

C

Section

Reasoning & Data Interpretation

3.1

CHAPTER

Blood Relationship

In the exams, the success of a candidate in the questions on blood relations depends upon his knowledge about various blood relations. The easiest and non-confusing way to solve these problems would be to draw a family tree diagram and increase the levels in the hierarchy as shown below:

1st stage:

Grand Parents—Grand father, Grand mother, Grand uncle, Grand aunt.

2nd stage:

Parents & in laws—Father, Mother, Uncle, Aunt, Father-in-law, Mother-in-law.

3rd stage:

Siblings, spouse & in laws—Brother, Sister, Cousin, Wife, Husband, Brother in law, Sister-in-law.

4th stage:

Children & in laws—Son, Daughter, Niece, Nephew, Son-in-law, Daughter-in-law.

5th stage:

Grand children—Grand son, Grand daughter.

Mother's or father's brother	Uncle
Mother's or father's sister	Aunt
Mother's or father's mother	Grand mother
Mother's or father's father	Grand father
Grand father's or grand mother's brother	Grand uncle
Grand father's or grand mother's sister	Grand aunt
Children's children (Grand son, Grand daughter)	Grand children
Uncle or Aunt's son/daughter	Cousin
Son's wife	Daughter in law
Daughter's husband	Son in law
Sister's or brother's son	Nephew
Husband's or wife's brother or sister's husband	Brother in law
Husband's or wife's sister or brother's wife	Sister in law
Children at same parents: siblings (could be brother, all sister's or some brother's & some sister's)	

Example 1.

Pointing to a man in a photograph a man said to a woman "his mother is the only daughter of your father". How is the woman related to the man in the photograph.

- (a) Sister (b) Mother
(c) Wife (d) Daughter

Sol.(b) The only daughter of the woman's father is the woman herself, and hence the man in the photograph is her son. Therefore the woman is the mother of the man in the photograph.

Example 2.

Pointing to a man in photograph a woman said "The father of his brother is the only son of my grand father". How is the woman related to the man in photograph.

Sol.(d) The only son of woman's grand father is the father of woman and the father of the man's brother is the father of the man. On combining these two information together single information emerges that the man's father is the woman's father. Hence woman is sister of the man in the photograph.

Direction for Ex. 3 to 5.

$A + B$ means A is the daughter of B

$A - B$ means A is the husband of B

$A \times B$ means A is the brother of B

Example 3.

If $P + Q - R$, which of the following is true:

- (a) R is the mother of P
(b) R is the sister-in-law of P
(c) R is the aunt of P
(d) R is the mother-in-law of P

Sol.(d) $P + Q - R$ means P is the daughter at Q who is the husband of R. i.e. R is P's mother.

Example 4.

If $P \times Q + R$, which of following is true

- (a) P is the brother of R
(b) P is the uncle of R
(c) P is the son of R
(d) P is the father of R

Sol.(c) $P \times Q + R$ means P is the brother of Q who is daughter of R. i.e. P is son of R.

Example 5.

If $P + Q \times R$, which of the following is true

- (a) P is the Niece of R
- (b) P is Daughter of R
- (c) P is Cousin of R
- (d) P is the Daughter-in-law of R

Sol.(a) $P + Q \times R$, means P is the daughter of Q who is the brother of R i.e. P is niece of R

Example 6.

A party consists of grand mother, father, mother, four sons & their wives and one son and two daughters of each of the sons. How many females are?

- (a) 14
- (b) 16
- (c) 18
- (d) 24

Sol.(a) 14

Grandmother is one female, mother is another, wives of four sons are 4 female and two daughters of all four sons are 8 female. So all are

$$1 + 1 + 4 + 8 = 14 \text{ female}$$

Example 7.

Laxmi and Meena are Rohan's wives Shalini is Meena's stepdaughter. How is Laxmi related to Shalini?

