CHAPTER 5
Blood Relations

What is Blood Relations ?

Blood relation logical problems mainly deal with the hierarchical structure of a family i.e., grand-parents, parents and children etc. Different relationships between the family members of different generations will be given. To solve the questions related to blood relations, the entire family tree has to be drawn by putting the various relationships.

In such problems, the aptitude of candidate is shown by the knowledge of the various blood relations. The typical relationships that are commonly used in blood relation problems are summarized as follows

- ∨ Father's or Mother's son = Brother
- ∨ Father's or Mother's daughter = Sister
- ∨ Father's or Mother's brother = Uncle
- ∨ Father's or Mother's sister = Aunt
- ∨ Father's or Mother's father = Grandfather
- ∨ Father's or Mother's mother = Grandmother
- ∨ Brother's or Sister's Son = Nephew
- ∨ Brother's or Sister's Daughter = Niece
- ∨ Uncle's or Aunt's son or daughter = Cousin
- ∨ Sister's Husband = Brother-in-law
- ∨ Brother's wife = Sister-in-law
- ∨ Son's wife = Daughter-in-law
- ∨ Daughter's Husband = Son-in-law
- ∨ Husband's or wife's sister = Sister-in-law
- ∨ Husband's or wife's Brother = Brother-in-law

To develop a blood relation tree, some standard symbols are used in this chapter to indicate the relationships among the family members. It is not compulsory to follow them, You can design your own symbols to draw the family tree quickly and accurately.

- ∨ P is male = P
- ∨ P is female = P
- ∨ Gender of P is not known = P
- ∨ P and Q are married to each other P ⇔ Q
- ∨ P and Q are sibling = P ↔ Q

∨ P and Q are R's children = R

∨ P is the Uncle/Aunt of Q =

R
|_____|
P   Q

∨ P is the only child of q =

Q
↓
P

To draw a family tree, first of all identify the males and the females and then try to put each member at the appropriate position in the tree.

Example 1: Pointing to Lalit in the photograph, Rajan said, "His mother has only one grandchild whose mother is my sister."How is Rajan related to Lalit ?
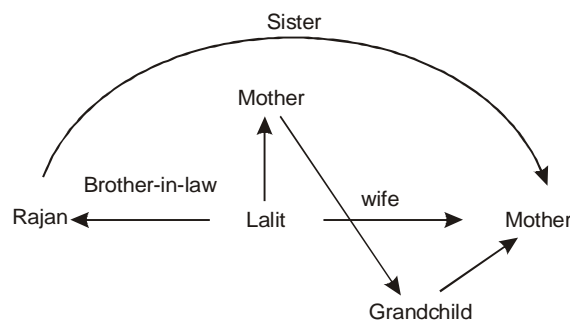
(a) Brother   (b) Brother-in-law   (c) Father-in-law   (d) Data inadequate

Solution: (b)

Example 2: Deepak said to Nitin, "The boy playing with the football is the younger of the two brothers of the daughter of my father's wife." How is the boy playing football related to Deepak?
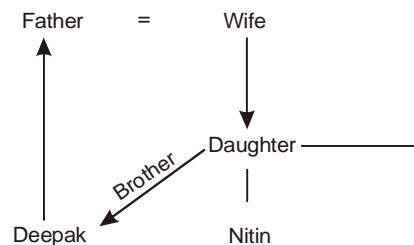
(a) Cousin   (b) Brother   (c) Son   (d) Brother-in-law

Solution: (b)

Example 3: B is the brother of A, S is the sister of B, E is the brother of D, D is the daughter of A, F is the father of S. Then, the uncle of E is
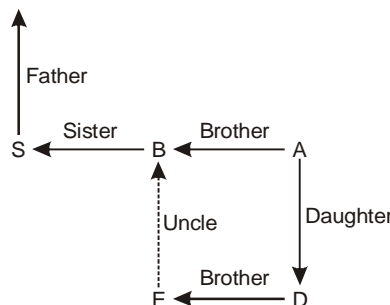
(a) A   (b) B   (c) F   (d) D

Solution: (b)

E and D are children of A and B is the brother of A.

