

CODED RELATIONSHIP

Directions (1 - 10): Read the following information carefully and answer the questions given below:

- (i) $P + Q$ means P is the father of Q.
- (ii) $P - Q$ means P is the mother of Q.
- (iii) $P \times Q$ means P is the brother of Q.
- (iv) $P \div Q$ means P is the sister of Q.
- (v) $P \star Q$ means P is the son of Q.
- (vi) $P \# Q$ means P is the daughter of Q.

1. How is A related to F in the given expression?

$$A + B \times C \div D \star E \# F$$

- (1) Son (2) Son-in-law
- (3) Brother (4) Father-in-law
- (5) None of these

2. How is A related to F in the given expression?

$$A \star B \div C \# D + E \star F$$

- (1) Paternal Grandson
- (2) Maternal grandson
- (3) Paternal granddaughter
- (4) Maternal granddaughter
- (5) None of these

3. How is A related to F in the given expression?

$$A \# B + C \star D - E \div F$$

- (1) Brother (2) Cousin
- (3) Sister (4) Father
- (5) None of these

4. How is A related to F in the given expression?

$$A \star B \div C \div D + E \div F$$

- (1) Brother (2) Sister
- (3) Father (4) Uncle
- (5) Cousin

5. How is A related to F in the given expression?

$$A + B \div C \times D \div E \# F$$

- (1) Brother (2) Father
- (3) Cousin (4) Husband
- (5) None of these

6. How is F related to A in the given expression?

$$A \# B - C \star D \div E \div F$$

- (1) Brother (2) Sister
- (3) Cousin (4) Brother or Sister
- (5) None of these

7. How is F related to A in the given expression?

$$A \star B \times C \# D \div E \star F$$

- (1) Father
- (2) Paternal grandfather
- (3) Maternal grandfather
- (4) Uncle
- (5) None of these

8. How is F related to A in the given expression?

$$A \star B \times C \div D \times E - F$$

- (1) Brother (2) Sister
- (3) Cousin (4) Aunt
- (5) None of these

9. How is F related to A in the given expression?

$$A + B - C \times D \div E \times F$$

- (1) Paternal grandson
- (2) Paternal granddaughter
- (3) Maternal grandson
- (4) Maternal granddaughter
- (5) Maternal grandson or granddaughter

10. How is F related to A in the given expression?

$$A \# B \times C \div D \times E \# F$$

- (1) Aunt (2) Mother
- (3) Grandmother (4) Sister
- (5) None of these

Directions (11 - 20): Read the following information carefully and answer the questions given below:

- (i) $A + B$ means B is the father of A.
- (ii) $A - B$ means B is the mother of A.
- (iii) $A \times B$ means B is the brother of A.
- (iv) $A \div B$ means B is the sister of A.
- (v) $A \star B$ means B is the son of A.
- (vi) $A \# B$ means B is the daughter of A.

