CHAPTER – 3

DOUBLE LINE UP / DISTRIBUTION

In this type of problems, you have to match two or more "variables" [Variable means a "subject" as used in the discussion of Linear Arrangement]. In double line-up, the data given may talk of four people living in four houses each of a different colour. What we need to find out is the colour of the house of each of the four persons. There is no first position or second position of the houses.

Sometimes, Double line-up is also called as "Distribution."
An example of data given for this variety of questions is:
"Each of the four persons A, B, C and D wears a different coloured shirt – Red, Pink, Blue and White. A has a Red shirt and D does not have a Pink shirt."

From the above statement, it becomes clear that no person among A, B, C and D can have shirts of two different colours among Red, Pink, Blue and White.
As discussed in the questions on Single Line-up, questions can be solved easily by representing the given data pictorially. In case of Double Line-up, it will help us if we represent the data in the form of a matrix or a table.

Let us see how to draw a matrix for the data given above.

	Colours			
Names	Red	Pink	Blue	White
A	✓			
B				
C				
D		×		

As it is given that A has red colour shirt, it is clear that he does not have any other colour shirt. Similarly B, C, D do not Red colour shirt. So, in all the other cells in the row belonging to A, we put a cross ('×'). Then, the table will look as follows:

	Colours			
Names	Red	Pink	Blue	White
A	✓	×	×	×
B	×			
C	×			
D	×	×		

In this manner, we can fill up the cells on the basis of the data given to us. Once, we use up all the data, we will draw any conclusions that can be drawn and then answer the questions given in the set.

Let us take a few examples.

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

P, Q, R, S, T, U, V and W are eight employees of a concern. Each is allotted a different locker, out of eight lockers numbered 1 to 8 in a cupboard. The lockers are arranged in four rows with two lockers in each row.

Lockers 1 and 2 are in the top row from left to right respectively while lockers 7 and 8 are in the bottom row – arranged from left to right respectively. Lockers 3 and 4 are in the second row from the top – arranged from right to left respectively. So are lockers 5 and 6 – arranged from right to left respectively – in the second row from the bottom. P has been allotted locker 1 while V has been allotted locker 8. T's locker is just above that of Q which is just above that of R, whereas W's locker is in the bottom row.

1. Which of the following cannot be the correct locker number–occupant pair?
(A) 3-Q (B) 7-W (C) 4-U (D) 6-R

2. If U's locker is not beside Q's locker, whose locker is just above that of W?
(A) U (B) S (C) R (D) Q

3. Which of these pairs cannot have lockers that are diagonally placed?
(A) P-Q (B) S-R
(C) U-R (D) Either (B) or (C)

4. Which of the following groups consists only occupants of odd numbered lockers?
(A) Q, R, W (B) R, V, W
(C) T, R, Q (D) P, T, Q

5. If U's locker is in the same row as that of R, and S exchanges his locker with V, then who is the new neighbour of V in the same row? (Assume that nothing else is disturbed from the original arrangement)
(A) P (B) Q (C) R (D) U

Solutions for questions 1 to 5:

Let us first try to locate the lockers in the cupboard as per the conditions given. Then, we will do the allotment to the persons.

Lockers 1 and 2 are in the top row and lockers 7 and 8 are in the bottommost row. In these two rows, the lockers are numbered from left to right. In the other two rows, the lockers are numbered from right to left.

L	R	
1	2	Top Row
4	3	
6	5	
7	8	Bottom Row

Now let us look at the conditions given for the allotment of the lockers.

P has locker 1. V has locker 8.

1-P	2
4	3
6	5
7	8-V

Locker of W is in the bottom row ➔ W's locker must be 7.

1-P	2
4	3
6	5
7-W	8-V

T's locker is just above that of Q, which is just above that of R ➔ The lockers of T, Q and R must be 2, 3 and 5 respectively (there are no other group of lockers which satisfy this condition).