- (a) Sister
- (b) Mother-in-law
- (c) Mother
- (d) Stepmother

Sol.(c) Mother

Shalini is Meena's stepdaughter Means Shalini is the daughter of other wife of Rohan, so Shalini is a daughter of Laxmi or Laxmi is mother of Shalini.

Direction for Ex. 8 to 10.

$A + B$ means A is daughter of B

$A \times B$ means A is the son of B

$A - B$ means A is the wife of B

Example 8.

If $P \times Q - S$, which of the following is true?

- (a) S is wife of Q
- (b) S is father of P
- (c) P is daughter of Q
- (d) Q is father of P

Sol.(b) $P \times Q - S$ means P is the son of Q who is the wife of S.

Example 9.

If $T - S \times B - M$, which of the following is not true

- (a) B is mother of S
- (b) M is husband of B
- (c) T is wife of S
- (d) S is daughter of B

Sol.(d) $T - S \times B - M$ means T is the wife of S, who is the son of B who is the wife of M i.e. T is the wife of son at M (father) i.e. T is the daughter-in-law of M. But as this is not given in the choice So the fact in (d) is not true.

Example 10.

If $Z \times T - S \times U + P$, what is U to Z.

- (a) Mother
- (b) Grand mother
- (c) Father
- (d) Can't be determined

Sol.(b) $Z \times T - S \times U$ means Z is the son of T who is the wife of S who is the son of U. i.e. Z is the son of S who is the son of U. i.e. U is the grandmother of Z. From the choice (b) is true.

Some Standard Coding Technique**1. Proper noun should always be denoted by capital letters**

E.g. John, Merry and Paul can be codes as John - J, Merry - M, Paul - P

2. In questions where the sex of proper noun is crucial to the solving of questions, you can denote the female by under lining the capital letter used

ex. $\rightarrow$ Merry is a beautiful girl. Merry - M

ex. $\rightarrow$ Sheena is the only girl student in her class
Sheena - S

3. Relationship:

(a) Is the Son of

ex. $\rightarrow$ Ram is the son of Mr. Pratap $\rightarrow \begin{matrix} P \\ R \end{matrix}$

(b) Is the daughter of

ex. $\rightarrow$ Sweta is daughter of Mr. Pratap $\rightarrow \begin{matrix} P \\ \underline{S} \end{matrix}$

(c) Is the Parent of

ex. $\rightarrow$ A is the parent of B $\rightarrow \begin{matrix} A \\ B \end{matrix}$ or $\begin{matrix} A \\ \underline{B} \end{matrix}$

(d) Is the spouse of

ex. $\rightarrow$ A is spouse of B $\rightarrow A - \bar{B}$ or $B - \bar{A}$

[Note: Here sex of A & B is not mentioned]

ex. → Seema is wife of Rahul → R – S

ex. → Priya is wife of Rajesh R – P

[Note: It is better to write male on the left & female on the right hand side to avoid any confusion]

(e) Is the sibling of

ex → A is sibling of B

1. A .. B or (A & B are brothers)
2. A .. B or (A is sister of B)
3. A .. B or (B is sister of A)
4. A .. B or (A & B are sisters)

(f) Grand father, Grand son relation

ex. → Ramesh & Param are the two sons of Mr. Shiv Kumar, who is the son of Mr. Sundarlal

Su
→ Sk
R .. P

(Note: Shiv Kumar and Sundarlal are coded as Sk and Su to avoid any confusion)

(g) Where the sex of a person is not confirmed write it in a box

like Q is the only son of S

S (Here Q is male but sex of
Q is not mentioned)

□□□□



Practice Exercise: I

Direction (Qs. 1 to 6): Read the following information carefully and answer the question below it.

All the six members of a family P, Q, R, S, T and U are travelling together Q is the son of R but R is not the mother of Q. P and R are a married couple. T is the brother of R. S is the daughter of P. U is the brother of Q.

