CHAPTER – 4

SELECTIONS

In this category of questions, a small group of items or persons has to be selected from a larger group satisfying the given conditions. The conditions will specify as to when a particular item or person can be included or cannot be included in the subgroup. For example, the condition may specify that two particular persons should always be together or that two particular persons should not be together.

Sometimes, the conditions given for selection or non-selection of items or persons may be based on logical connectives like if-then, either-or, unless, etc. You should be careful in interpreting the logical connectives used in the conditions.

Directions for questions 1 to 5: These questions are based on the following information.

Amit, Bittu, Chintu, Dumpy, Falgun, Hitesh, Ronit, Purav and Saurav are nine players from among whom three teams consisting respectively of 4 members, 3 members and 2 members must be formed subject to the following conditions.

Chintu must have three more players with him while Dumpy must have only two more with him.
Chintu and Saurav cannot be in the same team.
Purav and Bittu cannot be in the same team.
Ronit and Hitesh must be in the same team.

1. If Dumpy, Falgun, Purav form the team of 3 members, then which of the following must be TRUE?
(A) Hitesh must be in a team with Bittu.
(B) Saurav must form a two-member team with Amit or Chintu.
(C) Saurav must form a two-member team with Bittu or Amit.
(D) Chintu should form a team of 4 members with Hitesh, Ronit and Amit.

2. If Dumpy takes Amit as a part of his three-member team, which of the following must go into Chintu's team?
(A) Bittu and Hitesh (B) Hitesh and Ronit
(C) Purav and Ronit (D) Purav and Falgun

3. If Chintu and Falgun are together and Saurav is in the team of two members, then how many sets of different teams are possible?
(A) 4 (B) 3 (C) 2 (D) 1

4. If Chintu does not have Purav in his team and the two member team consists of Saurav and Amit, then Chintu should take
(A) Hitesh, Bittu and Ronit.
(B) Bittu but not Ronit.
(C) Bittu and Falgun.
(D) Hitesh and Ronit.

5. If Purav is in the same team as Chintu and Falgun, then Saurav must be in the same team as
(A) Bittu (B) Bittu and Amit.
(C) Amit (D) Bittu and Dumpy.

Solutions for questions 1 to 5:

It is given that:
Chintu must form a team of 4 members only
Dumpy must form a team of 3 members only.
Since Chintu and Dumpy are in two different teams, let us, for convenience, denote the two teams as the respective teams of these two persons. Let us call the team with four members as the first team and the team with three members as the second team. The third team should have two persons.

Number of members		
4	3	2
Chintu	Dumpy	Saurav
	Saurav	

Now let us take the other conditions and fill them up in the table above.
Chintu and Saurav cannot be in the same team.
➔ Saurav will be in the second or the third team.

Purav and Bittu cannot be in the same team.
Hitesh and Ronit must be in the same team.
We cannot represent these two conditions right now in the table above but we will use them as we go along.

1. If Dumpy, Falgun, Purav form the team of 3 members, then Saurav should be in the third team. Since Hitesh and Ronit must be in the same team, they have to be in the first team. That leaves only Amit or Bittu to be with Saurav in the third team.
Choice (C)

(Also, note that we can eliminate choice (B) easily.)

2. Dumpy takes Amit as a member of his team.
If we take Hitesh and Ronit as the two members of the third team, then Saurav has to be in the second team, in which case we will have both Purav and Bittu coming into the same team – the first team – which is not possible.
Since Saurav cannot be in Chintu's team and Purav and Bittu cannot be in the same team, the three people required for Chintu's team will **have to be** Hitesh and Ronit checkfont Falgun or Purav or Bittu.
Choice (B)

3. Let us analyse the conditions. It is given that Chintu and Falgun are together, whereas Saurav is in the team of two members. Let us fill up these details in the box that we made above and then see in how many ways we can fill up the remaining cells in the box.

Chintu	Dumpy	Saurav
Falgun		

First let us look at Hitesh and Ronit who must be in the same team.
They can go into the first team or the second team. Let us consider these two cases.

Case 1: Hitesh and Ronit go into the first team.

Then, one out of Bittu and Purav will to go into the third team and the other into the second team. This gives rise to two ways of forming the teams – one with Bittu in the second team and the other with Bittu in the third team.