1-P	2-T
4	3-Q
6	5-R
7-W	8-V

S and U have lockers 4 and 6 left for them.

Thus, on the basis of the data given to us, we can show the final arrangement of lockers as below:

1-P	2-T
4-S/U	3-Q
6-U/S	5-R
7-W	8-V

Now we can answer the questions easily on the basis of the above.

1. By looking at the final arrangement of lockers above, we find that choice (D) does not represent the correct combination of locker number-occupant pair. Choice (D)

2. If U's locker is not beside Q's locker, then U's locker must be locker 6. So, it is U's locker that will be immediately above W's. Choice (A)

3. R's locker is in the same row as that of exactly one of S or U and diagonally placed to the other one. Hence, "either S-R or U-R" is the answer. Choice (D)

4. The odd-numbered lockers 1, 3, 5 and 7 which belong to P, Q, R and W respectively. Of the choices, we find that Q, R, W appear in choice (A). Hence, this is the correct choice. Choice (A)

5. U's locker is in the same row as that of R which means that locker 6 belongs to U. So locker 4 belongs to S. Now V and S exchange lockers. Then the new neighbour of V is Q. Choice (B)

Directions for questions 6 to 10: These questions are based on the following information.

There are four trees – Lemon, Coconut, Mango and Neem – each at a different corner of a rectangular plot. A well is located at one corner and a cabin at another corner. Lemon and Coconut trees are on either side of the Gate which is located at the centre of the side opposite to the side at whose extremes, the well and the cabin are located. The mango tree is not at the corner where the cabin is located.

6. Which of the following pairs can be diagonally opposite to each other in the plot?
(A) Neem tree and Lemon tree
(B) Cabin and Neem tree
(C) Mango tree and Well
(D) Coconut tree and Lemon tree

7. If the Lemon Tree is diagonally opposite to the well, then the Coconut tree is diagonally opposite to the
(A) Mango tree. (B) Well
(C) Cabin. (D) Gate.

8. If the Coconut tree and the Neem tree cannot be at adjacent corners of the plot, then which of the following will necessarily have to be at diagonally opposite corners of the plot?
(A) Coconut tree and Well
(B) Lemon tree and Cabin
(C) Lemon tree and Coconut tree
(D) Lemon tree and Well

9. Which of the following must be TRUE?
(A) Cabin and Well are not at adjacent corners.
(B) Cabin and Coconut tree cannot be at the adjacent corners.
(C) Neem tree and Well are at adjacent corners.
(D) Neem tree and Well are not at adjacent corners.

10. Which of the following is definitely FALSE?
(A) Mango Tree is adjacent to the well at one corner.
(B) Neem Tree is adjacent to the Cabin at one corner.
(C) Coconut Tree is at the corner adjacent to the Well.
(D) Lemon Tree is not on the same side of the plot as the gate.

Solutions for questions 6 to 10:

Lemon and Coconut are on either sides of the gate.

Lemon Or Coconut — Gate — Coconut Or Lemon

The Well and the Cabin are at either end of the Wall opposite to the Gate.
Mango tree and Cabin are not at the same corner. So, Neem tree and Well are not at the same corner. This means that Mango tree and the Well are at the same corner and Neem tree and the Cabin are at the same corner.

(Well, Mango) or (Cabin, Neem)	(Cabin, Neem) or (Well, Mango)
Lemon or Coconut	Coconut or Lemon

Gate

6. Let us take each choice and check with the above diagram to see if it is possible or not.
Neem and Lemon can be diagonally opposite each other. Hence, this is the correct answer choice. (In an exam, you do not need to check the other choices since the first choice is correct. But, for the sake of clarity and proper understanding, we will check all the choices).
From the diagram given above, we can see that Cabin and Neem cannot be located diagonally opposite each other.
Mango and Well cannot be located diagonally opposite to each other.
Coconut and Lemon cannot be located diagonally opposite each other. Choice (A)

