CODED RELATIONSHIPS TESTS

Contents

Coded Relations :

In such questions, the relationships are represented by certain codes or symbols such as $+, -, \times, \div, *, @$ .Then relationships between certain persons, given in the form of these codes, are to be analyzed.

Example:

If A + B means A is father of B;

A×B means A is the mother of B;

A $ B means A is the brother of B and

A @ B means A is the sister of B

Then which of the following means that P is the son of Q?

(A) Q + R @ P @ N

(B) Q + R × P @ N

(C) Q × R $ P @ N

(D) Q × R $ P $ N

Answer: (D)

Q × R = Q is the mother of R [-Q, ± R]
R $ P = R is the brother of P [+ R, ± P]
P $ N = P is the brother of N [+ P, ± N]
∴ P is the son of Q.

1.1.5.2 Coded Relationships Tests

Some quick techniques to eliminate the wrong choices are:

I. Check Gender

In some questions, if you analyze the symbols you can easily find that the person you are considering is a male or female.

For example, if A + B means A is father of B, then A + B × C – D implies that A is father and therefore must be a male. Therefore, all the choices that mention A as a mother/wife/daughter/sister etc. must be wrong.

II. Check Generation Gap

Sometimes it may be time taking to actually find out the relation between two persons. But a rough estimate of the generation gap can be easily found out. For this, assume that:

i) Mother/father to son or daughter have a generation gap of + 1.

ii) Son/daughter to mother/father has a generation gap of – 1.

iii) Brother/sisters and husband-wife have a generation gap of 0 (zero).

Using this we can easily find out the generation gap between persons under consideration and eliminate the wrong choices.

Illustration: For example, suppose that

M Δ N means M is mother of N.
M $\bullet$ N means M is sister of N.
M $*$ N means M is father of N.
M β N means M is brother of N.
Then which of the following means L is paternal grandfather of O?

1) L $*$ R $\bullet$ M β K β O
2) R $*$ L Δ P β K $\bullet$ O
3) L $*$ M Δ R $*$ β O
4) L $*$ R β M $*$ K β O
5) None of these

Answer: Clearly, Δ and $*$ are mother and father relations so each of them implies a generation gap of 1. Similarly $\bullet$ and β imply a generation gap of zero as they are sister-brother relations.

Now, in choice 1; we replace $*$ and Δ by + 1 and $\bullet$ and β by zero then our generation gap is L (+ 1) R (0) M (0) K (0) O $\Rightarrow$ +1 + 0 + 0 + 0 = + 1.

In choice 3; we have similarly;

L (+1) M (+1) R (+1) K (0) O $\Rightarrow$ + 1 + 1 + 1 + 0 = + 3.

But the generation-gap between a grandfather and grandchildren should be + 2. Therefore both the choices are wrong.

Again, choice 2 is also wrong because here L is a mother (a female) of P. So by "check box" rule choice 2 is also eliminated.

This leaves us with choices 4 and 5. On trial we find that choice 4 is indeed the right answer.

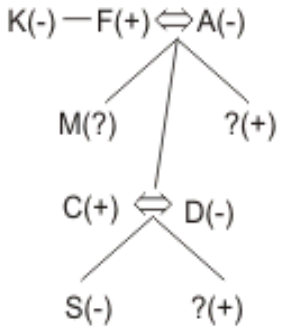
III. Draw family tree

Please remember that using our earlier two steps we only get some help in eliminating some wrong answers quickly. But we don't arrive at the correct answer. To decide exactly which of the remaining choices is correct, we will need to draw a family tree.

Drawing a family tree

(a) Vertical or diagonal lines should be used to represent parent-child relationships.
(b) A double horizontal line (like $\Leftrightarrow$) should be used to represent marriages.
(c) A dashed line should be used to represent brother or sister relationships.
Note: Apart from dashed lines, brother or sister relationships are also easily established if two persons have the same root (i.e. parents depicted by vertical or diagonal lines).
(d) Put a '+' sign before someone who is a male and a '–' sign before someone who is a female.
(e) Whenever something is not known put a "?" Mark or some such symbol (x, y, z etc., for example) before it.