Case 2: Hitesh and Ronit go into the second team.

In this case too, one out of Bittu and Purav will go into the third team and the other into the second team. Hence, this will also give rise to two ways of forming the teams.
Hence, there are total four ways of forming the teams.
Choice (A)

4. Let us use the table that we built in the initial analysis and fill up the details that we have in this problem.
Since the two member team is already formed and Chintu does not take Purav, hence Purav will have to go into the second team.

Chintu	Dumpy	Saurav
	Purav	Amit

Since Ronit and Hitesh have to be in the same team, they should go into the first team. Since Bittu cannot go with Purav, he should also be in the first team. This leaves Falgun for the second team. Thus, we can fill up the table as follows:

Chintu	Dumpy	Saurav
Ronit	Purav	Amit
Hitesh	Falgun	
Bittu		

Choice (A)

5. If Purav is with Chintu and Falgun, then Bittu cannot be with them. Since Ronit and Hitesh should be together, the only other person left is Amit. These four members form the first team.
If Hitesh and Ronit together form the two member team, then Bittu and Saurav will be part of the three member team.
Instead, if Hitesh and Ronit are in the three-member team, then Saurav and Bittu will form the two-member team.
In either case, Saurav and Bittu are together in one team. Choice (A)

Directions for questions 6 to 9: These questions are based on the following information.

A, B, C, D, E, F and G are seven players. They form two teams of two players each and one team of three players. A and B cannot be in the same team. B and C cannot be in the same team whereas E and F must be in the same team. G and D cannot be in the same team.

6. If C, D and A form a team of three players, which of the following can be the members of one of the other teams?
(A) A and E (B) G and B
(C) E and F (D) Both (B) and (C)

7. If E, F and G form a team of three members, then in how many ways can the remaining two teams of two players each be formed?
(A) 2 (B) 4 (C) 3 (D) 1

8. If D and A are not in the same team, then altogether in how many ways can the teams of two members be formed?
(A) 4 (B) 7 (C) 8 (D) 5

9. If B, E and F form a team of three members, which of the following cannot be the two teams of two members each?
(A) AC, GD (B) AD, CG
(C) AG, CD (D) Both (A) and (B)

Solutions for questions 6 to 9:

Let Team I be of 3 players, Team II be of 2 players and Team III be of 2 players.
It is given that A and B cannot be together. We will represent it as A **x** B.
Similarly, we have B **x** C and G **x** D.
E and F must be in the same team. So E and F can form a team of 2 members on their own or can form a team of 3 members with another person.
Let us now take up the questions and work them out.

6. Given that C, D, A form a team of 3 members, one of the other teams **has** to have E and F together. Hence, B and G should form one team. Choice (D)

7. Given that E, F, G form a team of 3 players. Since A and B or B and C cannot be in the same team, we must necessarily have A and C together in one team and B and D in the other team. So the teams can be formed only in one way. Choice (D)

8. Given that A and D are not in the same team.
Hence A **x** B, B **x** C, G **x** D and A **x** D.
We already know that E and F must be in the same team. They may form a team of 3 members or they themselves be a team of 2 members. Let us consider the above two possibilities and then fill up the other teams. They can be formed as follows:

	Team I	**Team II**	**Team III**
1.	A E F	B D	C G
2.	A E F	C D	B G
3.	B E F	A G	C D
4.	C E F	A G	B D
5.	D E F	A C	B G
6.	G E F	A C	B D
7.	A C G	B D	E F

Thus the teams can be formed in 7 ways.
Choice (B)

9. If B, E, F form a team of 3 members, then the two members teams must be formed from A, C, D, G. The teams can be AD & CG or AG & CD. As D and G cannot form a team, AC & GD cannot be formed.
Choice (A)
{Please note that we can answer this question from the answer choices – from choice (A), we find that G and D are together in one team which is not possible. Thus, choice (A) is the answer. Choice (A)

Directions for question 10: Select the correct alternative from the given choices.