7. If Lemon tree is diagonally opposite to the Well, then we can have the following two possible arrangements.

Neem	Well
Cabin	Mango
Lemon	Coconut

Gate

OR

Well	Cabin
Mango	Neem
Coconut	Lemon

Gate

The Coconut tree is diagonally opposite the Cabin and Neem. Choice (C)

8. Since Coconut and Neem trees cannot be at adjacent corners, the following arrangements are possible.

(Well, Mango)	(Cabin, Neem)
Coconut	Lemon

Gate

OR

(Cabin, Neem)	(Well, Mango)

Gate

From the above diagrams, we find that choice (D) is the correct answer. Choice (D)

9. We can check each statement with the diagram that we drew initially. We find that the statement in Choice (C) which says that Neem tree and the Well are at the adjacent corners is true. Hence, choice (C) is the correct answer. Choice (C)

10. We check each statement with the diagram that we drew initially to find out which of the statements has to be false.
We find that choice (D) has to be false.
Choice (D)

Directions for question 11: Select the correct answer from the given choices.

11. A, B, C and D play four different games among Baseball, Cricket, Kabaddi and Volley ball. A does not play Baseball or Cricket. B does not play Kabaddi or Volleyball. C plays Volleyball and D plays either Baseball or Volleyball. Who plays Cricket?
(A) A (B) B (C) C (D) D

Solution for question 11:

11. C plays Volleyball. A does not play Cricket and D does not play Cricket as he plays either Baseball or Volleyball.
∴ B should play Cricket. Choice (B)

Exercise – 3(a)

Directions for questions 1 to 5: Select the correct alternative from the given choices.

1. Kites of six colours – Orange, Yellow, White, Green, Blue and Red – are sold at a shop. Three boys – Mohan, Ram and Madan – go to the shop to buy kites. It is found that each boy buys only two kites. The colours of the two kites of each one of them are different. All the kites are single coloured. Each boy wishes that his two kites are different in colour from those of the other two boys. Green and Yellow kites are bought by one boy. Madan has a White kite, whereas Red and Orange colour kites are not bought by the same boy. If Mohan's kites are neither Red nor Blue in colour, then Mohan's kites are
(A) Green and Yellow. (B) Blue and Orange.
(C) Orange and White. (D) Red and Green.

2. In order to get selected in an interview, the right candidate must be a postgraduate with a knowledge of computers. A, B, C and D appear for the interview in which only two candidates can be selected. Each of them has different qualifications from the others. Their qualifications are M.B.A., M.C.A., M.Tech and M.A. – not necessarily in that order. A and C are not M.B.As, whereas B and C are not M.As. C and D are not M.C.A.s, whereas D and A are not M.Techs.
If B is an M.C.A, then who among the following must be an M.B.A.?
(A) C (B) A
(C) D (D) Either C or D

3. X, Y and Z are the three supervisors and P, Q, R are three bearers in a Restaurant. Each of the three places – Reception, Tables and the Kitchen – have to be attended by two persons always. Each of the three places requires a supervisor and a bearer. Y is not a receptionist and R is always at the Tables. X does not come to the Tables and Q is a cook. P and X always work together. Which of the following is definitely a proper combination of the teams and their work?
(A) P, X – Tables (B) Z, R – Tables
(C) Y, Q – Kitchen (D) X, P – Reception

4. Kamal, Lankesh and Manav are three boys who receive two prizes each out of 6 prizes P, Q, R, S, T and U. Lankesh receives neither Q nor U and these two prizes are not given to the same person. Which of the following will fix the distribution properly?
(A) Kamal receives Q and S.
(B) Manav receives T and U.
(C) Lankesh receives P and S.
(D) None of these