11. How is P related to U in the given expression?
 $U - T \# S + R \star Q \# P$
 (1) Daughter (2) Sister (3) Niece
 (4) Aunt (5) None of these
12. How is P related to U in the given expression?
 $U \times T + S \star R \div Q \star P$
 (1) Brother (2) Son (3) Cousin
 (4) Nephew (5) None of these
13. How is P related to U in the given expression?
 $U + T \times S \div R \times Q + P$
 (1) Father
 (2) Paternal grandfather
 (3) Maternal grandfather
 (4) Great grandfather
 (5) None of these
14. How is P related to U in the given expression?
 $U + T \star S \times R - Q \times P$
 (1) Father
 (2) Paternal uncle
 (3) Maternal uncle
 (4) Grandfather
 (5) None of these
15. How is P related to U in the given expression?
 $U - T \# S \div R + Q \div P$
 (1) Sister (2) Mother
 (3) Grandmother (4) Aunt
 (5) None of these
16. How is U related to P in the given expression?
 $U \# T \times S \div R \star Q \times P$
 (1) Paternal grandfather
 (2) Paternal grandmother
 (3) Maternal grandfather
 (4) Maternal grandmother
 (5) Data inadequate
17. How is U related to P in the given expression?
 $U \# T \times S \div R \times Q + P$
 (1) Husband (2) Wife
 (3) Sister (4) Mother-in-law
 (5) None of these
18. How is U related to P in the given expression?
 $U \# T - S \# R + Q \# P$
 (1) Maternal grandfather
 (2) Maternal grandmother
 (3) Paternal grandfather
 (4) Paternal grandmother
 (5) Data Inadequate
19. In which of the given expression P is the brother of U?
 (1) $U \times T + S - R + Q \star P$
 (2) $U \times T \times S - R + Q \star P$
 (3) $U \div T - S + R \star Q \star P$
 (4) $U \div T - S \star R + Q \div P$
 (5) $U \div T - S \star R + Q \star P$
20. In which of the given expression P is the mother-in-law of U?
 (1) $U \star T \times S \div R - Q - P$
 (2) $U \# T \div S \times R - Q + P$
 (3) $P \star Q \times R \div S - T - U$
 (4) $P \# Q \div R \div S - T + U$
 (5) $U \# T - S \div R \star Q + P$
- Directions (21 - 25): Read the following information carefully and answer the questions which follow:**
- (i) $A \times B$ means A is father of B.
 (ii) $A + B$ means A is daughter of B.
 (iii) $A \div B$ means A is mother of B.
 (iv) $A - B$ means A is brother of B.
21. If ' $P + Q - R \div T$ ', how is T related to P?
 (1) Aunt (2) Brother (3) Father
 (4) Grandmother (5) Cousin
22. Which of the following means that R is wife of P?
 (1) $P \times R - Q - T$ (2) $P \div T + R - Q$
 (3) $P \div R - Q + T$ (4) $P \times T - Q + R$
 (5) None of these
23. If ' $P \times T \div Q + R$ ' how is R related to P?
 (1) Daughter
 (2) Husband
 (3) Son-in-law
 (4) Son-in-law or Daughter-in-law
 (5) None of these

24. If ' $P + R - Q \times T$ ', how is P related to T?

- (1) Grandmother
- (2) Mother-in-law
- (3) Sister
- (4) Grandfather
- (5) None of these

25. If ' $P + Q + R \times T$ ' how is T related to Q?

- (1) Aunt (2) Sister
- (3) Brother (4) Grandson
- (5) Brother or Sister

Directions (26 - 30): Read the following information carefully and answer the questions, which follow:

- (i) $A - B$ means A is father of B.
- (ii) $A + B$ means A is daughter of B.
- (iii) $A \div B$ means A is son of B.
- (iv) $A \times B$ means A is wife of B.

26. How is P related to T in the expression ' $P + S - T$ '?

- (1) Sister (2) Wife (3) Son
- (4) Daughter (5) None of these

27. In the expression ' $P \times Q - T$ ' how is T related to P?

- (1) Daughter (2) Son (3) Mother
- (4) Can't be determined
- (5) None of these

28. Which of the following means T is wife of P?

- (1) $P \times S \div T$ (2) $P \div S \times T$ (3) $P - S \div T$
- (4) $P + T \div S$ (5) None of these

29. Which of the following means P is maternal grandson of S?

- (1) $P + Q - S$ (2) $P \div Q \times S$ (3) $P + Q + S$
- (4) $P \times Q \div S$ (5) None of these

30. In the expression ' $P + Q \times T$ ' how is T related to P?

- (1) Mother (2) Father (3) Son
- (4) Brother (5) None of these

Directions (31 - 35): Read the following information carefully and answer the questions, which follow:

- (i) $A - B$ means A is daughter of B.
- (ii) $A + B$ means A is wife of B.
- (iii) $A \div B$ means A is father of B.
- (iv) $A \times B$ means A is son of B.

31. In the expression ' $P \times R - S$ ' how is P related to S?

- (1) Father (2) Grandfather
- (3) Maternal Grandson
- (4) Sister (5) None of these

32. Which of the following means S is son-in-law of P?

- (1) $P + R \times S$ (2) $P + R \times S$ (3) $P - R + S$
- (4) $P + R + S$ (5) None of these

33. In the expression ' $P - Q \div S$ ' how is S related to P?

- (1) Mother (2) Father
- (3) Brother (4) Sister
- (5) None of these

34. How is P related to S in the expression: ' $P \times Q \div S$ '?

- (1) Brother (2) Wife (3) Son
- (4) Sister (5) Can't be determined

35. How is S related to P in the expression ' $P \times R \div S$ '?

- (1) Son (2) Daughter
- (3) Daughter-in-law
- (4) Sister (5) Can't be determined

Directions (36 - 40): Study the following information carefully and answer the questions given below:

- (i) $P \times Q$ means P is brother of Q.
- (ii) $P - Q$ means P is mother of Q.
- (iii) $P + Q$ means P is sister of Q.
- (iv) $P \div Q$ means P is father of Q.