10. At least two boys out of A, B, C and D and at least two girls out of P, Q, R and S have to be chosen to form a group of 5 members.
Neither A nor C can go with Q.
Neither P nor S can go with B.
Q and R cannot be together.
Which of the following is an acceptable team?
(A) ARCQP (B) ASQPD (C) ASQRP (D) PSRAD

Solution for question 10:

10. The required group of 5 members must be formed with at least two boys from A, B, C, D and at least 2 girls from P, Q, R, S.
Answers (A), (B) and (C) can be ruled out as A and Q cannot be together.
In choice (D), P, S, R, A, D can be together without violating any of the given conditions. Choice (D)

Exercise – 4(a)

Directions for questions 1 to 3: Select the correct alternative from the given choices.

1. Adam, Andy, Anil, Ann, Jack, John, James and Jill want to go to a nearby city. Only two vehicles, a van and a car, are available. Only Alen and Jack know how to drive the van, hence at least one of them must be in the van.

Each vehicle has a seating capacity of exactly four persons.

Adam and Anil cannot go in the same vehicle and John and James must go in the same vehicle.
Which of the following cannot be the list of persons who are in the car?
(A) John, James, Andy, Alen
(B) Adam, James, John, Jack
(C) Anil, James, John, Jill
(D) Anil, Andy, Jill, Alen

2. A group of five is to be formed from a group of nine students A, B, C, D, E, F, G, H and I.
If A is selected, then F is selected. If F is selected, then D is not selected.
G is selected only if I is selected.
If H is selected, then C is not selected. If B is not selected, then C is selected.
If D is selected, then who among the following must be selected?
(A) C (B) G (C) D (D) I

3. Each of P, Q and R has to select two items from the six items – A, B, C, D, E and F.
If P selects A, then Q does not select E. Only if R selects E, Q does not select B.
If P selects D, then R will not select C. If P does not select F, then R will select B.
If Q selects E, then P selects
(A) B and D. (B) F and D.
(C) C and D. (D) F and C.

Directions for questions 4 to 6: These questions are based on the following data.

A team of five players is to be selected from a group of ten players – A, B, C, D, E, F, G, H, I and J.
(i) Exactly one of G and H must be selected.
(ii) H and A must be selected together, if selected.
(iii) B and F must be selected together, if selected.
(iv) F and J cannot be selected together.
(v) C and D cannot be selected together.

4. Which of the following statements must be true?
(A) If G is selected, then B is selected.
(B) If G is selected, then at least one of E and I is selected.
(C) If H and B are selected, then E cannot be selected.
(D) If J is not selected, then B is selected.

5. If G is selected, then which of the following can be the group of players who are not selected?
(A) H, A, F, D, I (B) H, A, D, E, I
(C) H, C, D, J, A (D) H, D, J, E, I

6. If G is not selected and J is selected, then the total number of possible selections are
(A) Four (B) Five (C) Two (D) Six

Directions for questions 7 to 9: These questions are based on the following information.

Eleven players, out of a total of sixteen players, have to be selected for a cricket match. Among these sixteen players, there are twelve batsmen, nine bowlers and two wicket-keepers. There are six allrounders (players who can both bat and bowl are known as allrounders) and one wicket-keeper who is also a batsman. An ideal eleven consists of at least 6 batsmen, at least six bowlers and exactly one wicketkeeper. No wicket-keeper bowls.

7. If the wicket-keeper, who is also a batsman, is selected in the ideal eleven, then what is the minimum possible number of players in the team who can only bowl?
(A) Zero (B) One
(C) Two (D) More than two

8. If the number of allrounders should be kept at a minimum while selecting the team, then what is the least number of players who can only bat?
(A) Six (B) Five
(C) Four (D) None of these

9. Which of the following statements is never true?
(A) All the eleven players can bat in a team.
(B) In a team, 8 players can bat and 8 players can bowl.
(C) In a team, 7 players can bat and 7 players can bowl.
(D) In a team, when the number of allrounders is kept at a minimum, then the number of players who can only bat is less to those who can only bowl.

Directions for questions 10 to 12: These questions are based on the following information.

A team of three persons is to be selected from a group of five persons – A, B, C, D and E under the following constraints.
(i) If A is selected, then B must be selected.
(ii) If C is not selected, then E must be selected.

10. In how many ways can the team be selected?
(A) Eight (B) Six
(C) Seven (D) None of these

11. If D is not selected, then who must always be selected?
(A) A (B) B (C) C (D) E

12. Which of the following is not a possible team?
(A) C, E, D (B) E, A, B.
(C) C, B, D (D) A, B, D

Directions for questions 13 to 15: These questions are based on the following information.

