LOGICAL ABILITY

SESSION – 1

DATA ARRANGEMENT – 1

Solutions for Q1 to Q5: D is to the left of F and second to the right of C i.e. C – D F.

A is second to the right of E i.e. E – A.

J is immediate neighbor of A and B and third to the left of G i.e. A J B – G.

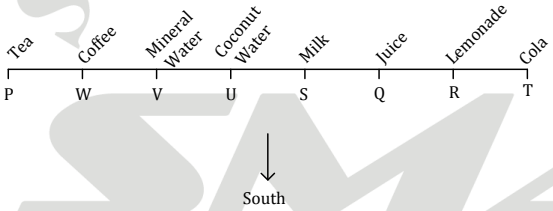
H is to the left of D and third to the right of I i.e. I – H D.

The above four details may be combined to obtain the correct sitting order as under:

Teacher
↑
E, K, A, J, B, I, G, C, H, D, F

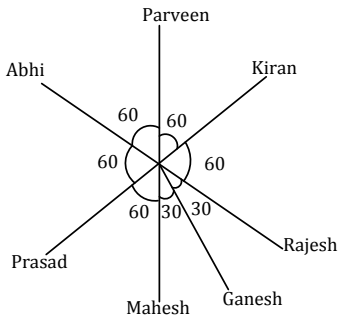
1. Ans: [c]
2. Ans: [c]
3. Ans: [b]
4. Ans: [d]
5. Ans: [b]

Solutions for Q6 to Q10: As per details given, the seating arrangement will be as follows along with their beverages.



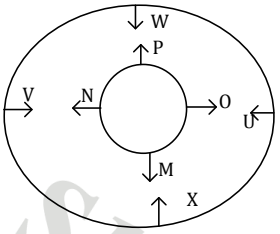
6. Ans: [b]
7. Ans: [a]
8. Ans: [b]
9. Ans: [a]
10. Ans: [a]

Solutions for Q11 to Q15:



11. Ans: [c]
12. Ans: [d]
13. Ans: [d]
14. Ans: [a]
15. Ans: [d]

Solutions for Q16 to Q20



M – Green, N – Yellow, O – White, P – Orange

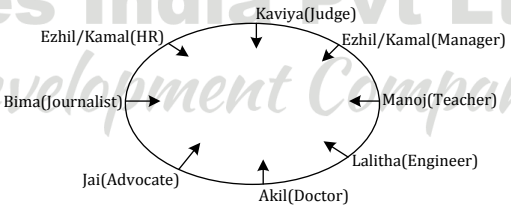
U – Blue, V – Black, W – Red, X – Purple

16. Ans: [c]
17. Ans: [b]
18. Ans: [a]
19. Ans: [a]
20. Ans: [b]

SESSION – 2

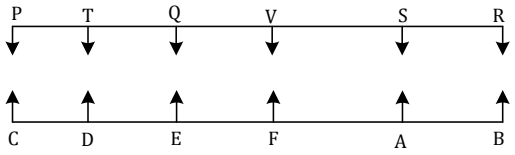
DATA ARRANGEMENT – 2

Solutions for Q21 to Q25: From the details given, the sitting arrangement of the eight persons and their professions will be as follows.



21. Ans: [b]
22. Ans: [d]
23. Ans: [d]
24. Ans: [d]
25. Ans: [a]

Directions for Q26 to Q30: From the details given, the seating arrangement will be as follows.



26. Ans: [d]

27. Ans: [b]

28. Ans: [c]

29. Ans: [a]

30. Ans: [d]

Solution for Q31 to Q33:

Men: A, B, C, Women: D, E, F Things to be kept in mind: Men and Women will alternate, E < C, A< F.

Step 1: As they meet at D's coffee house on Monday, E's and F's coffee house will be used on Wednesday and Friday as male & female in alternate days.

Step 2: Since F's coffee house must be used later in the week than A's, F's coffee house cannot be used on Wednesday as Monday and Tuesday are already booked and A cannot be slotted in there. So F's coffee house is used on Friday and E's on Wednesday.

Step 3: Since A's coffee house is used before F's, it has to be used on Thursday and this means C's coffee house is used on Saturday.

