CODED RELATIONS

Directions(1 – 5): 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 × Q' means 'P is the daughter of Q'

1) Which of the following is not correct?

1) L £ M # O means O is the sister of L   2) M # O £ P = Q means Q and O are husband & 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

Answer : 1) L £ M # O means O is the sister of L.

Explanation :   1) L £ M # O −> M is son of L, M is sister of O −> M is a male here, he can not become sister to O. So, this is not correct.
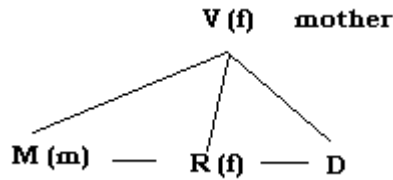
2) Which of the following is correct?

1) L £ M $ R means R is the paternal uncle of L   2) M $ R # D ? V means M is the son of V

3) D ? V × T means D is the granddaughter of T   4) V × T # P means P is the maternal uncle of V   5) None is correct:

Answer : 2) M $ R # D ? V means M is the son of V

Explanation :   1) L £ M $ R −> M is son of L, M is brother of R −> R is not paternal uncle of L, R is either son or daughter to L.

2) M $ R # D ? V —> M is brother of R, R is sister of D, V is mother of D . V is mother of M, R and D. So,   M is son of V.
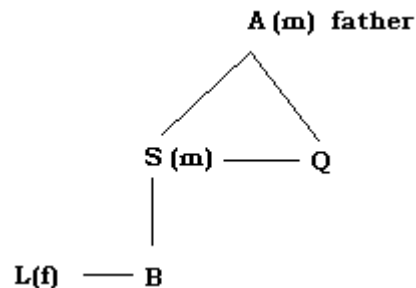
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                        V (f)    mother
                        /  |  \
                       /   |    \
              M (m) —  R (f) —  D
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3) Which of the following indicates 'A is the grandfather of B'?

   1) M × A = N = B   2) B $ L × Q × A   3) L # B = S $ Q = A   4) B × L × A
5) None of these

Answer : 3) L # B = S $ Q = A .

Explanation : A is grand father of B means A must be a male. In 1, 2 and 4 options there is no confirmation of A's gender. In all these options A is either male or female. So, all these options can be eliminated. But in third option A is a male. So we have to check that option.

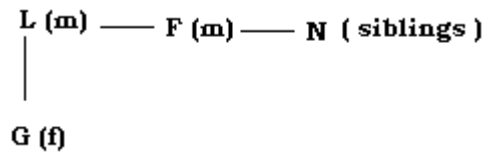 L # B = S $ Q = A —> L and B are children to S and S and Q are children to A.

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                     A (m)  father
                      /   \
                     /     \
               S (m) ——— Q
                 |
                 |
            L(f) —— B
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4) Which of the following means 'F is the paternal uncle of G'?

   1) L = F $ Q £ G   2) G × M # F $ L 3) N $ F $ L × G   4) G × L $ F $ N 5) None of these

Answer : 4) G × L $ F $ N .

Explanation : F is paternal uncle of G means F must be a male. In all options F is male.

G × L $ F $ N −> L, F and N are siblings and G is L's daughter. And F is paternal uncle of G.

L (m) ──── F (m) ──── N (siblings)
│
G (f)

5) 'S × M # B = F $ D' reveals which of the following relations?

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

Answer : 2) S is the granddaughter of F .

Explanation :   **S × M # B = F $ D** −>   S is daughter of M and M is mother of S and sister of B. B and M are children of F and F is brother of D. So, S is grand daughter of F and F is maternal grand father of S. D is maternal grand mother or grand father to S.

F (m) ──── D (siblings)
│
M (f) ──── B (siblings)
│
S (f)
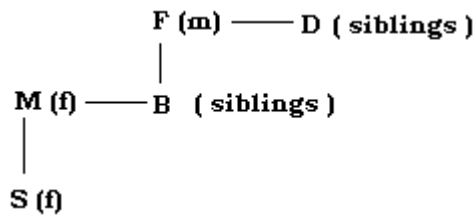
Directions(6-8): These questions are based on the following information.

A) 'P × Q' means 'P is father of Q'

B) 'P – Q' means 'P is sister of Q'

C) 'P + Q' means 'P is mother of Q'

D) 'P ÷ Q' means 'P is brother of Q'

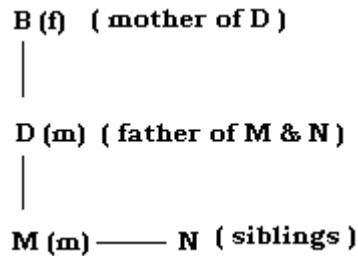**6) In the expression B + D × M ÷ N, how is M related to B?**

1) granddaughter 2) son 3) grandson 4) granddaughter or grandson 5) None of these

Answer : 3) grandson .

Explanation : B + D × M ÷ N −> B is mother of D, D is father of M and M is brother of N.

B is M's father's mother. So, M is grand son of B.

B (f) (mother of D)

D (m) (father of M & N)

M (m) —— N (siblings)

7) Which of the following represents 'J is son of F'

1) J ÷ R − T × F 2) J + R − T × F 3) J ÷ M − N × F 4) can't be determined 5) None of these

Answer : 5) None of these .

Explanation : J is son F means J must be a male. If 'J' is followed by '÷' or '×' , then F must be a male. So, we can eliminate 2nd option.

J ÷ R − T × F −> J is brother of R , R is sister of T and T is father of F. Here, J is paternal uncle of F.

J ÷ M − N × F −> J is brother of M, M is sister of N and N is father of F. Here, J is paternal uncle of F.