For example, consider the following diagram:



The above diagram tells us that:

(i) F and A are a couple; F is the husband while A is the wife.
(ii) F has a sister K.
(iii) The couple, F and A, has three children: M, C and another son, whose name is not known. C is also a son while the sex of M is not known.
(iv) M and the other unknown son are unmarried while C is married to D.
(v) The couple, C and D, has a daughter S and a son whose name is not known.

Example:

Read the following information to answer the questions.

i) A Δ B means A is mother of B.
ii) A $\bullet$ B means A is sister of B.
iii) A $*$ B means A is father of B.
iv) A β B means A is brother of B.

1. Which of the following means 'Q' is grandfather of 'P'?

1) P Δ N $*$ M $*$ Q
2) Q $*$ N $\bullet$ M Δ P
3) Q β M β N $*$ P
4) Q $*$ M $\bullet$ N Δ P
5) None of these

Answer: 5; Choice 1 is wrong as Q appears after P which means P is of earlier generation here. Note that choice 2 and 4 are exactly similar, only M and N are interchanged. So if Q was grandfather of P in choice 2 it would also be so in choice 4. So, both must be wrong as both can't be correct. So, we are left with choice 3.

But here the gap between Q and P is 0 + 0 + 1 = 1. Which means Q is P's father's generation. Hence, choice 4 is also wrong.

2. Which of the following means N is Uncle of M?

1) N β P $\bullet$ L Δ E $\bullet$ M
2) N $\bullet$ Y Δ A β M
3) M $\bullet$ Y $*$ P $\bullet$ N
4) N β C Δ F $*$ M
5) None of these

Answer: 1; Choice 2 is wrong as here N is followed by $\bullet$ which means N is a female. Choice 3 is wrong as there is no sign after N indicating that sex of N is unknown. In choice 1, gap between N and M is 0 + 0 + 1 + 0 = 1.

Let us draw its tree:

N (+) — P (–) — L (–)

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E (–) — M

Example:

P + Q means P is the brother of Q. P – Q means P is the mother of Q and P × Q means P is the sister of Q. Which of the following means M is the maternal uncle of R?

1) M + K + R
2) M – R + K
3) M ÷ K – R
4) M + K × R
5) None of these

Answer: 3; Choice 2 is wrong as here M is a mother and hence a female. In choice 1, 3 and 4, the gap between M and R is 0 + 0 = 0, 0 + 1 = 1 and 0 + 0 = 0 respectively. So choices 1 and 4 are wrong. Let us try the tree for choice 3.

We have:

M (+) — K (–)

|

R

Example:

Study the following information given below and answer the questions that follow:

A + B means A is the daughter of B.

A – B means A is the husband of B.

A × B means A is the brother of B.

1. If P + Q – R, which of the following is true?
   1) R is the mother of P
   2) R is the sister-in-law of P
   3) R is the aunt of P
   4) R is the mother-in-law of P
   5) None of these

Answer: 1

2. If P × Q + R, which of the following is true?
   1) P is the brother of R
   2) P is the uncle of R
   3) P is the son of R
   4) P is the father of R
   5) None of these

Answer: 3

3. If P + Q × R, which of the following is true?
   1) P is the niece of R
   2) P is the daughter of R
   3) P is the cousin of R
   4) P is the daughter-in-law of R
   5) None of these

Answer: 1

4. If P + Q means P is the husband of Q; P ÷ Q means P is the sister of Q and P × Q means P is the son of Q, which of the following shows A is the daughter of B?

   1) C × B ÷ A
   2) B + C × A
   3) D × B + C ÷ A
   4) A ÷ D × B
   5) None of these

Answer: 4