36. How is W related to M in the expression ' $W + T \div R \times M$ '?

- (1) Maternal aunt
- (2) Paternal aunt
- (3) Grandmother
- (4) Data inadequate
- (5) None of these

37. How is K related to D in the expression ' $D - J + M \div K$ '?

- (1) Grandson (2) Nephew (3) Niece
- (4) Data inadequate
- (5) None of these

38. How is R related to M in the expression ' $M + J \div T \times R$ '?

- (1) Nephew (2) Niece
- (3) Nephew or Niece
- (4) Data inadequate
- (5) None of these

39. Which of the following expression represents T is nephew of J?
- (1) $J \times M - F \times T$ (2) $J \times M - F + T$
 (3) $J \times M + F \times T$ (4) $J \times M + F + T$
 (5) None of these

40. Which of the following expression represents B is the paternal uncle of H?
- (1) $B \times M + H$ (2) $B + M + H$
 (3) $B \times M + H$ (4) $B + M - H$
 (5) None of these

Directions (41 - 45): These questions are based on the following information:

$P \odot Q$ means Q is the brother of P.
 $P \# Q$ means P is the daughter of Q.
 $P = Q$ means Q is the sister of P.
 $P \& Q$ means P is the son of Q.
 $P + Q$ means P is the father of Q.
 $P @ Q$ means P is the mother of Q.

41. Which of the following is a correct conclusion drawn from the expression ' $Q \& N @ S \odot M = P$ '?
- (1) S is the brother of P.
 (2) N has two sons and two daughters.
 (3) S is the sister of Q.
 (4) P is the sister of Q.
 (5) None of these
42. What does the expression ' $P @ R = S \odot T \& V$ ' mean?
- (1) V is the husband of P.
 (2) R is the son of V.
 (3) R is the daughter of P.
 (4) V is the wife of P.
 (5) None of these
43. Which of the following indicates that 'C' is the paternal uncle of D?
- (1) $C \& V \# N @ P \odot D$
 (2) $C \& V \& L \odot N \odot D$
 (3) $D \& L \# N @ V \odot C$
 (4) $P \odot E \# V @ L \odot C$
 (5) None of these
44. Which of the following indicates that 'Q' is the daughter of N?
- (1) $Q + P \# C @ N @ V$
 (2) $N + P \# C @ Q @ V$
 (3) $M @ N \# R + Q$
 (4) $M \odot Q = V \# N$
 (5) None of these
45. Which of the following is the correct conclusion drawn from the expression

$$'L = M \# N \odot P + Q'$$

- (1) Q is the grandson of M.
 (2) L is the uncle of N.
 (3) N is the uncle of Q.
 (4) Q is the niece of N.
 (5) None of these

Directions (46 - 50): These questions are based on the following information:

$P = Q$ means Q is the father of P.
 $P + Q$ means P is the sister of Q.
 $P \# Q$ means Q is the mother of P.
 $P \$ Q$ means P is the brother of Q.
 $P \& Q$ means Q is the son of P.
 $P \times Q$ means P is the daughter of Q.

46. Which of the following is not correct?
- (1) $L \$ M + Q$ means O is the sister of L.
 (2) $M + Q \& P = Q$ means Q and O are husband and wife.
 (3) $P = Q \& R$ means R is the grandmother of P.
 (4) $R \# S \# T$ means R is the granddaughter of T.
 (5) All are correct

Which of the following is correct?

- (1) $L \& M \$ R$ means R is the paternal uncle of L.
 (2) $M \$ R \div D \# V$ means M is the son of V.
 (3) $D \# V \times T$ means D is the granddaughter of T.
 (4) $V \times T + P$ means P is the maternal uncle of V.
 (5) None is correct

48. Which of the following indicates 'A' is the grandfather of B?

- (1) $M \times A = N = B$ (2) $B \$ L \times Q \times A$
 (3) $L \div B = S \$ Q = A$ (4) $B \times L \times A$
 (5) None of these

49. Which of the following means 'F' is the paternal uncle of G?

- (1) $L = F \$ Q \& G$ (2) $G \times M + F \$ L$
 (3) $N \$ F \$ L \times G$ (4) $G \times L \$ F \$ N$
 (5) None of these

50. ' $S \times M + B \& L = F \# Q$ ' reveals which of the following relations?

