

Blood Relations

Questions on blood relations are common under the logical reasoning section of aptitude exams. As the name suggests, questions on blood relations involve working out the familial relationships between people in a family.

There are essentially two kinds of questions that can be classified under this area: *viz*

- (A) Puzzle type questions with a family relationship component
- (B) Statement based relationship questions

Let us look at these one by one:

(A) Puzzle type questions: This question type normally involves situations where there is some family relationship that is part of the puzzle. The following illustrations would make it clear to you:

ILLUSTRATION 1

In a family of six persons—Abhay, Banta, Cathy, Deepak, Emily and Fatima, there are three males and three females. There are two married couples and two persons are unmarried. Each one of them likes different cold drinks.

Emily who likes Coke, is the mother-in-law of Abhay, who is the wife of Cathy. Deepak is the father of Fatima and he does not like Thumps Up or Pepsi; Banta likes Limca and is the sister of Fatima who likes Sprite. Cathy does not like Pepsi. Fanta is another cold drink.

1. Who among the following likes Thumps Up?
 - a. Cathy
 - b. Deepak
 - c. Abhay
 - d. Data inadequate
2. How is Fatima related to Emily?
 - a. Brother
 - b. Son

- c. Father
d. Daughter
3. One of the married couple's is:
- a. Deepak-Banta
 - b. Deepak-Emily
 - c. anta-Fatima
 - d. Emily-Fatima
4. Which of the following cold drinks is liked by Abhay?
- a. Thumps Up
 - b. Fanta
 - c. Pepsi
 - d. Data inadequate
5. How many sons does Emily have?
- a. Four
 - b. Three
 - c. Two
 - d. One

ILLUSTRATION 2

In a family gathering, there are two males who are grandfathers and four males who are fathers. In the same gathering there are two females who are grandmothers and four females who are mothers. There is at least one grandson or a granddaughter present in this gathering. There are two husband-wife pairs in this group. These can either be a grandfather and a grandmother, or a father and a mother. The single grandfather (whose wife is not present) has two grandsons and a son present. The single grandmother (whose husband is not present) has two granddaughters present. A grandfather or a grandmother present with their spouses does not have any grandson or granddaughter present.

1. What is the minimum number of people present in this gathering?
- a. 10
 - b. 12
 - c. 14
 - d. 16

ILLUSTRATION 3

Direction for Questions 1 to 3: Read the following information carefully and answer the questions given below.

In a joint family of seven persons L, M, N, O, P, Q and R two are married couples.

'R' is a housewife and her husband is a lawyer. 'N' is the wife of 'M', 'L' is an engineer and is the granddaughter of 'R', and 'O' is the father-in-law of 'N', a doctor, and father of 'P', a professor. 'Q' is L's brother and M's son.

1. How is P related to M?
- a. Son
 - b. Brother

- | | | |
|----|------------------------|--------------------|
| | c. Daughter | d. Data inadequate |
| 2. | How is Q related to O? | |
| | a. Grand father | b. Uncle |
| | c. Grand son | d. Data inadequate |
| 3. | Who is M's father? | |
| | a. O | b. R |
| | c. N | d. Data inadequate |

ILLUSTRATION 4

Direction for Questions 1 to 4: Answer the questions based on the following information.

Hello, Ciao and Vanakkam are related to each other.

- I. Among the three, one is Hello's legal spouse, another is Ciao's sibling and the third is Vanakkam's sister-in-law.
- II. Hello's legal spouse and Ciao's sibling are of the same sex.

(Assume: There are no gay marriages.)

1. Who is the married man?

a. Hello	b. Ciao
c. Vanakkam	d. Cannot be determined
2. Who is the married woman?

a. Hello	b. Ciao
c. Vanakkam	d. Cannot be determined
3. The number of males amongst the group is

I. 1	II. 2
a. I	b. II
c. I or II	d. Neither I nor II
4. Who is the Ciao's sibling?

a. Hello	b. Ciao
c. Vanakkam	d. Cannot be determined

Solutions

Illustration 1

While solving logical reasoning questions, always try to place the direct information first and keep any indirect clues aside for later use.

In this question you will find that:

Emily likes Coke→ Direct clue

Deepak is the father of Fatima → Direct clue

Deepak does not like Thumsup or Pepsi → Indirect clue,.... and so on.

Keep in mind the following points while solving all questions on logical reasoning:

- 1. First use the direct clues.
- 2. In the case of a family tree the diagram should essentially be a multilevel diagram to ensure clarity of being able to see multiple generations on the same diagram.
- 3. Males and females should be marked separately with some symbols. One suggestion is the females can be marked inside a circle/bracket or with an underlined letter as A or alternately males can be marked with a + sign and females with a – sign.
- 4. Relationships should be marked using horizontal links or vertical links.

