

## TCS LOGICAL REASONING – SET 1

### REASONING:

1. In each of the question below are given two statements followed by two conclusions numbered 1 and 2 you have to take the two given statements to be true even if they seem to be at variance from commonly known facts and decide which of the given conclusions logically follows from the two given statements, disregarding commonly known facts

Statements: Some hats are caps. Some caps are mats.

Conclusions: 1. Some caps are hats.

2. Some mats are caps.

a) If neither I nor II follows

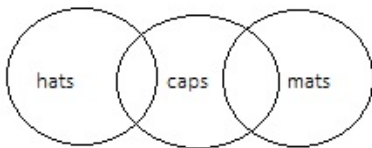
c) If only conclusion I follows

e) If both I and II follow

b) If either I nor II follows

d) If only conclusion II follows

**Solution:**



Both I and II follow

2. A girl, running after her pet dog, covered 20 ft westward. She found the dog, and then turned left and she ran another 15 ft distance. The dog got into another lane on the left and she followed for 25 ft. she succeeded in catching the dog, only after it ran for another 8 ft on the right side. She walked straight for 23 ft in the opposite direction. How far, and in which direction, has she to go in order to reach her home?

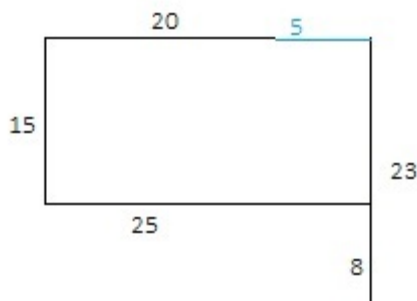
a) 5 ft towards west

c) 8 ft towards north

b) 7 ft towards south-east

d) 15 ft towards south-west

**Solution:**



Distance travelled south  $15+8 = 23$  = distance travelled north

Distance travelled east = 20

Distance travelled west = 25

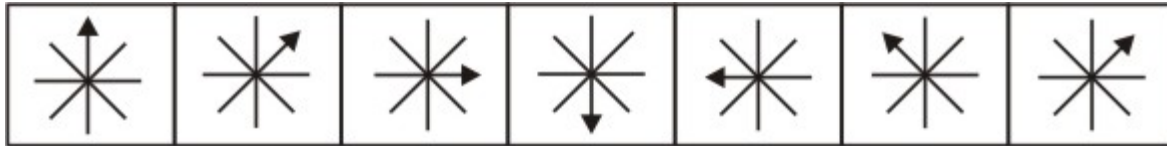
Therefore, she would have to travel  $25-20 = 5$  ft westwards

3. 'Hill' is related to 'Mountain', in the same way, as 'Shrub' is related to

- a) Tree                                      b) Sapling                                      c) Forest                                      d) Plant

**Solution:** As 'Hill' is the small 'Mountain' in the same way 'Shrub' is the small 'Tree'. Ans.(4)

4. Each of the following series consists of seven figures, two of which at the ends are unnumbered. One of the numbered figure does not fit into the series. Find out the figure.



- a) 4                                      b) 2                                      c) 3                                      d) 1                                      e) 5

**Solution:** The arrow head moves clockwise one step and two steps alternately. So, in fig(2) the arrow should be one step ahead.

5. In each question below are given two statements followed by four conclusions numbered I, II, III and IV. You have to take the given statements to be true even if they seem to be at variance from commonly known facts. Read all the conclusions and then decide which of the given conclusions logically follows from the two given statements, disregarding commonly known facts.

Statements: All rats are cows. No cow is white.

Conclusions: I. No white is rat.

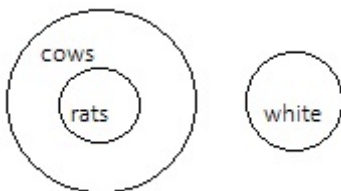
II. No rat is white.

III. Some whites are rats.

IV. All cows are rats.

- a) only II and IV follow                                      b) Only IV follows  
c) Only I and II follow                                      d) None follows

**Solution:**



From the above figure, we can see that only conclusions I and II follow.

### Directions - Questions 6 & 7

In each of the given questions below there is a group of three. From the five figures given below you have to find the figure that best represents the group.