The schedule thus becomes:

Monday: D

Tuesday: B

Wednesday: E

Thursday: A

Friday: F

Saturday: C

31. Ans: [d]

32. Ans: [a]

33. Ans: [b]

Solution for Q34 to Q37:

From the given information, we can make a table for this.

1. From 7, the football player lives in the second flat and he is a design engineer.
2. From 6 and 2, the chess player and cricketer lives in the third flat.
3. From 7, Amit is a chess player and a power engineer.
4. From 6, Tarun is Quality Inspector.
5. As both the cricketers are left (and we have not decided their professions), according to statement three, they both are Mechanical Engineers.
6. From 6, Manu and Ambrish are cricketers (regional and national respectively).
7. Lastly, one name of Football player and one game name which is played by Tarun is left.

From the information above, the football player's name has to be Rohit and tennis is played by Tarun (these were the only pieces of information missing).

Name	Game	Flat number	Profession
Tarun	Tennis	5	Quality Inspector
Ambrish	Cricket(National)	4	Mechanical Eng.
Amit	Chess	3	Power Eng.
Manu	Cricket(Regional)	3	M.E
Rohit	Football	2	Design Eng.

34. Ans: [a]

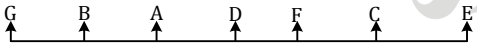
35. Ans: [d]

36. Ans: [c]

37. Ans: [c]

Solution for Q38 to Q40:

The following will be the arrangement from the given data. The answer can be inferred from the same.



38. Ans: [a]

39. Ans: [d]

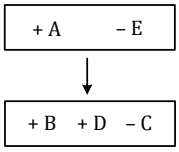
40. Ans: [c]

SESSION – 3

BLOOD RELATIONS

1. Ans: [d]
   Q x 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]
   Therefore P is the son of Q.
   Note:
   '–' denotes female; '+'denotes male.

2. Ans: [a]
   With the chart



Therefore, D is a boy because there is only one daughter of E. Hence B is the brother of D.

Note:

'–' denotes female; '+'denotes male.

3. Ans: [b]
   1. Grandmother of younger sister of Rekha → Grandmother of Rekha
   2. Wife of only son of grandmother → Mother of Rekha
   3. Younger daughter of the mother → Younger sister

4. Ans: [a]
   The woman in the photograph is Arun's Brother's Daughter-in-law.
   Because son's wife's daughter is daughter-in-law to his brother.
   So Arun must be uncle.

5. Ans: [d]
   The boy in the photograph is the only son of the son of Suresh's mother i.e., the son of Suresh.
   Hence, Suresh is the father of boy.

6. Ans: [a]
   The man in the photograph is the son of the only son of Lata's grandfather i.e., the man is the son of Lata's father. Hence, the man is the brother of Lata.

7. Ans: [d]
   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.

8. Ans: [b]
   'The only daughter of the father of X's mother' means mother of X.
   Hence X is the son of the lady in the photograph.

9. Ans: [c]
   P – M → P is the brother of M
   M + N → M is the mother of N
   N x Q → N is the sister of Q
   Therefore, P is the maternal uncle of Q.

10. Ans: [d]
    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.

11. Ans: [d]
    M x N → M is the father of N
    N – C → N is the sister of C
    and C + F → C is the brother of F.
    Hence, M is the father of C or C is the son of M.

12. Ans: [a]
    The father of the boy's uncle → the grandfather of the boy
    Daughter of the grandfather →sister of father

13. Ans: [d]
    Given: D is the brother of B.
    From statement 1, we can detect that D is son of C (son of D is the grandson of C).
    From statement 2, we can detect that B is 'Female' (sister of D).
    Therefore, B is daughter of C.

14. Ans: [a]
    Self explanatory

15. Ans: [b]
    P x Q → P is the wife of Q
    Q % R → is the father of R
    R - T → R is the brother of T
    T + S → T is the sister of S.
    Therefore, T is the daughter of P.

16. Ans: [d]
    Daughter of Abhijit's brother → niece of Abhijit. Thus the granddaughter of the woman is Abhijit's niece.
    Hence, the woman is the mother of Abhijit.