The following diagrams will emerge from the clues

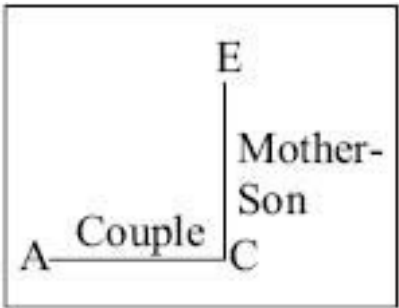


Figure 1

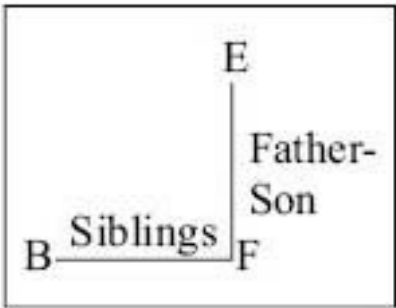
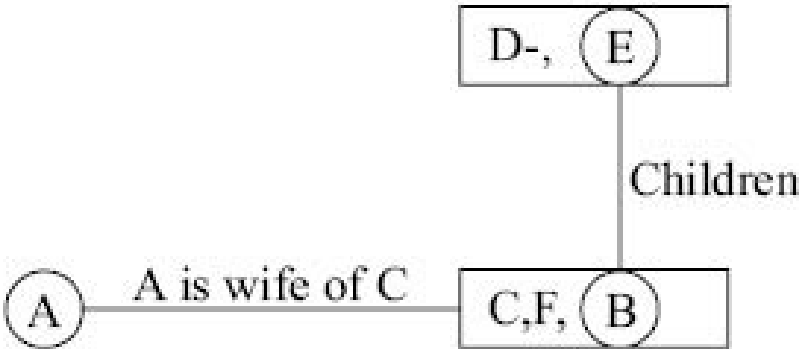


Figure 2

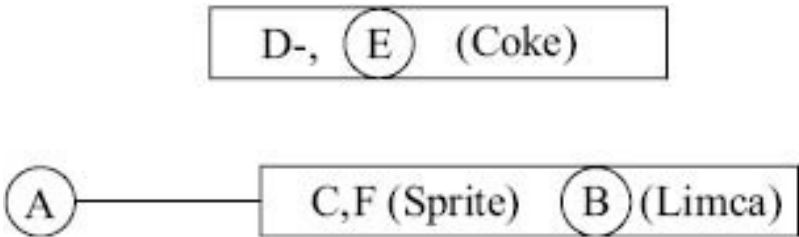
At this stage, you know that A, B and E are the three females and C, D and F are the three males; you also know that A and C are one of the two couples.

Hence, the other couple must be D and E. (They must be married to each other since they have children.)

This leads to a combined diagram which looks as below:



To this information, add the likes and dislikes of individuals as follows:



Further, D doesnot like Thums Up or Pepsi, hence he must like Fanta; Cathy does not like Peps

(hence Thums Up) and Abhay likes Thums Up.

The answers are:

- 1. Cathy
- 2. Fatima is Emily’s son
- 3. Deepak-Emily is a married couple
- 4. Thums Up
- 5. Two sons (C & F).

Illustration 2

The family needs to have a minimum of 12 people.

GF1-GM1, GF2, GM2

F1-M1, F2, M2

Generation 1	Grandfather 1 & his wife grandmother 1	Single grandfather 1	Single grandmother 1
Generation 2	Father-Mother (husband-wife pair)	Father	
Generation 3		Two boys	Two girls

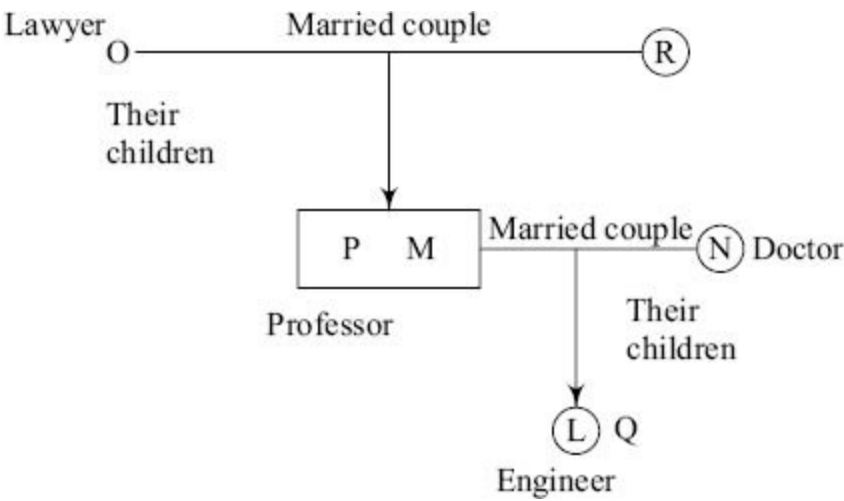
The above table gives us a total of 11 people who are compulsorily present. We need to add 1 more female (who is a mother) to this group as there are 4 mothers in the gathering.