5. Five rivers Ya-Fen, Volga, Yamuna, Hudson and Siene flow through the five cities viz. New York, Paris, Moscow, Tokyo and Delhi, but not necessarily in the same order. No two rivers flow in the same city and no two cities have the same river flowing through them. Volga flows through neither Moscow nor Delhi. Ya-Fen is neither in New York nor in Paris. Yamuna is neither in Delhi nor in Moscow. Hudson is in Moscow while New York has Yamuna flowing through it. Which of the following is definitely FALSE?
(A) If Volga flows through Tokyo, then Ya-Fen flows through Delhi.
(B) If Tokyo has Volga, then Siene must flow through Delhi.
(C) If Ya-Fen flows through Tokyo, then Siene must flow through Delhi.
(D) Ya-Fen may flow through Tokyo or Delhi.

Directions for questions 6 to 8: These questions are based on the following information.

Three men – Vinay, Vivek and Vijay as well as three women – Neha, Nithya and Nikita are working in six different departments A, B, C, D, E and F, which belong to three organisations P_1, P_2 and P_3. Exactly two departments belong to each organisation. Each department belongs to only one organisation. The three men and the three women are married couples. Each couple is working in the same organisation.
The following information is known about them,
(i) Neha is working in neither C nor B.
(ii) Nitya is working in either A or F.
(iii) Vijay is not working in C and his department is not in organisation P_3.
(iv) Vivek is working in either E or D.
(v) No male is working in B.
(vi) One of the men is working in E.
(vii) Neither Vijay nor Neha is working in D.
(viii) The departments A, C and B are in organisations P_1, P_2 and P_3 respectively.

6. If the department in which Neha is working, is in organisation P_2, then the couple working in P_1, is _____.
(A) Vivek, Nithya (B) Vinay, Nithya
(C) Nithya, Vijay (D) Vivek, Nikita

7. If Nithya is working in F, then who is working in A?
(A) Neha (B) Nikitha
(C) Vivek (D) Vinay

8. Which of the following statements is definitely true?
(A) Vinay and Nithya are a married couple.
(B) Neha and Vijay are working in P_1.
(C) Vivek and Nikitha are a married couple.
(D) A and F departments belong to P_2.

Directions for questions 9 to 12: These questions are based on the data given below.

Mill, John, Rad and Pam are four executives of a company. Each of them must visit exactly two of the eight cities – Delhi, Chennai, Kolkata, Hyderabad, Bangalore, Mumbai, Bhopal and Jaipur – and each city is visited by only one person. Rad does not visit Mumbai and Delhi, while Pam does not visit Kolkata and Hyderabad. John does not visit Bhopal and Jaipur, whereas Mill does not visit Bangalore and Chennai. Jaipur and Bangalore are visited neither by John nor by Rad.

9. If Delhi and Bhopal were visited by Mill, then which one of the following cities could John visit?
(A) Delhi
(B) Bangalore
(C) Bhopal
(D) Mumbai

10. If Pam visits Bhopal and Mill visits Hyderabad, then which of the following must be true?
(A) Rad visits Chennai and Kolkata.
(B) John visits Delhi, but does not visit Mumbai.
(C) Mill visits Bhopal in addition to Hyderabad.
(D) Pam does not visit Bangalore but visits Jaipur.

11. If Rad does not visit Chennai and Hyderabad, and Pam visits Chennai, then which of the following could be true?
(A) John visits Hyderabad and Mumbai.
(B) Mill visits Kolkata, but does not visit Jaipur.
(C) Rad visits Bhopal and Bangalore.
(D) Mill visits Delhi and Bhopal.

12. If John visits Hyderabad and Chennai, then all the following could be true, except
(A) Pam visits Mumbai.
(B) Rad visits Bhopal and Bangalore.
(C) Mill visits Delhi.
(D) Delhi is visited by Pam, who does not visit Hyderabad.

Directions for questions 13 to 16: Read the given data carefully and answer the questions that follow.