So, B is the uncle of E.

Example 4: Pointing to a man. On the stage "Rita said" He is the brother of daughter of the wife of my husband'. How is the man of stage related to Rita?

(a) Son
(b) Husband
(c) Cousin
(d) Nephew

Solution: (a)
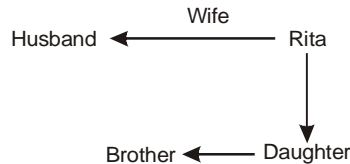
So, that person is the son of Rita.

Example 5: If "P * Q" indicates "P is the father of Q'; "P • Q" indicates `P is the sister of Q'; 'P o Q" indicates 'P is the brother of Q'; 'P φ Q" indicates 'P is the mother of Q'; which of the following would represent 'P is brother-in-law of Q" ?

(a) PoRφQ
(b) P *RφQ
(c) P•RφQ
(d) None of these

Solution. (d) In order to represent the relationship of, "brother-in-law", we need the symbol for either "husband" or "wife", which is not given in the question. Hence, the required relationship cannot be represented by any of the combinations given. So, the answer is (d).

Example 6: Introducing a boy, a girl said, " He is the only son of my mother's mother". How is the girl related to that boy ?

(a) Aunt
(b) Niece
(c) Sister
(d) Mother

Solution: (b)
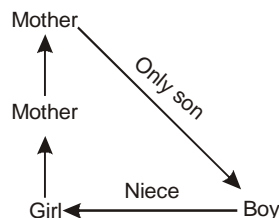
Directions (Q. Nos. 7 to 8) Read the following inforamation and answer the questions given below. P + Q mean P is the daughter of Q, P × Q means P is the son of Q and P – Q means P is the wife of Q.

Example 7: If A × B – D, which of the following is true ?

(a) D is wife of B
(b) A is daughter of B
(c) B is father of A
(d) D is father of A

Solution: (d)
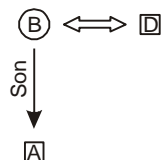
Example 8: If C – D × P – O, which of the following is not true?

(a) P is mother of D
(b) D is daughter of P
(c) C is wife of D
(d) 0 is husband of P

Solution: (b)
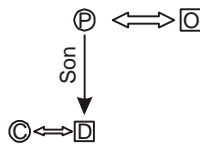
Example 9: R is the brother of G. Q is the sister of R. 0 is the brother of N. N is the daughter of G. L is the father of Q, who is the uncle of O ?

(a) R
(b) L
(c) G
(d) Q

Solution. (a) O is the brother of N who is the daughter of G. So, 0 is the son of G. R is the brother of G. So, R is the uncle of O. Hence, the answer is (a) R.
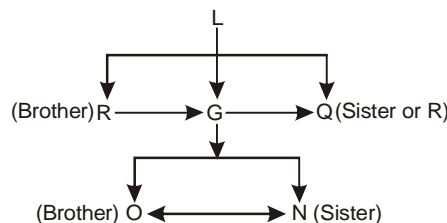
Example 10: If R * S means R is the wife of S, RT S means R is the father of S, R # S means R is the daughter of S and R -S means R is the brother of S, if P ↑ 0 # H # D → Q, then how is D' related to P'?

(a) Father
(b) Brother
(c) Mother-in-law
(d) Father-in-law

Solution. (d) P ↑ 0 # H # D → Q means, P is the father of 0, 0 is the daughter of H, that means H is the mother of 0. (So P is the husband of H) and H is the daughter of D and D is the brother of Q, this means 'D' is the father of H. So, 'D' is the father-in-law of 'P'.

Example 11: If Y says that his mother is the only daughter of X's mother, How is X' related to Y?