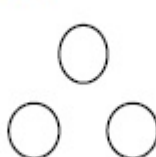
(A)



(B)



(C)



(D)



(E)



6. **Question:** School, Science, Student

- a) C                  b) A                  c) D                  d) B                  e) E

**Solution:** Students are there in a school, so there should be 1 circle within another representing them. Science should be separate. So answer is E.

7. **Question:** Table, Bench, Furniture

- a) A                  b) B                  c) C                  d) D                  e) E

**Solution:** Table and bench are both furniture, so the answer is D

8. Each of the given question is followed by two statements, (A) and (B). Answer each question using the following instructions. Mark your answer as

1. If the question can be answered by using statement A alone but not by using B alone.
2. If the question can be answered by using statement B alone but not by using A alone.
3. If the question can be answered by using either statement alone.
4. If the question can be answered by using both the statements together but not by either statement.

**Question:** Jindal Singh, Bhanu Singh and Pratap Singh together have ten cows. If each has at least one cow, how many cows does each person have?

(A) Jindal Singh has 5 more than Pratap Singh.

(B) Bhanu Singh has half as many as Jindal Singh.

- a) 3                          b) 1                          c) 2                          d) 4

**Solution:** Statement (A)  $\Rightarrow$  Jindal Singh = Pratap Singh + 5  $\Rightarrow$  Pratap Singh 1, Jindal Singh 6 or Pratap Singh 2, Jindal Singh 7. Statement (B)  $\Rightarrow$  Bhanu Singh = Jindal Singh/2  $\Rightarrow$  (1, 2); (2, 4); (3, 6). Combining the two we get Pratap Singh = 1, Jindal Singh = 6, Bhanu Singh = 3.

9. In each of the question below are given two statements followed by two conclusions numbered 1 and 2 you have to take the two given statements to be true even if they seem to be at variance from commonly known facts and decide which of the given conclusions logically follows from the two given statements, disregarding commonly known facts

Statements: All stones are water. Some water is clean.

Conclusions: 1. Some stones are clean.

2. No stone is clean.

a) If either I nor II follows

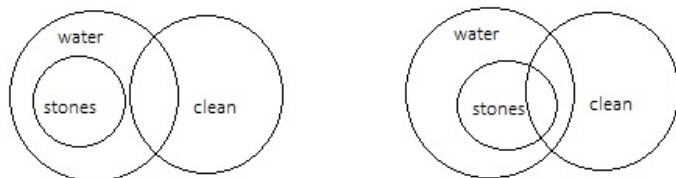
c) If neither I nor II follows

e) If only conclusion I follows

b) If both I and II follow

d) If only conclusion II follows

**Solution:**



From the above figures, either 1 or 2 is possible.

10. Read the following information carefully answer the question given below:

i. In a family of six members - A,B,C,D,E, and F there are three married couples

ii. Each of them reads a different news paper - Times of India, Indian Express, Economic Times, Free Press Journal, The Hindu and Financial Times.

- iii. No lady reads either Economic times or The Hindu.
- iv. A reads Indian Express and her husband reads Times of India.
- v. D the father of F, reads The Hindu.
- vi. C is the wife of F and E is her mother-in law.

Who reads Times of India?

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

**Solution:**

Looking at the information given in the question, we can deduce the following:

A(wife)-Indian Express B(husband)-Times of India

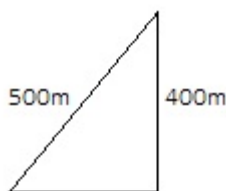
E(wife)-Free Press Journal/Financial Times D(husband)-The Hindu

C(wife)- Free Press Journal/Financial Times F(husband)- Economic Times

B reads Times of India

11. A man starts walking in north-easterly direction from a particular point. After walking a distance of 500 metres. He turns southwards and walks a distance of 400 metres. At the end of this walk, he is situated
- a) 300 metres north of the starting point.                      **b) 300 metres east of the starting point**  
c) 100 metres east of the starting point                      d) 100 metres north-east of the starting point

**Solution:**



$$\text{Distance from starting point} = \sqrt{0.5^2 - 0.4^2} = \sqrt{0.25 - 0.16} = \sqrt{0.09} = 0.3 \text{ km} = 300 \text{ m}$$

12. Read the following information carefully and answer the questions given below:

- I. Eight rooms P, Q, R, S, T, U, V and W are located adjacent to one another in two different rows with four in each row.
- II. Doors of the rooms of one row open into the doors of the rooms of another row.
- III. No room of consecutive letter is either adjacent or opposite to each other.
- IV. P and Q are the rooms located at the end of two different rows.
- V. R is just left of T and is located in the same row in which P is located.
- VI. U is just left of Q.