P, Q, R, S, T and U are six post offices, in each of which, one postman out of A, B, C, D, E and F works. No postman works in two post offices. A works neither in post office P nor in S while B works neither in post office T nor in U. C works neither in post office Q nor in R but D works in T and A works in Q.

13. If B works in the post office P and C does not work in post Office U, then E works in
(A) S. (B) U. (C) R. (D) R or U.

14. If C and E works in S and U, then which of the following is definitely FALSE?
(A) A works in Q. (B) D works in T.
(C) B works in R. (D) C works in Q.

15. Who can work in post office U?
(A) B or C or F (B) C or D or F
(C) C or E or F (D) B or E or F

16. Which of the following statements is definitely FALSE?
(A) A works in Q.
(B) B works in S.
(C) C works in S.
(D) E works in Q.

Directions for questions 17 to 20: Read the data given below and answer the questions that follow.

Five theatres A, B, C, D and E screen two out of ten films based on Romance, Thriller, Horror, Adventure, Children, Drama, Documentary, History, Religion and Cartoon. Each theatre exhibits only two films and allots two different slots for them, wherein slot I is before slot II.
C screens a Horror film in the first slot, while E exhibits a Historical film in the second slot.

B exhibits a thriller film in the second slot and D exhibits a documentary film.
A film on Drama must be exhibited only in the second slot.
The Children's film and the Cartoon film are exhibited in the same theatre while the religious film is not in the first slot.

17. If C screens a Religious film in its second slot, then which of the following films are screened by theatre D?
(A) Cartoon and History
(B) Documentary and Drama
(C) Documentary and History
(D) Horror and Documentary

18. A exhibits films based on
(A) Cartoon and Children.
(B) History and Cartoon.
(C) Cartoon and Romance.
(D) Romance and Religion.

19. If a film on Drama is screened after the Documentary film in the same theatre, then the film on Religion is immediately preceded by a film on
(A) Horror.
(B) Thriller.
(C) History.
(D) None of these

20. If a film on Romance is screened along with the Historical film in the same theatre, then which of the following films does theatre B exhibit?
(A) Horror and Thriller
(B) Religious and Thriller
(C) Thriller and Historical
(D) Adventure and Thriller

Directions for questions 21 to 23: These questions are based on the following information.

Seven doctors A, B, C, D, E, F, and G, each having a different specialty among Oncologist, Dentist, ENT Specialist, Nephrologist, Neurologist, Cardiologist and Ophthalmologist work for three clinics Vindhya, Nilgiri, and Himalaya such that at least two and atmost three doctors work for each clinic. At least one male and one female doctor work for each clinic.

A and her friend, the Dentist only work in Nilgiri clinic. C is the husband of D and one of them is an Ophthalmologist while the other is a Neurologist. E and his friend G only work for Vindhya clinic. B is neither a Dentist nor an ENT specialist. None of those who work for Vindhya is an ENT specialist. The Cardiologist is a woman who works for Vindhya. The Nephrologist does not work in the same clinic as C and D. The ENT specialist and the Neurologist are sisters.

21. Which of the following groups of people work for Himalaya clinic?
(A) B, C, D (B) B, D, F
(C) B, F, C (D) Cannot be determined

22. Which of the following is a group of all females?
(A) B, A, D (B) G, A, D
(C) B, E, C (D) B, D, G

23. Which of the following combinations is correct?
(A) C – female – Himalaya – Neurologist
(B) F – female – Nilgiri – Dentist
(C) G – male – Vindhya – Nephrologist
(D) A – female – Nilgiri – ENT specialist

Directions for questions 24 to 27: These questions are based on the following information.

Seven persons – Geetha, Sudha, Rani, Uma, Jyothi, Veena and Radha are staying in a seven – storeyed apartment (not necessarily in the same order). Ground floor is considered as Ifloor. I floor is considered as II floor and so on. They are working in seven different banks – SBI, Axis, PNB, OBC, ING, BOB, and HDFC. The following information is known about them.