17. Ans: [d]
    The girl is the wife of grandson of Amit's mother i.e., the girl is the wife of son of Amit. Hence, Amit is the father-in-law of the girl.

18. Ans: [b]
    A and B are children of D.
    From (1), C is the brother B and son of E.
    Since, the sex of D and E are not known.
    Hence (1) is not sufficient to answer the question.
    From (2). F is the mother of B. Hence, F is also the mother of A. Hence D is the father of A.
    Thus, (2) is sufficient to answer the question.

19. Ans: [a]
    Only daughter of my mother → myself.
    Hence, the woman is the mother of the man.

20. Ans: [a]
    A is the mother of B, B is the brother of C and C is the daughter of D. Hence, D is the father.
    A (Parents) D
    | |
    | |
    B – is – Brother – of – C

SESSION – 4

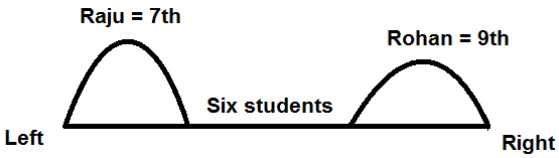
ORDERING/RANKING/GROUPING

1. Ans: [d]

Clearly, number of girls towards the right of Meenam = 13

So, Meenam's rank from left end = 40 – 13 = 27th

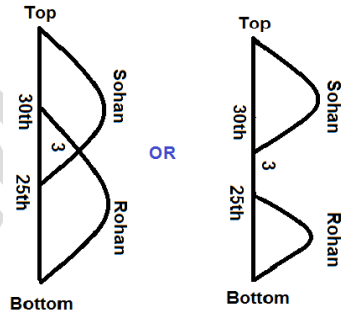
2. Ans: [c]



Total number of students in a row = 7+9+6 = 22

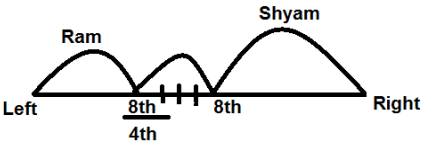
Note: We cannot apply overlapping case in this question because if we are applying overlapping case then the minimum student is eight which conflict with the rank of Rohan from right.

3. Ans: [d]



Either (1) or (3) Minimum student = 50 while maximum student 58.

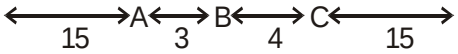
4. Ans: [a]



Total students in a row = 8 + 3 + 8 = 19

5. Ans: [b]

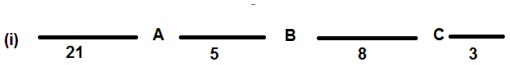
Clearly, according to the given conditions, there are 15 boys to the left of A, as well as to the right of C. Also, B lies between A and C such that there are 3 boys between A and B; and 4 boys between B and C.



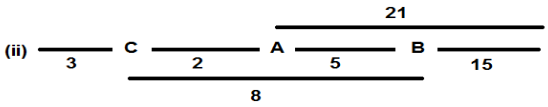
So, number of boys in the row = (15 + 1+ 3 + 1 + 4 + 1 + 15) = 40

6. Ans: [b]

As per the given conditions, there are two possible arrangements as shown below:



Maximum person



Minimum person

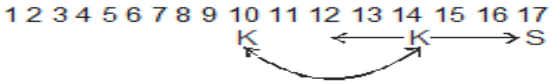
Clearly, for the minimum number of person, we shall consider arrangement (ii).

In (ii), number of persons in the queue

= (3 + 1 + 2 + 1 + 21) = 28.

7. Ans: [e]

On shifting 4 places to the left, Komal becomes 10th from the left end of the row. Thus, Komal's original position was 14th from the left end.



Swati is 3 places to the right of Komal's original position.