(a) Uncle
(b) Brother
(c) Cousin
(d) Maternal uncle

Solution. (d) Assume Y's mother be S, and X's mother be T, As S is the only daughter of T. So, X is the son of T. The family tree can be draw as following.

So, X is maternal uncle of Y.

Example 12: Pointing to Sagar in a photograph, Manjula said, "His brother's father is the only son of my grandfather. "How is Manjula related to Sagar ?

(a) Aunt
(b) Sister
(c) Mother
(d) None of these

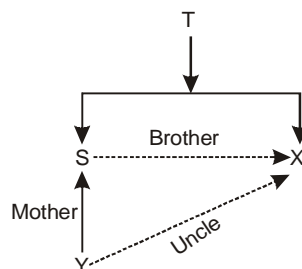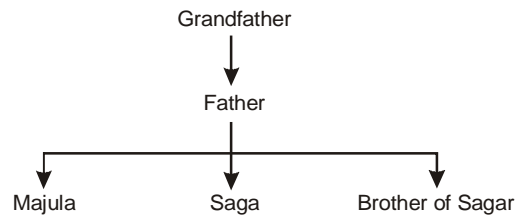*Solution.* (b) Only son of Manjula's grandfather. Manjula's father and Sagar's brother's father-Sagar's father. So, Manjula is Sagar's sister.
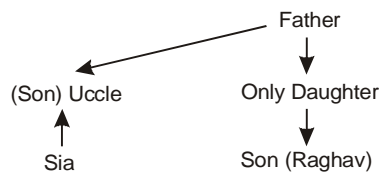
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                    Grandfather
                         │
                         ▼
                      Father
                         │
        ┌────────────────┼────────────────┐
        ▼                ▼                ▼
     Majula            Saga       Brother of Sagar
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Hence, the answer is (b) Sister.

Example 13: Sia introduced Raghav as the son of the only daughter of the father of her uncle. How is Raghav related to Sia ?

    (a) Brother   **(b)** Cousin

    (c) Nephew   **(d)** Can't be determined

Solution. (d) Only daughter of uncle's father-uncle's sister. But it is not clear that uncle's sister is Sia's mother.

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                              Father
                    ╱                    │
                   ▼                     ▼
            (Son) Uccle           Only Daughter
                   ▲                     │
                   │                     ▼
                  Sia               Son (Raghav)
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Hence, the answer is (d) cannot be determined.

Example 14: If P @ Q means P is the brother of Q, P Δ Q means P is the mother of Q and P φ Q means P is the sister of Q, then which of the following would mean A is the uncle of B.
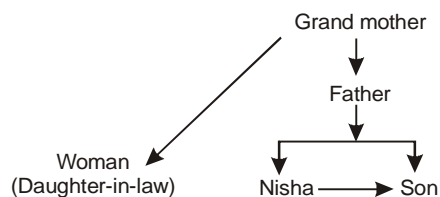
    (a) AΔP@B   **(b)** AΔB@P

    (c) A@PΔB   **(d)** AφPΔB

Solution. (c) A is the uncle of B means A is the brother of the mother of B. According to the given expressions. It must be A @PAB, so the answer is (c).

Example 15: Introducing a woman, Nisha said, 'She is the daughter-in-law of the grandmother of my father's only son." How is the woman related to Nisha ?

    (a) Grandmother   **(b)** Sister-in-law

    (c) Sister   **(d)** Mother

Solution. (d) My father's only son-my brother, grandmother of my brother-my grandmother and daughter-in-law of my grandmother-my mother.

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                                Grand mother
                          ╱                   │
                         ╱                    ▼
                        ╱                   Father
                       ╱                      │
                      ▼              ┌────────┴────────┐
                    Woman            ▼                 ▼
           (Daughter-in-law)       Nisha ──────────▶ Son
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Hence, Nisha is the daughter of the woman. So, the answer is (d) Mother.