Which of the following room is not located at either ends?

- a) W                      b) V                      c) S                      d) Q

**Solution:**

The arrangement of rooms is as given below:

P	T	R	V
S	W	U	Q

W is not located at any end.

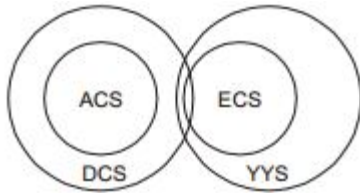
13. Each of the questions below has a few statements, followed by four conclusions numbered I, II, III and IV. You have to consider every given statements as true, even if it does not conform to the well known facts. Read the conclusions and then decide which of the conclusions can be logically derived.

Statements: All acs are dcs. Some dcs are ecs. All ecs are yys.

Conclusions:  
 I. Some acs are ecs.  
 II. Some yys are dcs.  
 III. No acs is ecs.  
 IV. All dcs are acs.

- a) Only II                      b) Only I and II                      c) Only I and III                      **d) only II and either I or III**

**Solution:**



II definitely follows, and either I or III follow

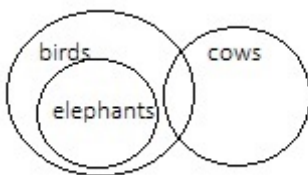
14. In each question below are given two or three statements followed by two conclusions numbered I and II. You have to take the given statements to be true even if they seem to be at variance from commonly known facts and then decide which of the given conclusions logically follows from the statements, disregarding commonly known facts. Give answer

Statements: All elephants are birds. Some birds are cows.

Conclusions:  
 i. Some cows are birds.  
 ii. Some elephants are cows.

- a) If both I and II follow.                      **b) If only conclusion I follows.**  
 c) If only conclusion II follows.                      d) If neither I nor II follows.  
 e) If either I or II follows.

**Solution:**



i definitely follows, but ii may or may not be true.  
 Therefore, only conclusion i is correct

15. Read the following information carefully answer the question given below:

- In a family of six members- A,B,C,D,E, and F there are three married couples
- Each of them reads a different news paper - Times of India, Indian Express, Economic Times, Free Press Journal, The Hindu and Financial Times.
- No lady reads either Economic times or The Hindu.
- A reads Indian Express and her husband reads Times of India.
- D the father of F, reads The Hindu.
- C is the wife of F and E is her mother-in law.

How E is related to D?

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

**Solution:**

Looking at the information given in the question, we can deduce the following:

A(wife)-Indian Express B(husband)-Times of India

E(wife)-Free Press Journal/Financial Times D(husband)-The Hindu

C(wife)- Free Press Journal/Financial Times F(husband)- Economic Times

So E is the wife of D

16. Each of the following problems has a question and two statements which are labeled as I and II. Use the data given in statements I and II together with common place knowledge to decide whether these statements are sufficient to answer the questions.

Does light travel faster than sound?

I. Light can travel in vacuum.

II. Sound cannot travel in vacuum.

- a) If you can get the answer from statements I and II together, although neither statement by itself suffices.  
b) If you can get the answer from statement II alone but not from statement I alone  
c) If either statement I or II above is sufficient to answer the question.  
**d) If you cannot get the answer from statements I and II together, but need even more data.**

**Solution:** Details about the speeds of light and sound are not given in the 2 statements. Therefore, the question cannot be answered.

17. Some questions are solved on the basis of a certain system. On the same basis, find out the correct answer from amongst the four alternatives for the unsolved equation in each question.