(1) Sudha lives on an even numbered floor and immediately below the person who is woking in SBI.
(2) Uma lives on the second floor and works in BOB. Neither Veena nor the person working in OBC stays adjacent to Uma.
(3) Equal number of floors are there above the person working in PNB and below Geetha's floor.
(4) The person working in PNB stays below the Uma's floor. The person working in SBI does not live on the fifth floor.
(5) Rani works in Axis and lives two floors below Geetha's floor.
(6) The person working in HDFC lives immediately above Radha's floor.

24. Who among the following works in HDFC?
(A) Radha
(B) Veena
(C) The person who lives on the fourth floor
(D) Both (B) and (C)

25. Which among the following is 'definitely false'?
(A) Jyothi lives on an odd numbered floor.
(B) Veena lives below Radha's floor.
(C) Sudha works in OBC bank.
(D) None of these

26. Four of the following are alike in a certain way and hence form a group, which is the one that does not belong to that group?
(A) Rani – BOB
(B) Geetha – HDFC
(C) Uma – Axis
(D) Sudha – ING

27. How many persons are living between the person's floor who is working in OBC and Jyothi's floor?
(A) One
(B) Three
(C) Four
(D) Five

Directions for questions 28 to 30: These questions are based on the following information:

Eight persons – A through H – sit around a circular table facing the centre, not necessarily in the same order. Each of them is from a different city among P, Q, R, S, T, U, V and W. The following information is known about them.

A sits third to the left of the person who is from P. B and D are adjacent to the person from P, but none of them is from Q. The person from Q sits second to the left of the person from V.

A is not from V and is not adjacent to the person from V. Only one person sits between B and the person from T. G is not a neighbour of either A or B. F is neither from P nor from S and is not a neighbour of A. C is from W and the person from S is a neighbour of the person from R. E is not a neighbour of D, who is not from T.

28. How many persons sit between H and the person from V, when counted to the right of V?
(A) One (B) Two (C) Three (D) None

29. Four of the following are alike in a certain way and so form a group. Find the one which does not belong to that group.
(A) B – S (B) G – T (C) E – U (D) A – T

30. Which of the following statements is true?
(A) A is from Q.
(B) B sits opposite G.
(C) F is from R and is a neighbour of H.
(D) More than one of the above.

Exercise – 3(b)

Directions for questions 1 to 4: These questions are based on the following data.

Each of five people – A, B, C, D and E – owns a different car among Maruti, Mercedes, Sierra, Fiat and Audi and the colours of these cars are black, green, blue, white and red, not necessarily in that order. No two cars are of the same colour. It is also known that:

(i) A's car is not black and it is not a Mercedes.
(ii) B's car is green and it is not a Sierra.
(iii) E's car is not white and it is not an Audi.
(iv) C's car is a Mercedes and it is not blue.
(v) D's car is not red and it is a Fiat.

1. If A owns a blue Sierra, then E's car can be a
(A) red Maruti. (B) white Maruti.
(C) black Audi. (D) red Audi.

2. If A owns a white Audi, then E's car can be a
(A) red Maruti. (B) blue Maruti.
(C) green Audi. (D) black Sierra.

3. If A's car is a red Maruti and D's car is white, then E owns a
(A) black Audi. (B) blue Sierra.
(C) black Sierra. (D) blue Audi.

4. If E owns a red Maruti and A's car is white, then D owns a
(A) green Fiat. (B) black Fiat.
(C) blue Fiat. (D) red Fiat.

Directions for questions 5 and 6: These questions are based on the following data.