**8) Which of the following represents 'R is niece of M'?**

1) M ÷ K × T − R   2) M − J + R − N 3) R − M × T ÷ W 4) can't be determined 5) None of these

Answer : 2) M – J + R – N .

Explanation : R is niece of M means R must be a female. If R is followed by '–' or '+', then R must be   a female. So, we can eliminate 1st option.

M – J + R – N –> M is sister of J, J is mother of R, R is sister of N. Here, M is maternal aunt to R and R is niece of M (M's sister's daughter).

M (f) —— J (f) (sisters)

R (f) —— N (siblings)
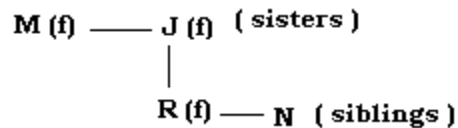
Directions(9-13): These questions are based on the following information.

'P © 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'

9) Which of the following can be a correct conclusion drawn from the expression 'Q £ N @ S © 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

Answer : 4) P is the sister of Q .

Explanation : Q £ N @ S © M = P –> Q is son of N, N is mother of S, M is brother of S and P is sister of M. N is the mother and she has 4 children among whom Q and M are sons, P is daughter and S is son or daughter.
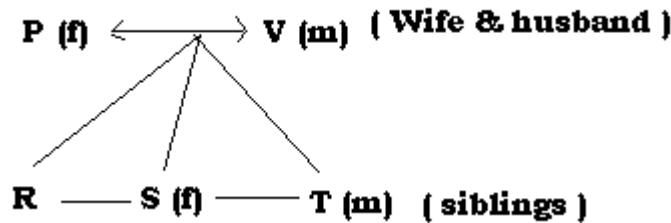
N (f)   (Mother)

Q (m) — S — M (m) — P (f)   (siblings)
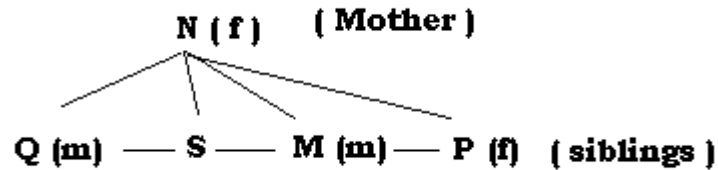
10) What does the expression 'P @ R = S © T £ V' mean?

1) V is the husband of P   2) R is the son of V   3) R is the daughter of V   4) V is the wife of P   5) None of these

Answer : 1) V is the husband of P.

Explanation : P @ R = S © T £ V —> P is mother of R, S is sister of R, T is brother of S and T is the son of V. P and V are wife and husband and their children are R, S and T among whom S is their daughter, T is their son and R is their son or daughter.

P (f) ⟷ V (m)   (Wife & husband)

R — S (f) — T (m)   (siblings)

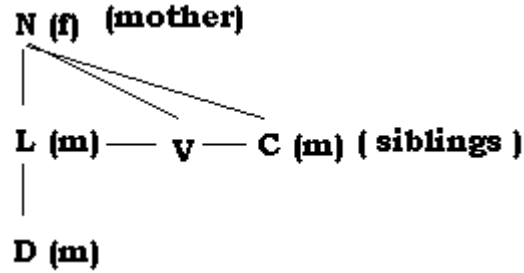**11) Which of the following indicates that 'C is the paternal uncle of D'?**

1) C £ V # N @ L © D   2) C £ V £ L @ N © D   3) D £ L £ N @ V © C   4) D £ N # V @ L © C   5) None of these

Answer : 3) D £ L £ N @ V © C .

Explanation : C is the paternal uncle of D means C must be a male.

D £ L £ N @ V © C —> D is son of L, L is son of N, N is mother of V and C is brother of V .

N is the mother and N has 3 children among whom L and C are her sons and V is her son or daughter. D is son of L and V is D's paternal uncle or aunt and C is D's paternal uncle and D is nephew to V and C.
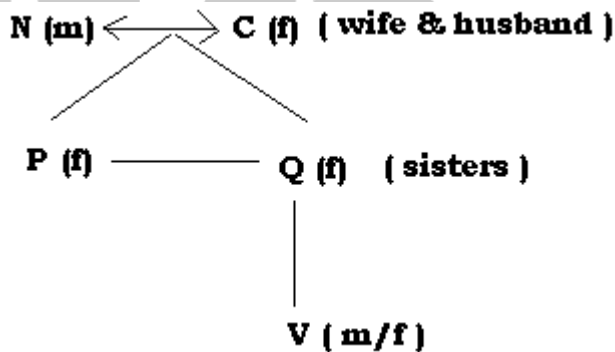
12) Which of the following indicates that 'Q is the daughter of N'?

   1) Q * P # C @ N @ V   2) N * P # C @ Q @ V   3) M @ N # R * Q   4) M © Q = V # N

   5) None of these

Answer : 2) N * P # C @ Q @ V .

Explanation : Q is the daughter of N means Q must be a female. 1, 3 and 4 options are eliminated.

N * P # C @ Q @ V —> N is the father of P, P is the daughter of C, C is mother of Q and Q is mother of V. N and C are husband and wife. Their daughters are P and Q. Q is mother of V.
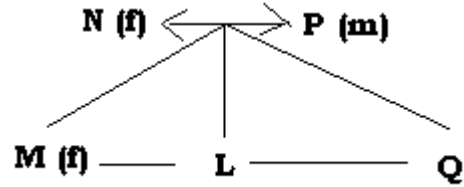

13) Which of the following can be the correct conclusion drawn from the expression

   'L = M # N © 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

<u>Answer : 5) None of these</u>

<u>Explanation :</u> **L = M # N © P * Q —>** M is sister of L, M is daughter of N, P is brother of N and P is father of Q. Here, N is wife and her husband is P. Their children are M, L and Q.