1. How many male members are there in the family?
(a) 1 (b) 2
(c) 3 (d) 4
2. Who is the mother of Q?
(a) S (b) U
(c) T (d) P
3. How many children does P have?
(a) One (b) Two
(c) Three (d) Four

4. Who is the wife of T?
(a) P
(b) U
(c) Q
(d) can't be determined
5. Which of the following is a pair of females?
(a) PT (b) QS
(c) SU (d) PS
6. How is U related to S?
(a) Father
(b) Brother
(c) Uncle
(d) can't be determined

Direction (Qs. 7 to 12): Read the following information carefully and answer the question below it.

A family consists of six members P, Q, R, X, Y and Z. Q is the son of R but R is not mother of Q. P and R are a married couple. Y is the brother of R. X is the daughter of P. Z is the brother of P.

7. Who is the brother-in-law of R?
(a) P (b) Z
(c) Y (d) X
8. Who is the father of Q?
(a) R (b) P
(c) Z (d) None of these
9. How many children does P have?
(a) One (b) Two
(c) Three (d) Four
10. How many female member are there in the family?
(a) One (b) Two
(c) Three (d) Four
11. How is Q related to X?
(a) Husband (b) Father
(c) Brother (d) Uncle
12. Which is a pair of brothers?
(a) P and X (b) P and Z
(c) Q and X (d) R and Y

Direction (Qs. 13 to 15): Read the following information carefully and answer the questions given below it
P is the son of Q. R, Q's sister has a son S and daughter T. U is the maternal uncle of S.

13. How is P related to S?

- (a) Cousin (b) Nephew
(c) Uncle (d) Brother

14. How is T related to U?

- (a) Sister (b) Daughter
(c) Niece (d) Wife

15. How many nephew does U have?

- (a) Nil (b) One
(c) Two (d) Three

16. Ranjan is the brother of Sachin and Manick is the father of Ranjan. Jagat is the brother of Priya and Priya is the daughter of Sachin. Who is the uncle of Jagat?

- (a) Ranjan (b) Sachin
(c) Manick (d) None of these

Direction (Qs. 17 to 18): Read the following information carefully and answer the questions given below it.

- (i) A is the father of C
(ii) E is the daughter of C. F is the spouse of A
(iii) B is the brother of C. D is the son of B.
(iv) G is the spouse of B. H is the father of G.

17. Who is the grandmother of D?

- (a) A (b) C
(c) F (d) H

18. Who is the son of F?

- (a) B (b) C
(c) D (d) E

Direction (Qs. 19 to 23): Read the following information carefully and answer the questions given below it.

P, Q, R, S and T are members of the same family. There are two fathers, two sons and, two wives, three males and two females in the group. The Engineer was the wife of Teacher, who was the son of a Painter. T is neither a male nor the wife of a professional. R is the youngest person in the family and S is the eldest. Q is a male

19. How is P related to Q?

- (a) Husband (b) Wife
(c) Mother (d) Daughter

20. Who is the father of R?

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

21. Whose wife is the Engineer?

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

22. Who are the females in the group?

- (a) T and P (b) Q and P
(c) R and Q (d) T and Q

23. How is the S related to T?

- (a) Wife (b) Husband
(c) Father (d) Son

Direction (Qs. 24 to 28): Read the following information carefully and answer the question below it.

- (i) A is married to B and L is A's brother-in-law. A has two daughters.
(ii) I is the cousin brother of J and is the brother of K.
(iii) E and F are B's son-in-law.
(iv) E has 2 daughters and 1 son; F has 1 son and 1 daughter.
(v) G and H are 2 daughters of C.
(vi) K and A share a grand daughter and grand relationship.
(vii) D is also member of this family.