Let J=1, K=2, L=5, M=7, N=11, O=13, P=17. Find the letter to be inserted In the box in the relation given below  
 $(N \times ? + M) \div K = 31$

- a) J                      b) O                      c) L                      d) P

**Solution:**

Substituting the letters,

$$11x + 7 = 31 \times 2 = 62$$

$$11x = 62 - 7 = 55$$

$$x = 55/11 = 5 = L$$

18. Read the following information carefully and answer the questions given below:

- I. Eight rooms P, Q, R, S, T, U, V and W are located adjacent to one another in two different rows with four in each row.  
II. Doors of the rooms of one row open into the doors of the rooms of another row.  
III. No room of consecutive letter is either adjacent or opposite to each other.  
IV. P and Q are the rooms located at the end of two different rows.  
V. R is just left of T and is located in the same row in which P is located.  
VI. U is just left of Q.

Which room is opposite to P?

- a) U                      b) W                      c) S                      d) Cannot be determined

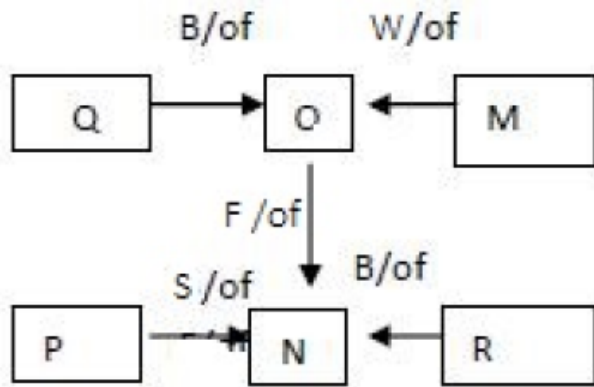
**Solution:**

The arrangement of rooms is as given below:

P	T	R	V
S	W	U	Q

So S is opposite to P

19. The six members of a family M, N, O, P, Q and R are travelling together. N is the son of O but O is not the mother of N. M and O are a married couple. Q is the brother of O. P is the daughter of M. R is the brother of N. Which of the following is a pair of females?
- a) MQ                      b) **MP**                      c) NP                      d) PR



The wife M and daughter P are the 2 females.

20. BL4, CM9, DN16, ....., FP36, GQ49
- a) EO49                      b) EO23                      c) **EO25**                      d) OE25
21. Find the odd one out in the below pattern.
- 3, 2, 8, 9, 13, 22, 18, 32, 23, 42**
- a) 8                      b) **9**                      c) 3                      d) 22

Explanation:

The given sequence is a combination of two series

I. 3, 8, 13, 18, 23 and

II. 2, 22, 32, 42

The pattern in I is + 5, and pattern in II is + 10.

So, in II, 9 is wrong and must be replaced by (2 + 10) i.e. 12.

22. In a certain coded language each english alphabet denotes the letter that comes two positions earlier than it i.e. C = A, D = B, J = H, L = J, W = U, B = Z, A = Y etc. on the basis of this code find what would **CKTDWU** indicate?
- a) BROKER                      b) **AIRBUS**                      c) DEVISE                      d) DEVOTE

Explanation:

Each letter of the word is moved two steps backward to obtain the code.

C-2 = A

K-2 = I

T-2 = R

D-2 = B

W-2 = U

U-2 = S

So CKTDWU indicates AIRBUS

23. A family has a man, his wife, their four sons and their wives. The family of every son also has 3 sons and one daughter. Find out the total number of male members in the whole family.
- a) 4                      b) 8                      c) 12                      d) **17**

Explanation:

The male members in the family are:

- (i) the man himself  
(ii) his four sons; and  
(iii) his  $(3 \times 4) = 12$  grandsons.  
Hence, total number of male members =  $(1+4+12) = 17$