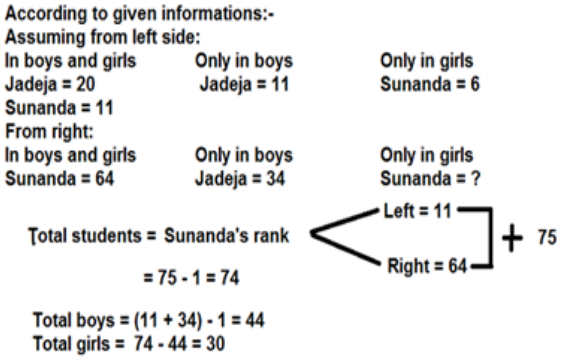
Clearly, Swati is 17th from the left end.

Number of girls to the right of Swati = (40 – 17) = 23.

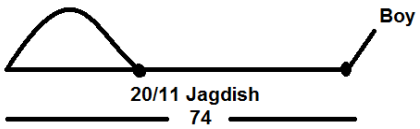
Thus, Swati is 24th from the right end of the row.

Solutions for A1 and A2:

8. Ans: [d]



9. Ans: [b]



Total boys & girls to the left of Jagdish = 19

Total boys to the left of Jagdish = 10

Total girls to the left of Jagdish = 19 –10 = 9

Total girls to the right of Jagdish = 30 – 9 = 21

Solutions for A1 and A2:

Nikhil > Gulshan / Jagdish > Moon > Kapil

10. Ans: [d]

Third least marks = Either Gulshan or Jagdish

11. Ans: [d]

Nizhil = 80 Jagdish = 65

12. Ans: [d]

Vicky/Yo > Zojo / Xe > William

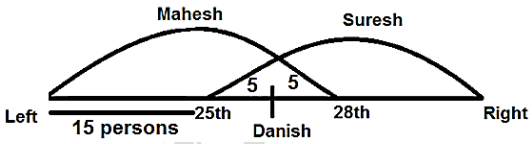
13. Ans: [a]

Zombo = 25 26 27 28

Younger brother = 24 25 26 27

Elder brother = Odd dates 25 or 27

14. Ans: [b]



Total students = 40 Left + Right = 28 + 25 = 53

Left + Right > Total students

Therefore, there is overlapping case.

= (left + right) – total students – 2

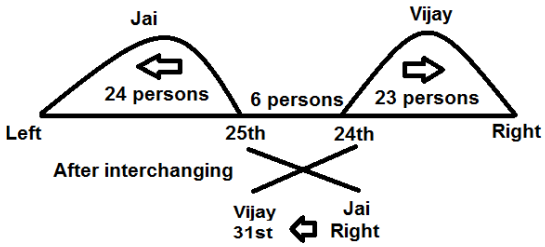
= 53 – 40 – 2 = 53 – 42 = 11

There are 11 persons in between Mahesh and Suresh.

There are 27 persons to the left of Mahesh.

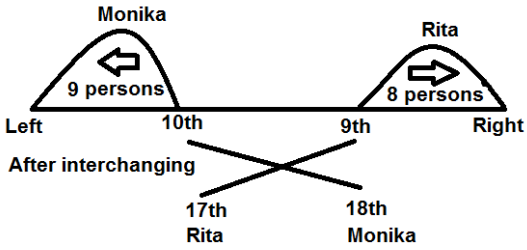
Hence, Danish's position from the left end = 22

15. Ans: [e]



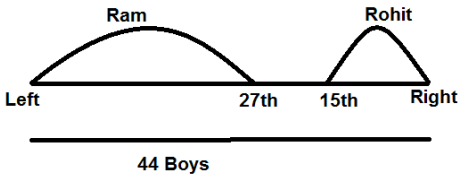
Jai's position from the left after interchanging = 25 + 6 + 1 = 32

16. Ans: [b]



Total girls in the row = 17 + 9 = 26

17. Ans: [d]



Total boys between them = 44 – (27 + 15) = 2

18. Ans: [d]

Simran's new position is 15th from the right as well as the left end of the row.

Therefore number of students in the queue = (14 + 1 + 14) = 29.

19. Ans: [b]

Since Ajay and Sunil interchange places, so Ajay's new position (13th from left) is the same as Sunil's earlier position (6th from right).

So, number of children in the queue = (12 + 1 + 5) = 18.

Now, Sunil's new position is the same as Ajay's earlier position fifth from left.