In a college, there are ten lecturers enrolled in a lecture program. These lecturers have been grouped in any one of the following four subjects – Physics, Chemistry, Biology and Maths. One professor is assigned to each of these four subject groups. Kunal, Kapil and Kamat will give lectures on the same subject. Kapil and Karishma belong to the same subject group. Karan and Kamini belong to the same subject group. Kusum cannot be with

Kamal, and Kiran cannot be with Karan. Kapil will deliver a lecture on Maths, and Kiran delivers a lecture on the same subject as Kate. Each of Kapil, Karan, Kusum and Kiran delivers lecture on a different subject. Kamal and Kiran are lecturers for Chemistry and Kusum is not a lecturer of Physics. Amar, Beena, Chander and Deepak are professors of subject groups with number of lecturers as 4, 3, 2 and 1 respectively.

5. Which of the following statements must be true?
(A) Amar is the subject group professor of Kamat for Chemistry.
(B) Deepak is the subject group professor of Kusum for Biology.
(C) Beena is the subject group professor of Karan for Maths.
(D) Chander is the subject group professor of Karishma for Physics.

6. Who among the following is a lecturer in Maths?
(A) Karan (B) Kiran
(C) Kamini (D) None of these

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

Six hockey teams–India, Germany, Australia, South Korea, Netherlands and Pakistan participated in a tournament. After the first two rounds, it is known that every team played with two of the other teams and won one of the matches and lost the other. Each team scored a different number of goals among–1, 2, 3, 4, 5 and 6 in their I round matches and each team scored a different number of goals among–0, 2, 3, 4, 5 and 7 in their II round matches.

(i) India is the only team that scored the same number of goals in both the matches. But in total it scored less number of goals than each of the other teams.
(ii) Germany scored seven goals in total but it scored less number of goals in the match it won when compared to the match it lost.
(iii) The number of goals scored by South Korea in the first round is the same as that conceded by it in the second round.
(iv) The number of goals conceded by Australia is same in both the rounds and in both the matches the difference between goals of the winner and the loser is also the same and it is two.
(v) The total number of goals scored in each of the two matches of Netherlands is eight but the total number of goals scored by Netherlands is not eight.

7. Which team scored the maximum number of goals in both the matches put together?
(A) South Korea (B) Australia
(C) Netherlands (D) Germany

8. Against which team did India win?
(A) Netherlands (B) Pakistan
(C) Australia (D) South Korea

9. What is the number of goals scored by Netherlands in the match it won?
(A) 3 (B) 4 (C) 5 (D) 6

10. Which team scored the least number of goals in a match?
(A) India (B) Pakistan
(C) Australia (D) Germany

Directions for questions 11 to 14: These questions are based on the following information.

Each of the eight persons P, Q, R, S, T, U, V and W are travelling by exactly one car among Honda city, BMW and Honda Brio. Each of them belongs to a different city among Hyderabad, Chennai, Kolkatta, Pune, Bengaluru, Cochin, Baroda and Noida but not necessarily in same order. The number of persons travelling by any car is minimum two and maximum three.

Only two persons, P and the one from Pune are travelling by BMW. R and T are travelling by different cars but they are neither from Bengaluru nor from Baroda. V is from Kolkatta but not travelling by Honda Brio. R and W are travelling by same car. R is not from Cochin, W is not from Bengaluru. T is not from Pune and S is from Hyderabad. U is from Chennai and travelling by Hondacity.

11. Who is from Noida?
(A) P (B) W (C) Q (D) R

12 Which of the following group of persons are travelling by Honda Brio?
(A) RUW (B) RVW
(C) QRW (D) SRW

13. In which car is the person from Baroda travelling?
(A) BMW
(B) Honda Brio
(C) Honda city
(D) Either BMW or Honda Brio

14. Which of the following is true regarding the given information?
(A) P is from Noida.
(B) W is from Pune.
(C) T is from Cochin.
(D) R is travelling by Honda city.

Directions for questions 15 to 17: These questions are based on the following information.

Eight persons - A, C, E, G, H, K, M and P have eight different animals Viz, camel, lion, monkey, horse, elephant, cat, dog and tiger. They went to three different Zoos, namely Zoo – I, Zoo – II and Zoo – III. Atleast two persons and atmost three persons went to each zoo. The following information is known about them.