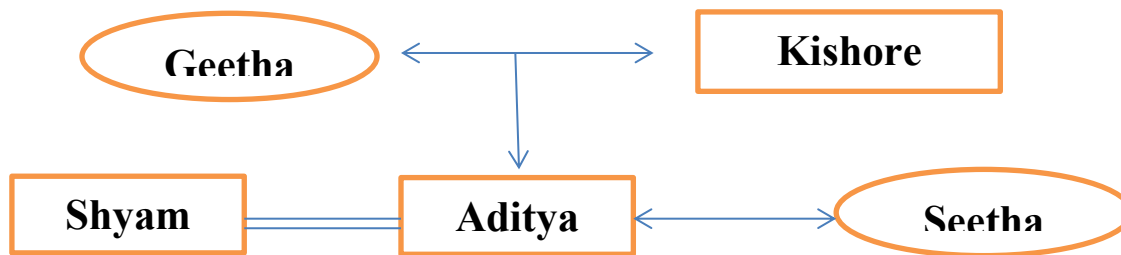
24. Andy is the brother of Binoy and Cindy. Daisy is Cindy's mother. Eliot is Andy's father. Which of the following statement cannot be definitely true?

- (a) Eliot is Binoy's father (b) Daisy is Andy's Mother  
(c) **Binoy is Eliot's son** (d) Andy is Daisy's son

Gender of B is not there in the question. Therefore, (c) is the correct option.

25. Geetha is the mother-in-law of Seetha who is the sister-in-law of Shyam. Kishore is father of Aditya, the only brother of Shyam. How is Geetha related to Shyam?

- (a) Mother-in-law (b) Aunt (c) Wife (d) **Mother**



26. A ● B means A is the brother of B; A ★ B means A is the daughter of B; A ■ B means A is the sister of B. If A ■ B ■ C ★ D ★ E ● F ● G, then how many males and females are there respectively?

- (a) 4, 3 (b) 3, 4 (c) 5, 2 (d) **Cannot be determined**

**Solution:**

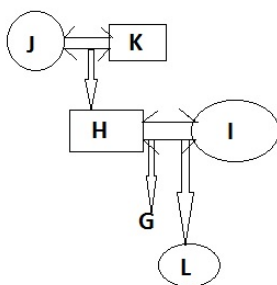
Here, G's sex is indeterminable. Hence, the answer cannot be determined. Option (d) is the answer.

27. **Read the information and answer the question:**

In a family of six persons G, H, I, J, K and L, there are two married couples. J is the grandmother of G and mother of H. I is the wife of H and mother of L. L is the granddaughter of K. **What is I to G?**

- (a) Daughter (b) Grandmother (c) **Mother** (d) Cannot be determined

Mother



28. If MAHESH is written as HHHHHH, how will KARNATAKA be written in that code ?

- a) TIATITIA b) **RTARTARTA** c) IATITAT c) ALDALDALD



The letters at the third and sixth places are repeated thrice to code. Example: BOMBAY as MYMYMY.

Similarly, the letters at the third, sixth and ninth places are repeated thrice to code KARNATAKA as RTARTARTA.

29. If FRIEND is coded as GTLISJ, how is CANDLE written in that code ?  
 a) EDRIRL                      b) DCQHQB                      c) DEQJQM                      d) FYOBOC

The first, second, third, fourth, fifth and sixth letters of the word are respectively moved one, two, three, four, five, six and seven steps forward to obtain the corresponding letters of the code.

30. If CABLE is coded as 10 - 8 - 9 - 19 - 12. How would you code DEAR?  
 a) 8 - 12 - 10 - 14                      b) 11 - 12 - 25 - 8                      c) 13 - 14 - 8 - 9                      d) 11 - 12 - 8 - 25

Each letter is coded by sum of its position in the alphabetical order and 7.

According to the given code, A is 8 and E is 12, So D will be 11.

31. In the following question the first and the last blocks mark the beginning and the end of a series respectively. The numbered blocks are a part of the series. However, one of these numbered blocks violates the pattern. Find the odd block and mark your answer accordingly.



- a) 1                      b) 5                      c) 4                      d) 2

In fig 5, the sector shaded in black is wrong. The sector shaded black should be the lower half of the first quadrant.

32. If ANTI is coded as 7 -20 - 26 -15, how would you code POST?  
 a) 22 - 21 - 25 - 26                      a) 21 - 22 - 23 - 24                      c) 26 - 25 - 24 - 23                      d) 19 - 21 - 25 - 26

Each letter is coded by sum of its position in the alphabetical order and 6.