Thus a total of 12 people.

Option b is correct.

Illustration 3

The following family relationships emerge



The answers are:

- 7. Option 2 (Brother)
- 8. Option 3 (Grandson)
- 9. O is M’s father. Option a is correct.

Illustration 4

From the statement that Ciao's sibling and Hello's legal spouse are of the same sex, we can conclude that Hello cannot be the sibling of Ciao (because Hello's sex would be different from his/her legal spouse's sibling). Hence, Ciao's sibling must be Vanakkam.

This gives us four basic possibilities for the husband wife pair:

- (1) Hello (male) – Vanakkam (female; Hello's wife as well as Ciao's sibling); Ciao (Vanakkam's sibling; sex not known). In this case, the situation does not allow for Vanakkam's sister-in-law. Hence, we can reject this as a possible solution to the situation.
- (2) Hello (female) – Vanakkam (male; Hello's husband as well as Ciao's sibling); Ciao (Vanakkam's sibling – sex not known). In this case again, the situation does not allow for Vanakkam's sister-in-law. Hence, we can reject this as a possible solution to the situation.
- (3) Hello (male) – Ciao (female; Hello's wife as well as Vanakkam's sibling); Vanakkam (Ciao's sibling – female as she has to be the same sex as Hello's spouse). In this case, again the situation does not allow for Vanakkam's sister-in-law. Hence, we can reject this as a possible solution to the situation.
- (4) Hello (female) – Ciao (male; Hello's husband as well as Vanakkam's sibling); Vanakkam (Ciao's sibling – male as she has to be the same sex as Hello's spouse). In this case, the last condition of Vanakkam's sister-in-law is met because Hello is the sister-in-law of Vanakkam. Thus, we conclude that this is the only possible solution given the clues. The answers then become:

1. Ciao is the married man—Option b.
2. Hello is the married woman—Option a.
3. There are exactly 2 males—Ciao and Vanakkam— Option b.
4. Vanakkam—Option c.

(B) Statement based relationship finding questions: In this question type, we typically have to determine the relationship between two individuals whose relationship is mentioned in a roundabout manner.

In such questions, it is advisable to look at a problem from one's own perspective, i.e., if you place yourself as the central figure in the relationship matrix, the solving of the question becomes much easier as the solution anchors itself to pre-existing relationships in your own mind. The following examples would make things clear to you.

Example 1

1. Introducing a boy, Ralf said, "His mother is the only daughter of my mother-in-law." How is Ralf related to the boy?
 - (a) Uncle
 - (b) Father
 - (c) Brother
 - (d) Husband

Example 2

2. Pointing to a man in a photograph, a woman said, "His brother's father is the only son (and child) of my grandfather." How is the woman related to the man in the photograph?
 - (a) Mother
 - (b) Sister
 - (c) Aunt
 - (d) Daughter

Example 3

3. If Nina says, “Anna’s father Rick is the only son of my father-in-law Mick.” Then how is Bridgette, who is the sister of Anna, related to Mick?
- (a) Daughter (b) Wife
(c) Daughter-in-law (d) None of these

Example 4

4. ‘ $X + Y$ ’ means ‘X is the father of Y’, ‘ $X - Y$ ’ means ‘X is the wife of Y’, ‘ $X \times Y$ ’ means ‘X is the brother of Y’, ‘ $X \parallel Y$ ’ means ‘X is the mother of Y’ and ‘ $X = Y$ ’ means ‘X is the sister of Y’. On the basis of this information, what does $X + Y - Z$ mean?
- (a) X is the father-in-law of Z
(b) Z is the father of X
(c) Z is the neice of X
(d) X is the brother of Z

Solutions

Example 1: Mother-in-law’s only daughter means wife. Thus the statement could be read as “His mother is my wife.” Thus, Ralf must be the father of the boy.

Example 2: Read this as “his father” is my grandfather’s only child. Obviously this means that the woman would be the sister of the man in the photograph. Option b is correct.