A team of four persons is to be selected from seven persons – Anuj, Bindu, Chanti, Dheeraj, Eswar, Farhaan and Ganesh under the following constraints.

(i) At most two of Chanti, Eswar and Ganesh can be selected.
(ii) Atleast one of Anuj and Bindu must be selected.
(iii) If Farhaan is selected, then neither Anuj nor Chanti can be selected.

13. If Dheeraj is selected, then in how many ways can the team be selected?
(A) Eight (B) Ten (C) Nine (D) Eleven

14. If atmost one of Farhaan and Ganesh can be selected, then in how many ways can the team be selected?
(A) 11 (B) 12 (C) 13 (D) 14

15. If Eswar is not selected, then in how many ways can the team be selected?
(A) Six (B) Seven
(C) Eight (D) Nine

Directions for questions 16 to 19: These questions are based on the following information.

A team of delegates has to be formed from a group of ten people, N through W, subject to the following conditions.

(i) If Q is selected, then none among U, V or W can be selected. Also U, V and W cannot be selected together.
(ii) If R is selected, then either S or T must be selected. But S and T cannot be selected together.
(iii) At least one out of N, O and P must be selected.
(iv) If P is selected, then neither N nor O can be selected.
(v) N and R cannot be selected together.
(vi) N and Q cannot be selected together.
(vii) P and V cannot be selected together.
(viii) P and W cannot be selected together.

16. If a team of four is selected and Q being one of them, then which of the following must be selected?
(A) R (B) O (C) T (D) S

17. What is the maximum possible size of a selected team?
(A) Four (B) Five (C) Six (D) Seven

18. What is the maximum possible size of the team if P is selected?
(A) Four (B) Five (C) Six (D) Seven

19. In how many different ways can the team be selected if Q is selected?
(A) Seven (B) Eight (C) Nine (D) Ten

Directions for questions 20 to 22: These questions are based on the following information.

Vijay asked Ajay to select 6 pens of different colours from the available ten colours – Orange, Red, Blue, White, Pink, Yellow, Black, Grey, Violet and Brown.
Vijay has laid down some conditions for Ajay, as given below:

(i) If Ajay selects the Blue pen, then he must select the Orange pen also, and vice versa.
(ii) If Ajay selects the Grey pen, then he must select the Black pen also, and vice versa.
(iii) If Ajay selects the Yellow pen, then he cannot select the Grey pen.
(iv) Exactly one of Red and Violet pens must be selected.

20. If Ajay does not select the Grey or the Brown pen, then among the following choices he can reject the
(A) Pink pen. (B) White pen.
(C) Red pen. (D) Orange pen.

21. Which of the following can be the list of colours of pens selected by Ajay?
(A) Yellow, Pink, White, Blue, Brown, Orange.
(B) Red, Blue, Orange, White, Grey, Yellow.
(C) Black, Grey, Brown, Violet, Pink, White.
(D) Red, Pink, Blue, Orange, Violet, White.

22. Which of the following can confirm the selection of pens?
(A) Blue and Yellow pens are selected.
(B) Red and Grey pens are selected.
(C) Orange and Red pens are not selected.
(D) Grey pen is not selected, but the Orange pen is selected.

Directions for questions 23 to 26: These questions are based on the data given below.

Four teams are to be formed from fourteen persons. A team must consist of at least two persons and no two teams can have the same number of persons. Each person can be a member of exactly one team. Each of Rama, Ramya, Radha and Raksha must be a member of a different team. Each of Rohini, Padma, Priya and Priyanka must be a member of a different team. Pratima, Pratibha and Sudha must be in the same team. Shreya and Shalini must be in the same team. Rama cannot be in the same team with any of Padma, Priya and Priyanka. Ramya can be in the same team with neither Priyanka nor Priya. Radha cannot be in the same team with Priyanka. Swetha is in one of the teams.

23. How many possible ways are there to form the four teams?
(A) 24 (B) 120 (C) 64 (D) 6

24. Which of the following statements is not definitely true?
(A) Swetha is in a three member team.
(B) There is a two member team.
(C) Sudha is in a five member team.
(D) Shreya is in the two member team.