Therefore Sunil's position from the right = (18 - 4) = 14th.

20. Ans: [d]

Number of boys who passed = (15 + 1 + 28) = 44

Total number of boys in the class = 44 + 6 +5 = 55.

SESSION – 5

PUZZLES & BRAIN TEASERS

1. Two half-full barrels are dumped into one of the empty barrels. Two more half-full barrels are dumped into another one of the empty barrels. This results in nine full barrels, three half-full barrels, and nine empty barrels. Each son gets three full barrels, one half-full barrel, and three empty barrels.

2. Turn on the first two switches. Leave them on for 5 minutes. Once 5 minutes has passed, turn off the second switch, leaving one switch on. Now go through the door. The light that is still on is connected to the first switch. Whichever of the other two is warm to the touch is connected to the second switch. The bulb that is cold is connected to the switch that was never turned on!

3. Fill the 5-gallon jug, pour it into the 3-gallon jug until the 3 gallon is full, and leaving 2 gallons in the 5-gallon jug. Now pour the 3-gallon jug out. Pour the remaining 2 gallons from the 5 gallon into the empty 3-gallon jug. Now fill the 5 gallon from the faucet. You now have exactly 7 gallons.

4. Create two sets of ten coins. Flip the coins in one of the sets over, and leave the coins in the other set alone. The first set of ten coins will have the same number of heads and tails as the other set of ten coins.

5. It is not possible to guess only three fruits correctly: the fourth fruit is then correct too! So nobody has guessed three fruits correctly and 123 – 43 – 39 – 31 = 10 people have guessed four fruits correctly.

6. 8/(1 – 1/5)

7. 888

   Part-1: Triangle

   The triangle is an equilateral triangle.

   The value of E and L is determined by the position in the English alphabets i.e E = 5 & L = 12. Together they form number 512

   As we know that the equilateral triangle has 3 equal sides, therefore

   X^3 = 512

   X = 8

   => XXX = 888 ... (desired)

   Part-1: X/3 = X

   X is the 24th letter, therefore 24/3 = 8

8. Mahrez Pick 4 marbles.

   How many marbles Vardy picks, Mahrez needs to make sure that only 1 marble is left after his move, So Vardy needs to pick the last marble.

   Example:

   If Vardy picks 1, Mahrez picks 5

   If Vardy picks 2, Mahrez picks 4

   If Vardy picks 5, Mahrez picks 1.

9. The payments should equal the receipts. It does not make sense to add what was paid by the men ($12) to what was received from that payment by the waiter ($2)

   Although the initial bill was $15 dollars, one of the five dollar notes gets changed into five ones. The total the three men ultimately paid is $12, as they get three ones back. So from the $12 the men paid, the owner receives $10 and the waiter receives the $2 difference. $15 - $3 = $10 + $2.

10. Pick out two cards of the same suit. Select a card for Alex where adding a number no greater than six will result in the number of the other card of the same suit. Adding one to the Ace would cycle to the beginning again and result in a Two. E.g. if you have a King and a Six of Diamonds, hand the King to Alex. The other three cards will be used to encode a number from 1 through 6. Devise a system with Peter to rank all cards uniquely from 1 to 52 (e.g. the two of hearts is 1, the two of diamonds is fourteen etc...). That will allow you to choose from six combinations, depending on where you put the lowest and highest cards.

11. Pour the four gallon bucket filled with water into the empty seven gallon bucket. Fill the four gallon bucket up again and poor as much as you can into the seven gallon bucket until the seven gallon bucket is fill. Now there is one gallon left in the four gallon bucket. Empty the seven gallon bucket and transfer the one gallon of water into the seven gallon bucket. Fill the four gallon bucket one more time, then pour the four gallons into the seven gallon bucket making which already has one gallon in it, making a total of five gallons.

12. White. The cook only ever removes the white beans two at a time, and there are an odd number of them. When the cook gets to the last white bean, and picks it up along with a black bean, the white one always goes back into the pot.

13. You should go first, and put a quarter at the exact center of the table.

    Then, each time your opponent places a quarter down, you should place your next quarter in the symmetric position on the opposite side of the table.