Example 3: From the statement, it is clear that Mick is Rick’s father and Rick is Anna’s father. Bridgette and Anna would thus be granddaughters of Mick. Option 4 is correct.

Example 4: $X + Y$ means that X is the father of Y & $Y - Z$ means that Y is the wife of Z. Thus, X is the father-in-law of Z. Option 1 is correct.

The key skills involved in solving questions on blood relations include:

- The ability to structure the family tree in terms of visualising the number of generations, the number of people in each generation, etc.
- The ability to understand and use vital clues leading to information such as: husband-wife relationships, father-son relationships, mother-son relationships, sibling relationships
- The ability to keep count of the number of people being talked about in the problem
- The ability to convert clues written in language form into visual cues so that you do not need to read the text again and again. Also, converting the language clues to visual cues is critical for the purpose of being able to ‘see’ all the clues at one go.

EXERCISE

1. Pointing to a lady on the stage, Devika said, “She is the sister of the son of the wife of my husband”. How is the lady related to Devika?
- (a) Sister-in-law (b) Sister
(c) Daughter (d) Cousin

2. Arvind said, "This girl is the sister of the grandson of my mother". How is this girl related to Arvind?
 - (a) Daughter
 - (b) Niece
 - (c) Sister
 - (d) Can't be determined
3. Pointing to a lady, a man said, "Her husband is the only son of my mother". How is the lady related to man?
 - (a) Wife
 - (b) Daughter
 - (c) Father-in-law
 - (d) None of these
4. Arun told Meesum, "Yesterday I met the son of my wife's father-in-law". How is Arun related to that man?
 - (a) Brother
 - (b) Father
 - (c) Son-in-law
 - (d) Niece
5. Pointing to a man, Manisha said, "He is the youngest son of my father-in-law's only son". How is Manisha related to this youngest son's father?
 - (a) Daughter
 - (b) Sister
 - (c) Wife
 - (d) Can't be determined
6. A family consists of a husband and wife, their three sons and two daughters, three wives of three sons. How many females are in this family?
 - (a) 5
 - (b) 6
 - (c) 7
 - (d) none of these
7. A man has two wives A and B . A is Sunny's step-mother. How is Sunny related to B ?
 - (a) Step-daughter
 - (b) Sister-in-law
 - (c) Son
 - (d) Can't be determined

Directions for Questions 8 to 10: If $a + b$ means a is sister of b ,

$a - b$ means a is brother of b ,

$a \div b$ means a is daughter of b ,

$a \sqcap b$ means a is mother of b .

8. Which of the following relationship shows that l and n are wife and husband?

- (a) $l \cap m \nsubseteq n$ (b) $l - m \nsubseteq n$
 (c) $l + m \nsubseteq n$ (d) None of these
9. How many females does this relationship shows?
 $l + m - n + o - p \nsubseteq q$
 (a) 2 (b) 3
 (c) 4 (d) Can't be determined
10. The relationship $p + q - r \nsubseteq s \cap t$ shows that
 (a) p, q, r, s are children of t
 (b) p, q, r, t are children of s
 (c) p, q, r are children of t and s
 (d) p, q, r, s, t are all siblings.

Directions for Questions 11 to 15: If $a + b$ means a is daughter of b ,
 $a - b$ means a is husband of b ,
 $a \nsubseteq b$ means a is brother of b .

11. What does the relation $p \nsubseteq q - r$ show?
 (a) p is son-in-law of r
 (b) p is brother of r
 (c) r is wife of p
 (d) None of these
12. If $h + i \nsubseteq j + k \times l + m \nsubseteq n$, then what is the present generation of h . Assume that the oldest generation in this group is the first generation?
 (a) 2nd (b) 3rd
 (c) 4th (d) None of these
13. Which of the following statements does not hold?
 (a) $a + b \times c$ (b) $a - b \nsubseteq c$
 (c) $a + b + c$ (d) $a + b - c$
14. From the statement $a \nsubseteq b \nsubseteq c \nsubseteq d$, which of the following statement is not necessarily true?
 (a) b is the brother of a
 (b) c is the brother of a
 (c) d is brother of c
 (d) a, b, c are male
15. From the statement $p - q + r \nsubseteq s$, how is q related to s ?
 (a) Niece (b) Sister