25. Which of the following additional statements is sufficient to know the composition of teams?
(A) Rohini and Padma are in teams with five and four members respectively and Radha is not in a three member team.
(B) Sudha and Shalini are in teams with five and four members respectively and Swetha is not in a two member team.
(C) Pratima and Swetha are in teams with five and three members respectively and Shreya is not in a two member team.
(D) None of these

26. Who of the following must be a member of a five member team?
(A) Priya (B) Priyanka
(C) Pratima (D) Shreya

Directions for questions 27 to 30: These questions are based on the following data.

A cricket team consisting of 11 players has to be selected from amongst 16 players, A through P.
Among these 16 players
(a) A, C, E, G, I, K, M, J and O are batsmen.
(b) B, D, F, G, H, J, M and P are bowlers.
(c) L and N are wicket-keepers.

(d) Any player who is both a bowler and a batsman is called an allrounder. The Captain and the Vice-Captain are the allrounders. The team is selected as per the following restrictions.

(1) The team should contain 5 batsmen, 3 bowlers, 2 allrounders and a wicket-keeper and the Captain and the Vice-Captain must be selected.

(2) Neither G nor M is the Captain and neither J nor G is the Vice-Captain.

(3) The players mentioned in the following pairs must not get selected together:

J and N; B and F; D and H; D and P; E and I; A and E; and B and C.

27. Which two players are the Captain and the Vice-Captain of the team respectively?
(A) J and G (B) G and M
(C) J and M (D) G and K

28. Who are the three bowlers selected in the team?
(A) F, H and P (B) D, F and H
(C) F, H and B (D) B, D and F

29. Which of the following is definitely false?
(A) J, O, P, A, L and I are selected.
(B) L, O, F, H and C are not selected.
(C) B, D, E and N are not selected.
(D) M, I, K, P and O are selected.

30. If after the first match, in every following match, the Captain and the Vice-Captain exchange their job - responsibilities (i.e., Captain takes up the Vice-Captaincy and the Vice-Captain takes up the Captaincy), then who would be the Vice-Captain in the 86th match?
(A) J (B) M
(C) Either J or M (D) L

Exercise – 4(b)

Directions for questions 1 to 3: These questions are based on the following data.

In a class of ten students – A, B, C, D, E, F, G, H, I and J, ranks are given to the top five students, such that the student who gets the highest marks will get the 1st rank, student getting the second highest marks will get the 2nd rank and so on. It is also known that no two students get equal marks. D gets less marks than G and H gets less marks than I.

If F gets a rank, then D will not get a rank. Exactly one of B and G gets a rank.

If I gets a rank, then C will get a rank, and vice-versa.

1. If E did not get a rank and I got less marks than F, then which of the following is definitely false?
(A) J or A gets a rank. (B) D gets a rank.
(C) B gets a rank. (D) F gets a rank.

2. If D and H got two consecutive ranks, then C would not get the
(A) 1st rank. (B) 2nd rank.
(C) 3rd rank. (D) 4th rank.

3. If F is not ranked and H gets more marks than G, then who among the following must be ranked?
(A) C (B) G
(C) A or E or J (D) B

Directions for questions 4 to 6: These questions are based on the following information.

Mr. Forest wants to pack his bag. He wants to pack at least one item among – glue, paper, lantern, candle, matchstick, lighter, medicine, mosquito net and snacks. He packed his bag as per the instructions given by his mother which are given below.

(i) If he his carrying a match stick, he should also carry a lighter.
(ii) Paper and glue cannot be taken together.
(iii) He must carry medicine.
(iv) Mosquito net cannot be taken with lighter or lantern.
(v) He must take either a lantern or a candle.
(vi) Matchstick and lighter serve the same purpose. Similarly, lantern and candle serve the same purpose.
(vii) He must carry either a matchstick or a lighter.

4. What is the maximum possible number of items that can be packed in the bag?
(A) Seven (B) Eight
(C) Six (D) None of these

5. If he carries five items, then in how many possible ways can he select the items considering his intension to pack such items which would serve the maximum possible number of purposes?
(A) Three (B) Four
(C) Six (D) None of these

6. If he carries five items with him which item will he definitely not carry, considering his intention to carry such items which would serve maximum possible number of purposes?
(A) Matchstick and Glue
(B) Mosquito net Candle, Paper and Matchstick
(C) Mosquito net and Matchstick
(D) None of these

Directions for questions 7 to 10: These questions are based on the following information.