From the given code, we know that T is 26, so the answer is either options 1 or 4.

The second number should be 1 less than the first number as P comes immediately after O, so the answer is 1.

33. A, B, C, D and E are sitting on a bench. A is sitting next to B, C is sitting next to D, D is not sitting with E who is on the left end of the bench. C is on the second position from the right. A is to the right of B and E. A and C are sitting together. A is sitting between whom?

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

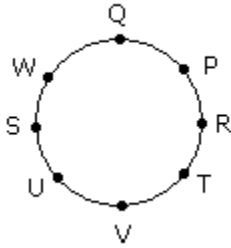
•        •        •        •        •  
 E        B        A        C        D

Therefore, A is sitting in between B and C.

Read the following information carefully and answer the question given below:

P, Q, R, S, T, U, V and W are sitting around the circle and are facing the centre:

- a) P is second to the right of T who is the neighbour of R and V      b) S is not the neighbour of P  
 c) V is the neighbour of U      d) Q is not between S and W      e) W is not between U and S
34. Which two of the following are not neighbours?  
 a) RV      b) UV      c) RP      d) QW



35. Four girls are sitting on a bench to be photographed. Shikha is to the left of Reena. Manju is to the right of Reena. Rita is between Reena and Manju. Who would be second from the left in the photograph?  
 a) Reena      b) Shikha      c) Manju      d) Rita

**Shikha, Reena, Rita and Manju**

36. There are five different houses, A to E in a row. A is to the right of B and E is to the left of C and right of A. B is to the right of D. Which of the houses is in the middle?  
 a) A      b) B      c) D      d) E

**D, B, A, E, C**

37. Five girls are sitting in a row, Rashmi is not adjacent to Sulekha or Abha. Anuradha is not adjacent to Sulekha. Rashmi is adjacent to Monika. Monika is at the middle in the row. Then, Anuradha is adjacent to whom out of the following?  
 a) Rashmi      b) Sulekha      c) Abha      d) Monika

**Anuradha, Rashmi, Monika, Sulekha Abha**

38. If A is the brother of B; B is the sister of C; and C is the father of D, how D is related to A?  
 a) Brother      b) Sister      c) Nephew      d) Cannot be determined  
**If D is Male, the answer is Nephew. If D is Female, the answer is Niece.**  
**As the sex of D is not known, hence, the relation between D and A cannot be determined.**

39. Pointing to a photograph. Bajpai said, "He is the son of the only daughter of the father of my brother." How Bajpai is related to the man in the photograph?  
 a) Nephew      b) Brother      c) Father      d) Maternal Uncle  
**The man in the photo is the son of the sister of Bajpai. Hence, Bajpai is the maternal uncle of the man in the photograph.**

40. Deepak said to Nitin, "That 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) Son      b) Brother      c) Cousin      d) Brother in law  
**Father's wife → mother. Hence, the daughter of the mother means sister and sister's younger brother means brother. Therefore, the boy is the brother of Deepak.**

41. Veena who is the sister-in-law of Ashok, is the daughter-in-law of Kalyani. Dheeraj is the father of Sudeep who is the only brother of Ashok. How Kalyani is related to Ashok?  
 a) Mother in law      b) Aunt      c) None of these      d) Wife  
**Ashok is the only brother of Sudeep and Veena is the sister-in-law of Ashok. Hence Veena is the wife of Sudeep. Kalyani is the mother-in-law of Veena. Kalyani is the mother of Ashok.**

42. Five children were administered psychological tests to know their intellectual levels. In the report, psychologists pointed out that the child A is less intelligent than the child B. The child C is less intelligent than the child D. The child B is less intelligent than the child C and child A is more intelligent than the child E. Which child is the most intelligent?
- A. A                      B. B                      C. D                      D. E

**We have sequence:  $A < B$ ,  $C < D$ ,  $B < C$  and  $E < A$ . So, the sequence becomes:**  
 **$E < A < B < C < D$ . Clearly, child D is the most intelligent.**

43. If (i) P is taller than Q; (ii) R is shorter than P; (iii) S is taller than T but shorter than Q, Then who among them is the tallest?
- A. P                      B. Q                      C. S                      D. T