- (c) Mother (d) None of these
16. Anwar's father is the only son of Mahesh's father. How is Mahesh related to Anwar?
- (a) Father
(b) Brother
(c) Can't be determined
(d) None of these
17. Rahul has two mothers. Shalini is the step-daughter of Seema and step-sister of Rahul. How is Seema related to Rahul?
- (a) Step-mother
(b) Mother
(c) Can't be determined
(d) None of these
18. If
- I. A is brother of B
 II. B is brother of C
 III. C is brother of D
 IV. D is sister of E .
- Then which of the following statements is not necessarily true?
- (a) D is sister of C
 (b) B and C are brothers
 (c) A, B, C are male and D is a female
 (d) D and E are sisters
19. Pointing to a photograph, Vandana says, "She is the elder daughter of my mother's husband". How is person in photograph related to Vandana?
- (a) Sister (b) Mother
(c) Sister-in-law (d) None of these
20. Pointing to the man in the platform, Siddhartha said, "He is the brother of the father of my mother's son". How is this man on the platform related to Siddhartha?
- (a) Nephew (b) Father
(c) Brother (d) None of these

Directions for Questions 21 to 23:

$a * b$ means a is the brother of b .

$a @ b$ means a is the daughter of b .

a \$ b means a is the sister of b .

21. Which of the following shows the relationship p is the paternal uncle of n ?

- (a) $n\$o@p$ (b) $n@o\$p$
(c) $n@o*p$ (d) None of these

22. From the following statement, what is the relationship between n and s ?

$n\$o@p*q\$r*s$

- (a) Grandmother (b) Grandfather
(c) Aunt (d) Can't be determined

23. If $a \$b\$c@d@e*f*g$, then how many males and females are there respectively?

- (a) 4, 3 (b) 3, 4
(c) 5, 2 (d) Can't be determined

Directions for Questions 24 to 25: P, Q, R, S, T went on a picnic. P is the son of Q but Q is not the father of P. R is the son of S, who is the brother of P. T is the wife of S.

24. How is P related to S ?

- (a) Nephew (b) Brother
(c) Father (d) None of these

25. How many males are present in this group?

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

26. Genuflecting (bending) in front of a portrait, Raman said, "She is the only daughter of the mother of my brother's sister". How is that person related to Raman?

- (a) Uncle (b) Father
(c) Mother (d) None of these

27. Pointing towards a lady in a Polaroid, Victor said, "She is the daughter of the father of the sister of my brother". How is the lady in photograph related to Victor?

- (a) Daughter (b) Wife
(c) Mother (d) None of these

28. A woman, pointing towards a man said, "He is my mother's mother's only son". How is the woman related to the man?

- (a) Mother (b) Cousin
(c) Niece (d) Aunt

29. A woman presents a man as the son of the brother of her mother. How is the man related to the woman?

- (a) Nephew (b) Son
(c) Cousin (d) Uncle
30. Pointing towards a boy, Aruna said to Pushpa, “The mother of his father is the wife of your grandfather (Mother’s father)”. How is Pushpa related to that boy?
(a) Sister (b) Niece
(c) Cousin sister (d) Wife
31. Looking at a man, Darren said, “Your only brother is the father of my daughter’s father”. How is the gentleman related to Darren?
(a) Father (b) Grandfather
(c) Brother-in-law (d) Uncle
32. Pointing to a lady, a person says to his friend, “She is the granddaughter of the elder brother of my father”. How is the girl in the photograph related to the man?
(a) Niece (b) Sister
(c) Aunt (d) Sister-in-law
33. Pointing to a man in a photograph Amelia said, “His mother’s only daughter is my mother”. How is Amelia related to that man?
(a) Nephew (b) Sister
(c) Niece (d) Wife
34. While discussing Pam’s ancestry, Rick quizzes Pam while pointing towards a man, “His mother is the only daughter of your father.” How is Pam related to that person?
(a) Aunt (b) Mother
(c) Daughter (d) None of these
35. Pointing to a man in a photograph, a woman said, “His brother’s father is the only son of my grandfather”. How is the woman related to the man in the photograph?
(a) Mother (b) Sister
(c) Aunt (d) Daughter
36. Facing a man in the eye, Nero said, “Your son is my son’s uncle.” How is the man related to Nero?
(a) Brother (b) Father
(c) Uncle (d) Grandfather
37. Nikky, who is Roland’s daughter, says to Irene, “Your mother Rita is the younger sister of my father, who is the third child of Sylvester”. How is Sylvester related to Irene?
(a) Maternal-uncle (b) Father
(c) Grandfather (d) Father-in-law