A group of four persons is to be selected from eight persons – Agni, Ravi, Tarum, Daman, Mohan, Nikesh, Lalit and Bindu, under the following conditions.

(i) Nikesh and Ravi cannot be selected together.
(ii) At least, one between Tarun and Lalit must be selected.
(iii) At most, one among Agni, Daman and Bindu can be selected.
(iv) Unless Mohan is selected, Tarun cannot be selected.

7. Who must always be there in the team?
(A) Mohan
(B) Tarun
(C) Lalit
(D) More than one of the above

8. Which of the following is not a possible team?
(A) Mohan, Tarun, Lalit, Agni
(B) Nikesh, Mohan, Tarun, Daman
(C) Bindu, Nikesh, Mohan, Lalit
(D) Lalit, Nikesh, Tarun, Bindu

9. In how many ways can the team be selected, if Lalit is not selected?
(A) Eight (B) Six
(C) Ten (D) None of these

10. Which of the following conditions would help to get only one possible way to select the team?
(A) Tarun and Daman should always be selected together.
(B) At most, one among Agni and Rani can be selected.
(C) Unless Agni is selected, Nikesh is not to be selected.
(D) None of these

Directions for questions 11 to 13: These questions are based on the following information.

Three girls – Anjali, Bharathi and Chandrika and four boys – Kiran, Lala, Manoj and Naveen are to be divided into two teams under the following constraints.
(i) Each team must have at least one girl and at least one boy and at least three persons in total.
(ii) If Anjali and Bharathi are selected in a team, then the team must have only one boy.
(iii) Kiran and Lala cannot be in the same team.
(iv) Chandrika and Naveen can be in the same team, only if Bharathi is selected in that team.

11. If Kiran and Chandrika are in the same team, then in how many ways can the other team be selected?
(A) Six (B) Three
(C) Four (D) Five

12. If Manoj is not in the same team as Bharathi, then in how many ways can the teams be selected?
(A) Three (B) Four
(C) Five (D) Six

13. If three boys are selected into one team, then in how many ways can the teams be selected?
(A) Four (B) Five
(C) Three (D) Six

Directions for questions 14 and 15: These questions are based on the following information.

A team is to be selected from eight persons – P, Q, R, S, T, U, V and W under the following constraints.

(i) Atleast one of P, Q and R must be selected.
(ii) At most two of S, T and U can be selected.
(iii) V and W cannot be selected together.
(iv) If one of Q, S and V is selected, then the other two must not be selected.
(v) If one of R, U and W is selected, then the other two must be selected.

14. What can be the maximum size of the team?
(A) Six (B) Five
(C) Four (D) Three

15. If W is selected, then at most how many more persons can be selected along with him?
(A) Six (B) Five
(C) Four (D) Three

Directions for questions 16 to 19: These questions are based on the following information.

A team of five delegates must be selected from a group of Americans (Jack, Michael, Brenda and Cindy), Russians (Dmitri, Vlad, Karla and Ana) and Indians (Rohan, Shyam, Pooja and Neha) such that there is at least one representative from each country. Neither Americans nor the Russians want their number to be less than the other in a team. A few more conditions have to be satisfied.
(i) Neither Brenda nor Cindy wants to be in the same team as either Pooja or Neha.
(ii) Neither Dmitri nor Vlad wants to be in the same team as either Shyam or Pooja.
(iii) Michael, Karla and Rohit should not be selected together.
(iv) Jack and Ana must be selected together.

16. If Rohit is the only Indian not selected, then in how many different ways can the team be selected?
(A) One (B) Two
(C) Three (D) More than three

17. If the only Indian not selected is not Rohit, then who among the following must be selected?
(A) Michael (B) Karla
(C) Vlad (D) Jack

18. If the only Indian selected is Shyam, then which among the following cannot be the pair of Americans selected?
(A) Jack, Michael (B) Jack, Brenda
(C) Jack, Cindy (D) Brenda, Cindy

19. If Karla and Ana are selected, then in how many different ways can the team be selected?
(A) Six (B) Seven
(C) Eight (D) None of these

Directions for questions 20 to 23: These questions are based on the following information.