- (1) M is the maternal aunt of L.
 (2) L is the granddaughter of Q.
 (3) B is the paternal uncle of S.
 (4) F and B are brother and sister.
 (5) None of the above relations gets revealed.

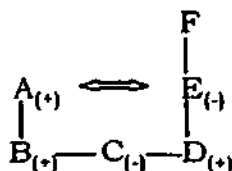
Answers with explanations:

1 - 10 :

1 to 10 are questions related with **Forward Type** coding. In this type of coding, symbol focusses on the element which is at forward position. Here, $P + Q$ means P is the father of Q. The symbol '+' focusses on P, the element at forward position.

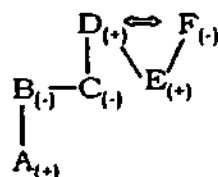
In this type of questions, you are advised to read the expression from left to right. Make a family tree carefully and answer the related questions.

1. 2;



Obviously, A is the son-in-law of F.

2. 2;



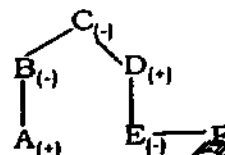
Obviously, A is the maternal grandson of F.

3. 3;



Obviously, A is the sister of F.

4. 5;



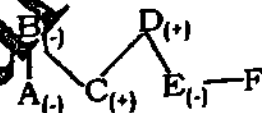
Obviously, A is the cousin of F.

5. 4;



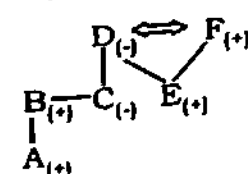
Obviously, A is the husband of F.

6. 4;



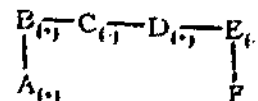
Here, the gender of F is not known. Therefore, F is either brother or sister of A.

7. 2;



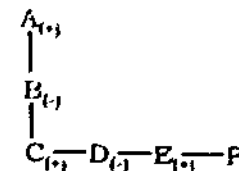
Obviously, F is the paternal grandfather of A.

8. 3;



Obviously, F is the cousin of A.

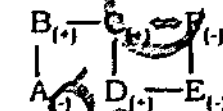
9. 5;



Here, the gender of F is not known.

Therefore, F is either maternal grandson or maternal granddaughter of A.

10. 1;



Obviously, F is the aunt of A.

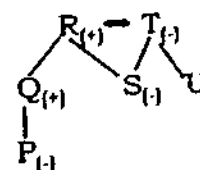
11 - 20 :

11 to 20 are questions related with **Backward Type** coding. In this type of coding, symbol focusses on the element which is at backward position.

Here, $A + B$ means B is the father of A. The symbol '+' focusses on B, the element at backward position.

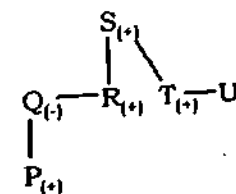
In this type of questions, you are advised to read the expression from right to left. Make a family tree carefully and answer the related questions.

11. 3;



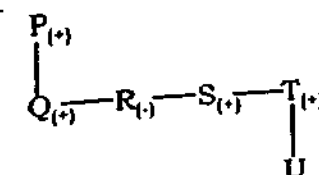
Obviously, P is the niece of U.

12. 4;

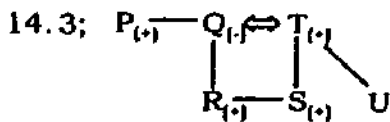


Obviously, P is the nephew of U.

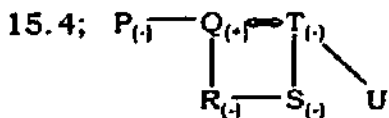
13. 2;



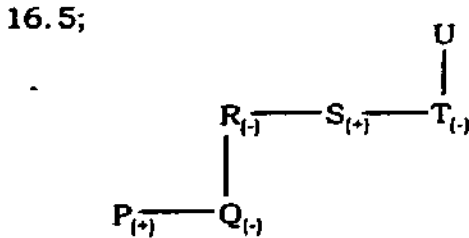
Obviously, P is the paternal grandfather of U.