38. A woman said, "His wife is the only daughter of my father", after introducing a man. How is that man related to the woman?
- (a) Husband (b) Brother
(c) Father-in-law (d) None of these
39. Showing the woman in the park, Veronica said, "She is the daughter of my grandfather's only son." How is Veronica related to that woman?
- (a) Cousin (b) Sister
(c) Father (d) Uncle
(e) None of these
40. A is the brother of B and C. D is C's mother. E is A's father. Which of the following statement cannot be definitely true?
- (a) B is E's son. (b) E is B's father.
(c) D is A's mother. (d) A is D's son.
41. If X says that his mother is the only daughter of Y's mother, how is Y related to X?
- (a) Aunt (b) Father
(c) Brother (d) Uncle
42. Jack said, "This girl is the wife of the only grandson of my mother." How is Jack related to the girl?
- (a) Father (b) Father-in-law
(c) Grandfather (d) Husband
43. A woman Manpreet asks a man Harpreet, "You are the brother of my uncle's daughter. How are you related to me?". What was the man's answer?
- (a) Cousin (b) Son
(c) Brother-in-law (d) Nephew
44. Allen told Beatrix, "Yesterday, I met the only brother of the daughter of my grandmother." Whom did Allen meet?
- (a) Cousin (b) Brother
(c) Nephew (d) Father
45. A woman presents a man as the son of the brother of her mother. How is the man related to the woman?
- (a) Nephew (b) Son
(c) Cousin (d) Uncle

Directions for Questions 46 and 47: Study the following information carefully and answer the questions given below.

Raina, Murli, Haiden, Patel, Gony, Balaji and Morkel are seven members in a family, out of which there are three females and four males. There are two managers, two lawyers, one teacher, one engineer and one doctor. No lady is either a teacher or an engineer. Haiden is a lawyer and is married to Raina, who is a teacher. Balaji, the engineer, is married to Patel, who is neither a lawyer nor a doctor. No two ladies have the same profession. Murli is the sister of Morkel, who is a manager.

46. What is Gony's profession?

- (a) Manager
- (b) Lawyer
- (c) Manager or Lawyer
- (d) Data inadequate

47. Which of the following is the group of males?

- (a) Raina, Murli, Balaji and Morkel
- (b) Gony, Balaji, Patel and Morkel
- (c) Raina, Haiden, Gony and Balaji
- (d) Raina, Gony, Balaji and Morkel

Directions for Questions 48 and 49: Study the following information carefully and answer the questions given below.

P, Q, R, S, T, U and V are seven members of a family belonging to three generations. There are two married couples—one each of first and second generation respectively. They travel in three different cars—Bentley, Lamborghini and Ferrari so that no car has more than three members and there is at least one female in each car. R, who is a granddaughter, does not travel with her grandfather and grandmother. Q travels with his father T in Lamborghini. U travels with her granddaughter S in Bentley. P travels with her daughter in Ferrari.

48. How many female members are there in the family?

- (a) Three
- (b) Four
- (c) Five
- (d) None of these

49. Which of the following is one of the married couples?

- (a) DB
- (b) BC
- (c) EF
- (d) None of these

Direction for Question 50: Read the information given carefully and answer the question.

In a family of six persons—Pranay, Qayamat, Ravi, Shashi, Tanveer, Umed, there are three males and three females. There are two married couples and two persons are unmarried. Each one of them reads different magazines, which are Cosmopolitan, Vogue, India Today, Economist, Stardust and Femina.

The following facts about the family members are also known:

Tanveer, who reads *Cosmopolitan*, is mother-in-law of Pranay, who is wife of Ravi. Shashi is the father of Umed and he does not read *Vogue* or *Femina*. Qayamat reads *Stardust* and is the sister of Umed, who reads *India Today*. Ravi does not read *Femina*.

50. Who among the following reads *Vogue* and what is the relation between the person who reads *Vogue* and *Qayamat*?

- (a) Ravi, Sister (b) Ravi, Father
(c) Umed, sister (d) Shashi, Father

Answer Key

- | | | | |
|---------|---------|---------|---------|
| 1. (c) | 2. (a) | 3. (a) | 4. (a) |
| 5. (c) | 6. (b) | 7. (c) | 8. (a) |
| 9. (d) | 10. (b) | 11. (d) | 12. (c) |
| 13. (b) | 14. (c) | 15. (a) | 16. (a) |
| 17. (b) | 18. (d) | 19. (a) | 20. (d) |
| 21. (c) | 22. (d) | 23. (d) | 24. (b) |
| 25. (c) | 26. (d) | 27. (d) | 28. (c) |
| 29. (c) | 30. (c) | 31. (d) | 32. (a) |
| 33. (c) | 34. (b) | 35. (b) | 36. (b) |
| 37. (c) | 38. (a) | 39. (b) | 40. (a) |
| 41. (d) | 42. (b) | 43. (a) | 44. (d) |
| 45. (c) | 46. (b) | 47. (d) | 48. (c) |
| 49. (c) | 50. (a) | | |

