinations of student-standard-subject is correct?
 (a) T -VIII -Mathematics (b) W -VII -Sanskrit
 (c) Q -VII -Geography (d) V -X -Science
 (e) None of these

Hints & Solutions

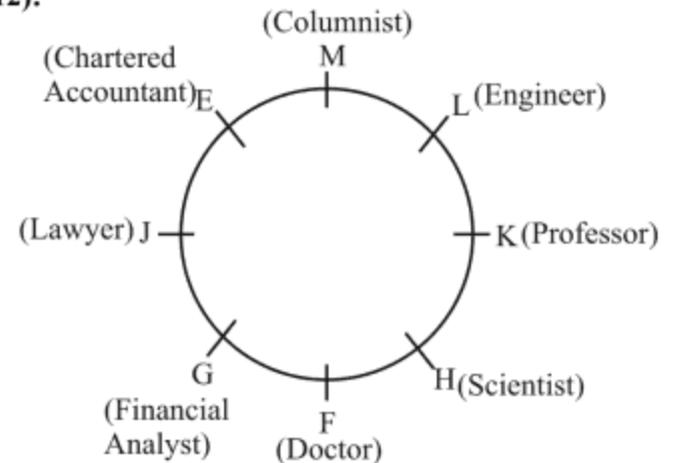
Sol. (1-7):



- (d) A's wife is H. H's mother is B. Therefore, B is the mother-in-law of A, A is second to the right of B.
- (c) E is the daughter of D.
- (b) A is the father of F and G. G is the mother of C. Therefore, C is the grandchild of A. A is third to the right of C.
- (a) D is brother-in-law of A. A is father of F and G. Therefore, D is material uncle of G. There is only one person between G and D in clockwise direction.
- (b) Except C, all others are females.
- (e) B is the mother of H. C is the nephew of E, A is the husband of H, A is third to the left of H, Both the neighbours of C are females, F and G are daughters of H.

7. (a) B sits to the immediate right of C. B is grandmother of F.

Sol. (8-12):



8. (b) 9. (d) 10. (c) 11. (b) 12. (a)

Sol. (13- 19):