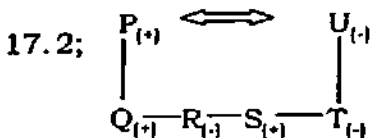
Obviously, P is the maternal uncle of U.



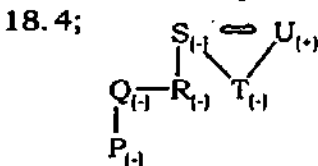
Obviously, P is the paternal aunt of U.



Here, the gender of U is not known. Hence, we need some more information to decide whether U is maternal grandfather or maternal grandmother of P.



Obviously, U is the wife of P.



Obviously, U is the maternal grandfather of P.

- 19.5; We have to see that P is the brother of U. Therefore, P must be a male. Also, the gender gap between P and U must be zero. Look at the expression (1). In this expression P is represented as a female. Note that $Q \div P$ means P is the daughter of Q. Therefore, reject the expression (1). Similarly, in expression (4) P is represented as a female. Note that $Q \div P$ means P is the sister of Q. Therefore, reject the expression (4).

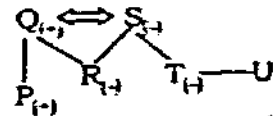
Now look at the generation gap between P and U in the expressions (2) and (3).

$$(2) \quad U \times T \times S - R + Q \times P \\ (0 + 0 + 1 + 1 + 0 = 2)$$

$$(3) \quad U \div T - S + R + Q \times P \\ (0 + 1 + 1 + 1 + 0 = 3)$$

The generation gaps between P and U in these expressions are not zero. Therefore, reject the expressions (2) and (3).

Now, by elimination, the expression (5) is our answer. Now, look at the family tree for expression (5).



Obviously, P is the brother of U.

- 20.1; If P is the mother-in-law of U, then P must be represented as a female in the answer expression. Also, P's position must be one generation above than U.

Reject the expressions (2) and (5), because in these two expressions P is represented as a male.

Now look at the generation gaps between P and U in the expressions (3) and (4).

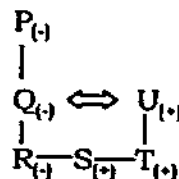
$$(3) \quad P \div Q \times R \div S - T - U \\ (-1 + 0 + 0 + 1 + 1 = 1)$$

$$(4) \quad P \div Q \div R \div S - T + U \\ (-1 + 0 + 0 + 1 + 1 = 1)$$

In these two expressions P's position is one generation below than U. Therefore, reject the expressions (3) and (4).

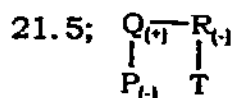
Now, by elimination, the expression (1) is our answer.

Now, look at the family tree for expression (1).



Obviously, P is the mother-in-law of U.

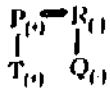
21 - 25:



Obviously, T is the cousin of P.

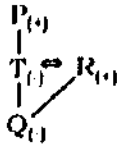
- 22.4; Reject the expressions (1), (2) and (3) because in all the three expressions R is represented a male.

Now, make a family tree for the expression (4)



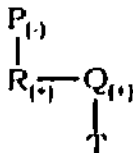
Obviously, R is the wife of P.

23. 3;



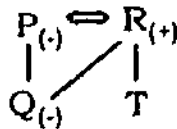
Obviously, R is the son-in-law of P.

24. 1;



Obviously, P is the paternal grandmother of T.

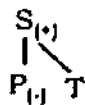
25. 5;



Here, the gender of T is not known. T is either brother or sister of Q.

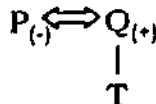
26 - 30:

26. 1;



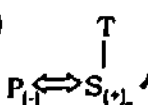
Obviously, P is the sister of T.

27. 4;



We have no information regarding the gender of T. Hence, T is either son or daughter of P.