Solutions

- From Devika's perspective, wife of my husband means me. Then, my son's sister means my daughter. Hence, option (c) is correct.
- Grandson of my mother means my son. My son's sister means my daughter. Hence, option (a) is correct.
- Only son of my mother, means me. Hence, the situation transforms into I am her husband. Hence, the lady is the man's wife. So the correct option is (a).
- The son of my wife's father-in-law would be either me or my brother. Since Arun says that he met this person it must be the brother. Hence, option (a) is the answer.
- Looking at it from Manisha's perspective, "my father-in-law's only son" would be my

husband. Thus the youngest son of this person would also be Manisha's son. Hence, this person's father would be Manisha's husband and Manisha would be the wife. Option (c) is the answer.

6. Wife + two daughters + 3 wives of the three sons = 6. Hence, option (b) is the answer.
7. Sunny must be B 's son. Hence, option (c) is the correct answer.
8. Go through the options, $l \sqcap m$ means l is the mother of m . $m \nexists n$ means m is the daughter of n . Thus, m must be the daughter of l and n . Hence, (a) is the correct option.
9. $l + m - n + o - p \nexists q$ can be read as l is the sister of m , m is the brother of n , n is the sister of o , o is the brother of p and p is the daughter of q . Thus, l , n and p are females, m and o are males and we do not know about q 's sex. Hence, we cannot be sure about the number of females in this relationship string. Hence, option (d) is correct.
10. $p + q - r \nexists s \sqcap t$ reads as: p is the sister of q , q is the brother of r , r is the daughter of s and s is the mother of t . Thus, option (b) is correct.
11. $p \nexists q - r$ can be read as p is the brother of q and q is the husband of r . Thus p must be the brother-in-law of r . Hence, option (d) is correct.
12. $h + i \times j + k \times l + m \nexists n$ means h is the daughter of i , i is the brother of j , j is the daughter of k , k is the brother of l , l is the daughter of m and m is the brother of n . Thus, if m and n are the first generation, k and l are the second, i and j are the third generation, h is the fourth generation. To solve this question in short, you only need to realise that the use of the $+$ sign signifies a generation change. Since the $+$ sign is used thrice, h must be the fourth generation. Hence, option (c) is the answer.
13. Option (b) says: $a - b \nexists c$, this does not hold since a must be the husband of b (who is a female) and b is the brother of c (which cannot happen). Hence, option (b) is the answer.
14. $a \times b \nexists c \nexists d$ means a is the brother of b , b is the brother of c and c is the brother of d . This makes options (a), (b) and (d) as correct. Only option (c) is not necessarily true since d could be b 's sister too. Hence, (c) is the answer.
15. $p - q + r \nexists s$ reads as p is the husband of q , q is the daughter of r and r is the brother of s . Thus, q must be s 's niece. Hence, option (a) is the correct answer.
16. Anwar's father being the only son of Mahesh's father, means that Mahesh must be Anwar's father. Option (a) is the answer.
17. Mother, hence, option (b) is correct.
18. A , B , C are siblings and brothers of each other. D is their sister but we cannot say anything about E 's sex (whether E is male or female and hence brother or sister is unknown). Hence, (d) is correct.
19. Sister. Hence, option (a) is the answer.
20. My mother's son means me or my brother, father of my mother's son means my father. Brother of my father means my uncle. Hence, option (d) is correct.
21. $n@o*p$ reads, n is the daughter of o and o is the brother of p . Hence, p becomes n 's paternal uncle. So, option (c) is correct.
22. It is clear that s 's sex cannot be determined. Hence, the relationship between n and s cannot

be determined. Option (d) is the answer.

23. Again here, g 's sex is indeterminable. Hence, the answer cannot be determined. Option (d) is the answer.

Solutions 24 to 25

P is the son of Q but Q is not the father of P means that Q must be the mother of P . Also, R is the son of S , who is the brother of P means that S and P must be brothers and R is S 's son. Also, since T is the wife of S , R must be T 's son also.

Consolidating these relationships we get:

Q mother of S and P (brothers). Also, S 's wife is T and their son is R .