    This will ensure that you always have a place to set down our quarter, and eventually your opponent will run out of space.

14. Take the first 13 cards off the top of the deck and flip them over. This is the first pile. The second pile is just the remaining 39 cards as they started.

    This works because if there are N face-up cards in within the first 13 cards, then there will be (13 - N) face up cards in the remaining 39 cards. When you flip those first 13 cards, N of which are face-up, there will now be N cards face-down, and therefore (13 - N) cards face-up, which, as stated, is the same number of face-up cards in the second pile.

15. The key observation here is that if you light a rope from both ends at the same time, it will burn in 1/2 the time it would have burned in if you had lit it on just one end.

    Using this insight, you would light both ends of one rope, and one end of the other rope, all at the same time. The rope you lit at both ends will finish burning in 30 minutes. Once this happens, light the second end of the second rope. It will burn for another 15 minutes (since it would have burned for 30 more minutes without lighting the second end), completing the 45 minutes.

16. A decimal point i.e 5.9

17. Four daughters and three sons. Each daughter has 3 sisters and 3 brothers, and each brother has 2 brothers and 4 sisters.

    To figure it out mathematically, you could use the following two equations where G = the number of girls and B = the number of boys:

    G – 1 = B

    2(B – 1) = G

    Solving for G gives you 4 and plugging that in to G – 1 = B gives you a B of 3.

18. 3! + 15 + 9 = 30
3! = 3 * 2 * 1 = 6
6 + 15 + 9 = 30

19. 1653
For an ideal case, the batsman will hit a six on each ball. But if he hits six on the last ball of the over, the strike will change in the next over. Thus, the best he can do in the last ball is run 3 runs so that he retains the strike even in the next over. Thus the total runs that he can score in each over:
6 * 5 + 3 = 33
But this will have to go like it only till the 49th over. In the last over, he can hit a six in the last ball as well as that will be the last ball of the match.
Thus runs for the last over will be 6 * 6 = 36.
Hence the maximum runs = 33 * 49 + 36 = 1653

20. Ans: [a]

SESSION – 6

SELECTION DECISION TABLE

1. Ans: [a]
2. Ans: [e]
3. Ans: [c]
4. Ans: [b]
5. Ans: [d]
6. Ans: [c]
7. Ans: [a]
8. Ans: [d]
9. Ans; [b]
10. Ans: [c]

Directions for 11 to 15:

conduct	target	promotion	leave	increment	transfer
Good(A)	>100%	yes			
(B)	>100%		<15days	yes	
Good(C)	>100%	yes	<15days	yes	
Good(D)	60-90%		<15days		yes
(E)	60-90%		<15days		

11. Ans: [d]
P has good conduct, has taken leave for 12 days (<15 days) and is recorded 88% target (60–90%) so he belong to D standard.

12. Ans: [c]
Q has only the word satisfactory conduct (which is not good conduct, can be E or B) and has taken leave 13 days (<15 days) and 79% target (60–90%), so he belongs to E.

13. Ans: [c]
R has good conduct, his target is 105%, 12 days leave, so he belongs to c.

14. Ans: [a]
S took 16 days leave, his target was 102%, has good conduct, so he belongs to a.

15. Ans: [c]
T's sale is 102%, he took 13 days leave & has good conduct, so he belongs to c.

16. Ans: [b]
Sujeet anand
25 years old
Salary > 2lakh
has own house
5 family members
Won trophy
It satisfies all the conditions except 4th, but he is getting more than 2 lakh, so he can be referred as club president so e.

17. Ans: [c]
sumita
age data not given
Salary > 75000
has own house
2 members
Arts and sports data not given
Data is inadequate so (c).

18. Ans: [a]
Aparna Banerjee
23 years old
Salary > 2 lakh
has own house
5 family members
Won trophy
It satisfies all the conditions except 4th, but she is getting more than 2 lakh, so he can be referred as club president so E.

19. Ans: [c]
Vivek chandra
43 years old
Salary > 75000
has own house
1 member
Arts and sports data not given
Data is inadequate so (c).