28. 3; (1)

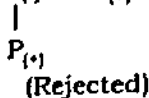


(Rejected)

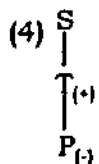


(Selected)

(2) $S_{(+)} \rightleftharpoons T_{(+)}$



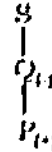
(Rejected)



(Rejected)

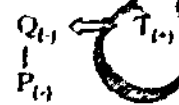
29. 3; Reject the expressions (1) and (4) because in these expressions P is represented as a female. Now, reject the expression (2) because in this expression the generation gap between

P and S is -1. Note that if P is the grandson of S then the position of P must be two generations lower than S. It means the generation gap between P and S must be -2. Now, check the expression (3)



Obviously, P is the maternal grandson of S.

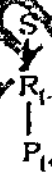
30. 2;



Obviously, T is the father of P.

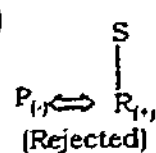
31 - 35:

31. 3;

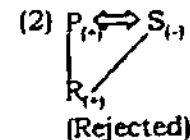


Obviously, P is the maternal grandson of S.

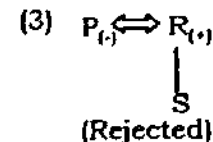
32. 4; (1)



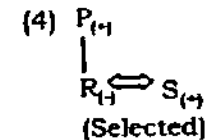
(Rejected)



(Rejected)



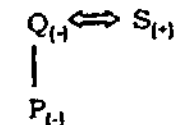
(Rejected)



(Selected)

In expression (4), S is the son-in-law of P. If you check generation gap between P and S in each equation, you can easily reject the expressions (1), (2) and (3).

33. 2;



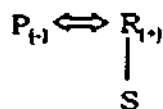
Obviously, S is the father of P.

34. 1;



Obviously, P is the brother of S.

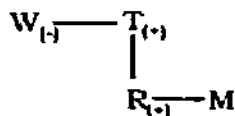
35. 5;



Here, the gender of S is not known. S is either son or daughter of P.

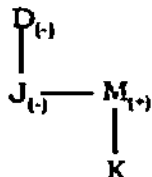
36 - 40:

36. 2;



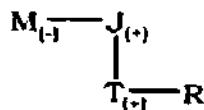
Obviously, W is the paternal aunt of M.

37. 4;



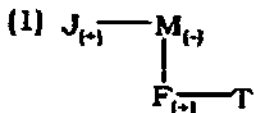
Gender of K is not known. Here, K is either grandson or granddaughter of D.

38. 3;



Obviously, R is either nephew or niece of M.

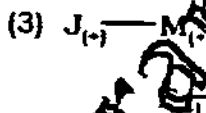
39. 5; Look at the given expressions carefully. In all the expressions the gender of T is not known. Hence, no expression can fulfill our objective. Therefore, reject all expressions. You can also use family tree method.



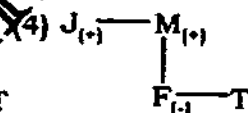
(Rejected)



(Rejected)



(Rejected)



(Rejected)

In all the given expressions, T is either nephew or niece of J.

40. 1; We have to look for the expression in which B is represented as a male and the position of B must be one generation above H.

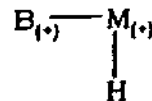
Reject the expressions (2) and (4), because in these expressions B is represented as a female.

Reject the expression (3) because the

generation gap between B and H is zero.

$$\begin{array}{c} 0 \quad 0 \\ B \times M + H \\ (0 + 0 = 0) \end{array}$$

Now, checked expression (1)



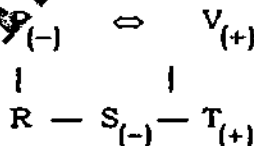
Obviously, B is the paternal uncle of H.

41. 4;



Since, the gender of S is not known, (1), (2) and (3) are not necessarily true. (4) is true.

42. 1;

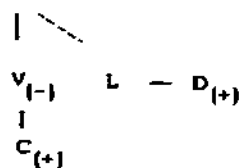


Since, the gender of R is not known, (2) and (3) are not necessarily true. Reject (4) because 'V' is a male.