**In terms of height, we have:  $Q < P$ ,  $R < P$ ,  $T < S$ ,  $S < Q$ . So, the sequence becomes:  $T < S < Q < R < P$  or  $T < S < R < Q < P$ , whichever may be the case, P is the tallest.**

44. Five boys participated in a competition. Rohit was ranked lower than Sanjay. Vikas was ranked higher than Dinesh. Kamal's rank was between Rohit and Vikas. Who was ranked highest?
- A. Sanjay                      B. Vikas                      C. Dinesh                      D. Kamal

**In terms of rank, we have: Rohit < Sanjay, Dinesh < Vikas. Since Kamal's rank is between Rohit and Vikas, the sequence becomes:**  
 **$Dinesh < Vikas < Kamal < Rohit < Sanjay$ . Clearly, Sanjay was ranked highest.**

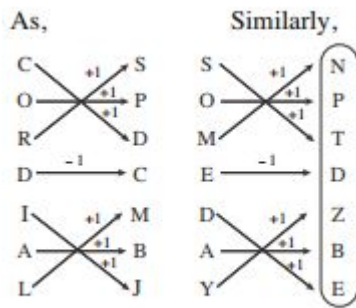
45. In a school, there were five teachers. A and B were teaching Hindi and English. C and D were teaching English and Geography. D and A were teaching Mathematics and Hindi. E and B were teaching History and French. Who among the following teachers was teaching the maximum number of subjects?
- A. A                      B. B                      C. C                      D. E

	Hindi	English	Geography	Mathematics	History	French
A	X	X		X		
B	X	X			X	X
C		X	X			
D	X	X	X	X		
E					X	X

46. If 'ish lto inm' stands for 'neat and tidy' ; 'qpr inm sen' stands for 'small but neat' and 'hsm sen rso' stands for 'good but erratic', what would 'but' stand for ?
- A. inm                      B. qpr                      C. sen                      D. Hsm

**In the second and third statements, the common code word is 'sen' and the common word is 'but'. So, 'sen' means 'but'.**

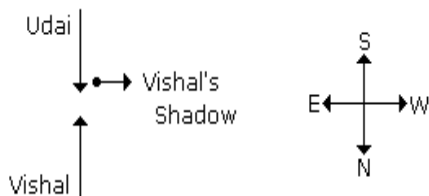
47. If In a certain code CORDIAL is written as SPDCMBJ. How is SOMEDAY written in that code?
- A. NPTDBZ                      B. NPTFZBE                      C. NPTDZBE                      D. None of these



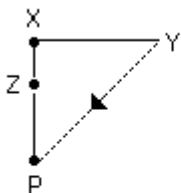
48. In a certain code **FLOWER** is coded as **36** and **SUNFLOWER** is coded as **81**, then how to code **FOLLOWS**?  
 A. 42                      **B. 49**                      C. 63                      D. 36
49. In a certain code, 'il be pee' means 'roses are blue', 'sik hee' means 'red flowers' and 'pee mit hee' means 'flowers are vegetables'. How is 'red' written in that code?  
 A. hee                      B. sik                      C. be                      D. cannot be determined

The word FLOWER has 6 letters . 62 is 36  
 The word SUNFLOWER has 9 letters. 92 is 81  
 Like FOLLOWS has 7 letters. So 72 is 49

50. One morning Udai and Vishal were talking to each other face to face at a crossing. If Vishal's shadow was exactly to the left of Udai, which direction was Udai facing?  
 a) East                      b) West                      **c) North**                      d) South

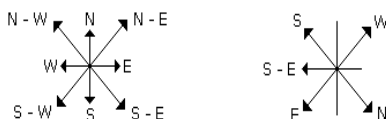


51. Y is in the East of X which is in the North of Z. If P is in the South of Z, then in which direction of Y, is P?  
 a) North                      b) South                      c) South-East                      **d) None of these**



**P is in South-West of Y.**

52. If South-East becomes North, North-East becomes West and so on. What will West become?  
 a) North - East                      b) North - West                      **c) South - East**                      d) South - West



It is clear from the diagrams that new name of West will become South-East.