Two different teams of four persons each are to be selected from twelve persons A through L. Among them 6 persons A through F play cricket and the remaining persons play football. In a team there must be two cricketers and two football players. We have to select the team based on the following information.

(i) If A is selected, then L should not be selected.
(ii) If B is selected in a team, then H must be selected in the other team.
(iii) If J is selected in a team, then K must be selected in the same team.
(iv) Exactly one among C, D and K must be selected.
(v) only if D is selected, I can be selected.
(vi) At most one of D and H can be selected.

20. If K is selected in team I, then in how many ways team II can be selected?
(A) One (B) Two
(C) Three (D) Four

21. Which of the following is a possible team?
(A) JKEF (B) EBGJ
(C) ABJH (D) HAEG

22. If J is selected in a team, then who among the following must be selected in that team?
(A) B (B) E (C) F (D) A

23. If the persons who are not selected form a team, what is the team?
(A) CDIL (B) CDGK
(C) AEGI (D) None of these

Directions for questions 24 to 26: These questions are based on the following information.

A team of three is to be selected from six persons – Amar, Bhavan, Chetan, Dawan, Ekta and Farheen under the following constraints.
(i) If Amar or Bhavan is selected, then Chetan must not be selected.
(ii) If Chetan or Dawan is selected, then at least one of Ekta and Farheen must be selected.

24. If Dawan is selected, then who must not be selected?
(A) Amar (B) Bhavan
(C) Chetan (D) None of these

25. If Amar is selected, then in how many ways the team can be selected?
(A) Five (B) Six
(C) Four (D) Seven

26. If Bhavan is selected, then who must be selected?
(A) Dawan (B) Ekta
(C) Farheen (D) Either (B) or (C)

Directions for Questions 27 to 30: These questions are based on the following information.

A, B, C, D and E are bowlers who play for Ranji Trophy only. Each of them has to team up with exactly one among K, L, M, N and O, who play in the national squads. The selection committee decided that one team has to be selected for each of four out of five test matches in Chennai, Kolkata, Ahmedabad, Bengaluru and Hyderabad.

The following additional information is known about them:

1. No two teams are selected to play the same set of four matches.
2. K is selected for Kolkata, Ahmedabad and Bengaluru but did not team up with either C or D.
3. Each of B and N are selected for Bengaluru and Hyderabad, but are in different teams.
4. M is not paired up with either B or C.
5. N is not paired up with D or E.
6. Each of L and C is selected for Bengaluru or Hyderabad, but not both.

27. If K is selected for Chennai, then C will not be selected for _____.
(A) Chennai (B) Kolkata
(C) Ahmedabad (D) BCR.

28. For which of the following matches is M definitely selected, if K is selected for Chennai?
(A) Chennai and Ahmedabad
(B) Ahmedabad and Bengaluru
(C) Bengaluru and Hyderabad
(D) Kolkata and Hyderabad

29. Who is the paired with N?
(A) A
(B) B
(C) C
(D) Either (B) or (C)

30. Which of the following statement about L is false?
(A) C is teamed up with him.
(B) L is selected for either Chennai or Kolkata.
(C) C is selected for one venue between Bengaluru and Hyderabad.
(D) C and L are selected for Chennai, Kolkata and Ahmedabad.

Key

Exercise – 4(a)

1.	A	6.	B	11.	B	16.	A	21.	C	26.	C
2.	D	7.	A	12.	D	17.	B	22.	C	27.	C
3.	D	8.	C	13.	D	18.	A	23.	A	28.	A
4.	B	9.	D	14.	C	19.	D	24.	D	29.	B
5.	C	10.	B	15.	A	20.	C	25.	A	30.	A

Exercise – 4(b)

1.	B	6.	C	11.	D	16.	B	21.	D	26.	D
2.	D	7.	A	12.	D	17.	D	22.	A	27.	D
3.	A	8.	D	13.	A	18.	D	23.	A	28.	C
4.	A	9.	B	14.	A	19.	B	24.	D	29.	A
5.	B	10.	D	15.	B	20.	C	25.	A	30.	B