24. P is S 's Brother. Hence, (b) is correct option.
25. S , P and R are males. Hence, option (c) is correct.
26. Raman's brother's sister would be same as Raman's sister. This makes Raman son of the mother and the brother of the person, while that person would become Raman's sister. Hence Option (d) is the correct answer.
27. Victor's brother's sister's father will be Victor's father as well and the daughter of the father will be Victor's sister. Hence, Option (d).
28. It makes the man the brother of the woman's mother, that makes the woman the man's niece. So Option (c) is the correct answer.
29. The man is the son of the woman's mother's brother, that makes the man and the woman cousins. So option (c) is correct.
30. The father of the boy is brother of Pushpa's mother. That makes Pushpa that boy's cousin sister. Hence (c) is the correct option.
31. According to the clue the man is brother of Darren's father. This makes the gentleman Darren's uncle. Hence, Option (d).
32. It would make the man uncle of the lady, as he would be the son of her grandfather's brother. Therefore (a) is the correct option.
33. Amelia's mother is that man's sister. It makes Amelia that man's niece. So (c) is correct.
34. Option (a) could have been correct but, it has been mentioned that the mother is the only daughter. This only means that Pam must be the mother of that person. Hence, (b).
35. According to the clue, the man is also grandson of the woman's grandfather. So (b) is the correct option.
36. The uncle of Nero's son is Nero's brother that makes the man Nero's father. Hence Option (b).
37. Rita's father is Sylvester who is Roland's father. It makes Irene Sylvester's granddaughter. So (c) is the right option.
38. Has to be the husband. Hence, Option (a).
39. This means Veronica and the woman have the same father. It makes them sisters. Hence Option (b).
40. Two liberties taken; first, the gender of B is not there in the question, neither is the

relationship with E. Therefore (a) is the correct option.

41. Y must be a man as his sister is the only daughter of his mother. So Y is X's uncle. Therefore (d).
42. The grandson is Jack's son, so it makes Jack this girl's father-in-law. Hence (a).
43. The man is the son of the woman's uncle, i.e., the man is the woman's cousin. Hence (a).
44. The clue makes the man son of Allen's grandmother i.e., the man can be Allen's father or uncle. Since, the options do not contain uncle, we have to conclude it is the father. So (d) is the right option.
45. The man is the son of the woman's mother's brother, that makes the man and the woman cousins. Therefore (c) is the correct answer.

Solutions 46 and 47

From the clues we can see that no lady is either a teacher or an engineer. Hence these have to be males. Now since Raina is a male, Haiden is a female because Haiden is a lawyer and is married to Raina. Balaji the engineer is married to Patel. Hence Balaji is a male and Patel is a female so Patel cannot be teacher or engineer. It is also given that she is neither a lawyer or a doctor. Thus, she is a manager.

Again, Murli is sister of Morkel who is the manager. Morkel is a male because no two females have the same profession and Patel is a female and a manager. On the same grounds, Murli cannot be lawyer hence she is a doctor. By elimination of clues Gony is a lawyer and a male.

Now let us tabulate all the conclusions in a table:

Person	Profession	Gender
Raina	Teacher	Male
Murli	Doctor	Female
Haiden	Lawyer	Female
Patel	Manager	Female
Gony	Lawyer	Male
Balaji	Engineer	Male
Morkel	Manager	Male

Now we can answer the questions.

46. Option (b)
47. Option (d)

Solutions to 48 and 49

On the basis of the given clues we get the following information:

Car	Persons travelling in car

Bentley	U(F), S(F)
Lamborghini	Q(M), T(M)
Ferrari	P(F), ?(F)

Besides this we came to know that R is a female but we still do not know the gender of V. But it is given that there is at least one female in each car. The above table shows that Lamborghini has a vacant seat for a female passenger. Hence, the seventh person must be a female to fulfill the condition. Hence, V is a female. But we still do not know in which car R and V are travelling knowing that both are not in the same car. Now we need to construct a family tree:



Since R does not travel with her grandfather and grandmother, R is not in Bentley, hence R is in Lamborghini. We are still not aware of V's position in the family tree.

48. Option (c)
49. Option (c)
50. From the given information of the readership, we can build a table as follows:

	Payal	Qayamat	Ravi	Shashi	Tanveer	Umed
<i>Cosmopolitan</i>	X	X	X	X	√	X
<i>Vogue</i>	X	X	√	X	X	X
<i>India Today</i>	X	X	X	X	X	√
<i>Economist</i>	X	X	X	√	X	X
<i>Stardust</i>	X	√	X	X	X	X
<i>Femina</i>	√	X	X	X	X	X

- (a) Tanveer and Shashi are a couple.
- (b) Pranay and Ravi are a couple.
- (c) Ravi, Umed and Qayamat are brothers and sisters.

Hence Option (a) is the correct answer.