20. Ans: [b]
Pintubhagat
40 years old
Salary < 75000(72000)
has own house
5 family members
Good painter and owns a gallery
It does not satisfy 2nd statement, so not eligible (b).

SESSION – 7

SELECTION DECISION TABLE

21. Ans: [c]
Vinod Kambli
appeared for final degree examination
80% secured in physics, chemistry and Maths in 12th std
Passed written examination
70% marks secured in GD & interview
22 years old
So he can be appointed provisionally
So option c.

22. Ans: [a]
Niranjan has satisfied all the conditions from I to IV, so he can be recruited.

23. Ans: [c]
Kamala's age is more than 25 years, so the admission has to be denied.

24. Ans: [d]
Percentage of marks in Class 10 and 12 is not given in the question. Date is inadequate to take the decision.

25. Ans: [b]
Kesav Vora has satisfied all the conditions except III, but he has satisfied a. So he can be referred to as VP.

26. Ans: [d]
Arindham Ghosh age is more than 35 years and so he cannot be selected.

27. Ans: [d]
There is no information about the marks in Standard XII of Sohan Majhi. So the data is inadequate to take the decision.

28. Ans: [c]
Neha Salve has satisfied all the conditions except VII, but she has satisfied the condition B. So she can be referred to the President.

29. Ans: [a]
Raman age is more than 50 years, so the advance should not be granted.

30. Ans: [e]
Hillary has satisfied all the conditions except A. But he has satisfied I. So he can be referred to the Chairman.

31. Ans: [d]
Athul has satisfied all the conditions from A to E, so the advance can be granted.

32. Ans: [b]
Rohit Verma has not satisfied both I and A, so he should not be selected.

33. Ans: [e]
There is no information in the question about the age of Neeti Thukral. So data is inadequate to take the decision.

34. Ans: [e]
There is no information in the question about the age of Anu Dorgra. So data is inadequate to take the decision.

35. Ans: [d]
Meena has not satisfied the condition IV instead she satisfied B, so she can be referred to the President - Personnel.

36. Ans: [c]
Condition 1 and 3 are missing

37. Ans: [c]
Condition 4 missing

38. Ans: [a]
All conditions of eligibility are satisfied

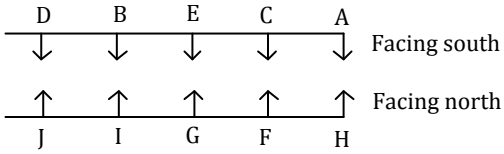
39. Ans: [b]
Having less than 5 years of service remaining the candidate does not satisfy condition 3.

40. Ans: [e]
The candidate satisfies conditions 2, 3 and 5 and condition 7 instead of 1.

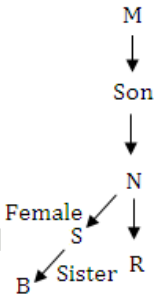
SESSION – 8

CONSOLIDATED LEARNING

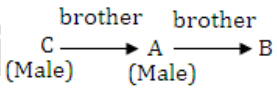
Solution for Q1 to Q5:



1. Ans: [d]
2. Ans: [a]
3. Ans: [b]
4. Ans: [b]
5. Ans: [c]
6. Ans: [b]
7. Ans: [c]
8. Ans: [c]
   We don't know the gender of M. So we cannot determine the relationship between M and B.



9. Ans: [b]



   We require gender of B to find the relationship between B and C.
10. Ans: [d]
11. Ans: [b]
12. Ans: [c]
13. Ans: [b]
14. Ans: [c]
    Clearly, number of boys in the row = (6 + 10 + 8) = 24.
15. Ans: [b]
    Number of persons between Arun and Mukesh
    = 50 – (10 + 25) = 15.
    Since Maha lies in middle of these 15 persons, so Maha's position is 8th from Arun i.e. 18th from the front.
16. Ans: [a]
    All conditions of eligibility are satisfied
17. Ans: [b]
    Condition 1 and 3 are not satisfied.
18. Ans: [a]
    All conditions of eligibility are satisfied
19. Ans: [c]
    Condition 1 is missing.
20. Ans: [a]
    All conditions of eligibility are satisfied