24. How is C related to I?

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

25. G is B's:

- (a) Daughter (b) Granddaughter
(c) Grandson (d) Son

26. How is L related to D?

- (a) Uncle (b) Brother
(c) Sister (d) Father

27. How is D related to E?

- (a) Brother-in-law (b) Sister-in-law
(c) Daughter (d) Wife

28. How is E related to C?

- (a) Daughter (b) Son-in-law
(c) Wife (d) Husband

□□□□

Solutions

Hints (1-6)

Sol. → Q is son of R

→ R is not the mother, then R is father of Q

→ P and R are married couple R - P

→ T is brother of R T .. R

→ S is daughter of P $\begin{matrix} P \\ S \end{matrix}$
 → U is brother of Q $Q \dots U$
 Complete Solution

$T \dots R - P$
 $Q \dots U \dots S$

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

Sol. (7 – 12)

$Y \dots R - P \dots Z$
 $Q \dots X$

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

Sol. (13 to 15)

$Q \dots R \dots U$
 $P \dots S \dots I$

13. (a)
14. (c)
15. (c)

Sol. (16)

M
 $R \dots S$
 $P \dots J$

16. (a)

Sol. (17 – 18)

$A - E \dots H$
 $\boxed{C} \dots B - G$
 $E \dots D$

17. (c)
18. (a) here sex of C is not confirmed

Sol. (19 to 23)

P, Q, R, S, T
 → There are two father & two son it means relation is Grandfather, father and son
 → Engineer is wife of teacher, Tea — Engg
 Teacher is son of Painter

$\begin{matrix} \text{Pain} \\ \rightarrow \text{Tea} \end{matrix}$
 I is a female and wife of Painter
 $\text{Pain} - I$
 $\text{Tea} - \text{Engg}$
 R

→ R is youngest
 It means R is Son of Tea
 → S is eldest, it means S is the grandfather

$\text{Pain} - I$
 (S)
 $\text{Tea} - \text{Engg}$
 $(Q) - P$
 R

now complete tree is like this

$S - I$
 $Q - P$
 R

19. (b)
20. (b)
21. (b)
22. (a)
23. (b)

Sol. (24 to 28)

(i). $A - B \dots L$

$d_1 \dots d_2$
 d_1 & d_2 are daughter of A

(ii) $I \dots K, J$ is consine of I

(iii) E & F are husband of d_1 & d_2

$E - d_1 \dots d_2 - F$

$d_1' \dots d_2' \dots s_1', d_3' \dots s_3'$

(iv) G & H are (d_1' & d_2') daughters of C, so naturally C

is wife of E because only E has two daughters

(v) Now complete tree is

$\boxed{A} - \boxed{B} \dots L$
 $E - C \dots D - F$
 $\downarrow \dots \downarrow$
 $H \dots G \dots J, I \dots K$

24. (c)
25. (b)
26. (a)
27. (b)
28. (d)