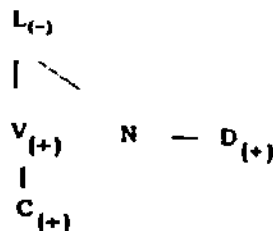
43. 3;

Make family trees of the given expressions:

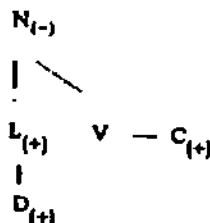
(1) $N_{(-)}$



Here, C is the nephew of D. (Rejected) (2)



Here, C is the nephew of D. (Rejected) (3)



Here, C is the paternal uncle of D.
(Answer)(4)

$V_{(-)}$

|

$N_{(-)} \quad L - C_{(+)}$

|
 $D_{(+)}$

Here, C is the maternal uncle of D. (Rejected)

44.2; Reject (1) and (4) because in these expressions Q has been represented as a male. Reject (3) because the gender of Q is not known. Now, check option (2).

$N_{(-)} \Leftrightarrow C_{(-)}$

| |
P₍₋₎ Q₍₋₎
|
V

Here, Q is the daughter of N.

45.5;

$N - P_{(+)}$
| |
L - M₍₋₎ Q

Reject (1) because Q is the cousin of M.
Reject (2) because L is the child of N.
Reject (3) because the gender of N is not known. Reject (4) because the gender of Q is not known.

46.1;

(1)

$L_{(+)} - M_{(-)}$

Hence, O is either brother or sister of L.
Thus, (1) is not necessarily true.

(2) $M_{(-)} -$

Hence, Q and O are husband and wife, respectively.

Thus, (2) is correct.

(3)

$R_{(-)}$
|
Q₍₊₎
|
P

Hence, R is the grandmother of P.
Thus (3) is correct.

(4)

$T_{(-)}$
|
S
|
R₍₋₎

Hence, R is either maternal granddaughter or paternal granddaughter of T.
Thus, (4) is correct.

47.2; (1)

L
|
M₍₊₎ - R

Hence, R is either son or daughter of L.
Thus, (1) is incorrect.

(2)

$M_{(-)} - R$

Hence, M is the son of V.
Thus, (2) is correct.

(3)

T
|
V₍₋₎
|
D

Hence, D is either granddaughter or grandson of T.

Thus, (3) is not necessarily true.

(4)

$T_{(-)} - P$
|
V₍₋₎

Hence, P is either maternal uncle or maternal aunt of V.

Thus, (4) is not necessarily true.

48.3; (1)

$B_{(+)}$
|
N₍₊₎
|
A
|
M₍₋₎

Here, the gender of 'A' is not known. In this equation 'A' is represented as either grandson or granddaughter of 'B'.

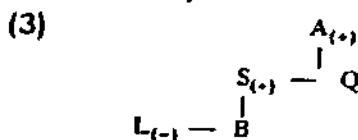
Hence, reject (1).

(2)

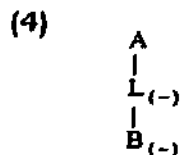
A
|
Q₍₋₎
|
B₍₊₎ - L₍₋₎

Here, the gender of A is not known. From the above family tree it is obvious that A is either maternal grandfather or maternal grandmother of B.

Hence, reject (2).



Here, A is the paternal grandfather of B. Thus (3) is our answer.

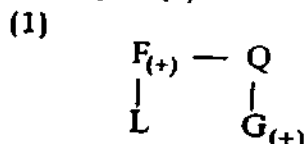


Here, the gender of A is not known.

Hence, A is either maternal grandfather or maternal grandmother of B.

Therefore, reject (4).

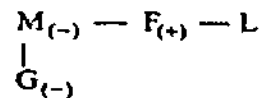
49. 4;



Since the gender of Q is not known, hence we can't say with certainty that F is the paternal uncle of G. If Q is a female then F is the maternal uncle of G.

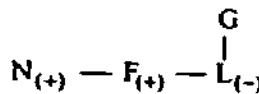
Thus, reject (1).

(2)



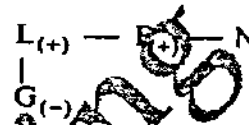
Here, F is the maternal uncle of G. Thus, reject (2).

(3)



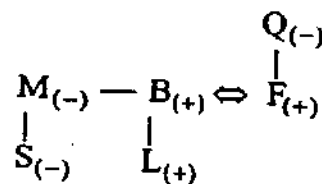
Here, F is the son of G. Hence, reject (3).

(4)



Here, F is the paternal uncle of G. Hence, (4) is our answer.

50. F. Here, we have



(1) True

(2) False

(3) False

(4) False