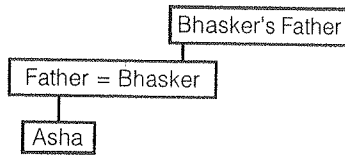


Practice Exercise: II

1. Introducing Asha to guests, Bhasker said, "Her father is the only son of my father". How is Asha related to Bhasker?
(a) Daughter (b) Mother
(c) Sister (d) Niece
2. Akash said to Mohit "The boy in blue shirt is younger of the two brothers of the daughter of my father's wife". How is the boy in blue shirt related to Akash?
(a) Father (b) Uncle
(c) Brother (d) Nephew
3. Pointing to a man on the stage, Rita said, "He is the brother of the daughter of the wife of my husband". How is the man on the stage related to Rita?
(a) Son (b) Husband
(c) Cousin (d) Nephew
4. Pointing to a photograph, Vipul said, "She is the daughter of my grand father is only son". How is Vipul related to the girl in the photograph?
(a) Father (b) Brother
(c) Cousin (d) Data inadequate
5. A woman introduce a man as the son of the brother of her mother. How is man related to the woman?
(a) Nephew (b) Son
(c) Cousin (d) Uncle
6. Looking at a picture of a man, Harsh said, "His mother is the wife of my father's son. Brothers and sisters I have none". At whose picture was Harsh looking?
(a) His son (b) His cousin
(c) His uncle (d) His nephew
7. A man said to a lady "your mother's husband's sister is my aunt. How is the lady related to the man?
(a) Daughter (b) Grand daughter
(c) Mother (d) Sister
8. If Meena says, "Anita's father, Raman is the only son of my father-in-law, Mahipal", then how is Bindu, who is the sister of Anita, related to Mahipal?
(a) Grand daughter (b) Daughter
(c) Sister (d) Niece
9. Pointing to a girl in the photograph Amar said, "Her mother's brother is the only son of my mother's father". How is the girl's mother related to Amar?
(a) Mother (b) Sister
(c) Aunt (d) Grand mother
10. Daya has a brother Amit. Daya is the son of Chandra, Bimal is Chandra's father. In terms of relationship what is Amit to Bimal?
(a) Son (b) Grand son
(c) Brother (d) Grand father
11. Rahul's mother is the only daughter of Monika's father, how is Monika's husband related to Rahul
(a) Uncle (b) Father
(c) Grand father (d) Brother
12. If (i) M is brother of N
(ii) B is brother of N and
(iii) M is brother of D then which of the following statements is definitely true?
(a) N is brother of B (b) N is brother of D
(c) M is brother of B (d) D is brother of M
13. Deepak is brother of Ravi, Rekha is sister of Atul, Ravi is son of Rekha. How is Deepak related to Rekha?
(a) Son (b) Brother
(c) Nephew (d) Father
14. A is B's sister, C is B's mother, D is C's father, E is D's mother. Then, how is A related to D?
(a) Grand mother (b) Grand father
(c) Daughter (d) Grand daughter
15. Given that (i) A is brother of B (ii) C is father of A (iii) D is brother of E (iv) E is daughter of B, then uncle of D is
(a) A (b) B
(c) C (d) D
16. E is the son of A, D is the son of B, E is married to C, C is B's daughter. How is D related to E?
(a) Brother (b) Uncle
(c) Father-in-law (d) Brother-in-law

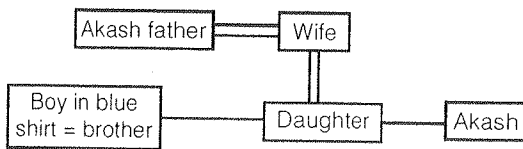
Solutions

1. (a)



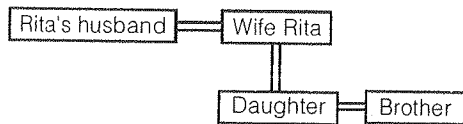
Hence, Asha is Bhasker's daughter.

2. (c)



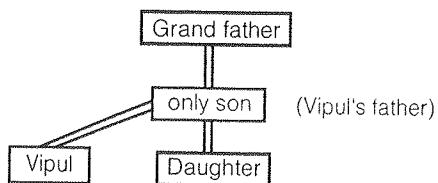
Hence brother.

3. (a)



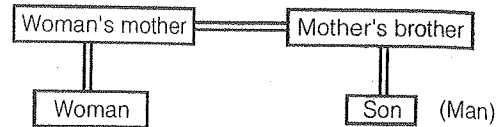
Hence person on stage is Rita's son.

4. (b)



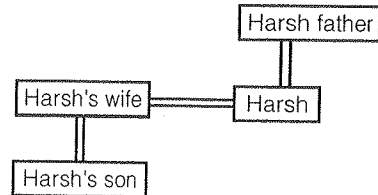
Hence Vipul is brother of girl.

5. (a)



Hence man is woman's Nephew.

6. (a)



Harsh is looking at his son's picture.

7. Sister (d)

8. Grand daughter (a)

9. Aunt (c)

10. Grand son (b)

11. Father (b)

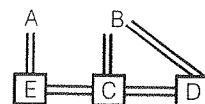
12. M is brother of B (c)

13. Son (a)

14. Grand daughter (d)

15. Uncle of D is A (a)

16. (d)



D is brother in law of E.