Only G and M went to Zoo – III and one of them has a dog. E has a monkey and went to Zoo – I. The person, who went to Zoo – II, has a tiger, but is not C. C and the person, who has a cat, went to Zoo – II. Neither A nor K has a tiger, but one of them went to Zoo – II. A and H went to the same Zoo. H has an elephant. The person, who has a camel, did not go to either Zoo – II or Zoo – III. The person, who went to Zoo – III does not have a lion. One among G and C has a horse.

15. Who went to Zoo – I?
(A) G, H, E (B) A, H, C
(C) A, K, M (D) A, H, E

16. Who has a lion?
(A) KE (B) A (C) C (D) G

17. Who has a tiger?
(A) G (B) C
(C) P (D) None of these

Directions for questions 18 to 20: These questions are based on the following information.

Eight persons A, B, C, D, E, F, G and H belong to different colonies named as P, Q and R and three different streets I, II and III, but not necessarily in the same order. No two persons who belong to the same colony belong to the same street. At least two and at most three persons belong to each colony and each street.

A belongs to street I and C belongs to colony R. A and E belong to neither the same colony nor the same street. D and F belong to the same colony. G and C belong to the same street. F belongs to colony P and G belongs to neither street I nor street II. E and C do not belong to the same street. B and C do not belong to the same colony. H belongs to neither colony P nor colony Q. C, D and E belong to different colonies and different streets. A and B belong to neither the same colony nor colony P. B and G belong to the same street. G does not belong to colony Q.

18. To which colony does G belong?
(A) Q (B) R (C) P (D) P or R

19. Which of the following is the correct combination of person, colony and street respectively?
(A) F – P – II (B) G – P – II
(C) G – II – P (D) F – II – P

20. Which group of persons belong to the same colony?
(A) D, F, G (B) F, G, H
(C) D, E, F (D) None of these

Directions for questions 21 to 24: These questions are based on the following data.

Five men – Kambli, Kumble, Kamlesh, Kareem and Kishan are working in the same company but are earning a different salaries. They are married to five women – Kunti, Kirti, Kamini, Kareena and Karishma not necessarily in that order.
(1) The person who is married to Kirti is neither earning the maximum nor the minimum salary.
(2) The husband of Kamini is earning ₹5 lakh/annum.
(3) Kishan earns ₹6 lakhs / annum.
(4) Kumble, the husband of Karishma, is earning ₹1 lakh/ annum more than Kamlesh, who earns less than Kishan.
(5) Kambli, who is not married to Kamini is earning ₹4 lakhs/annum more than Kareem.
(6) Each of the five men earns atleast Rs.1lakh/annum. Each mans earnings is a natural number.

21. Who earns ₹5 lakhs per annum?
(A) Kareem
(B) Kamlesh
(C) Kambli
(D) Kishan

22. Who is married to Kirti?
(A) Kamlesh
(B) Kambli
(C) Kishan
(D) Kareem

23. If Kambli is not married to Kunti, then whose husband is earning the minimum salary?
(A) Kunti (B) Kareena
(C) Karishma (D) Kamini

24. If the names of the persons are arranged in the increasing order of the salary earned, then which of the following is true?
(A) Kareem, Kishan, Kamlesh, Kambli, Kumble
(B) Kumble, Kishan, Kareem, Kamlesh, Kambli
(C) Kamlesh, Kumble, Kareem, Kishan, Kambli
(D) Kamlesh, Kumble, Kareem, Kambli, Kishan

Directions for questions 25 to 27: These questions are based on the following information.

Six persons – A, B, C, D, E, and F – belong to six different professions among accountant, doctor, engineer, editor, painter, teacher and they are sitting around a circular table not necessarily in the same order. The following information is known about their professions and seating arrangement.

The doctor and the teacher are adjacent to each other. B is either the engineer or the editor. Neither A nor D is a doctor but one of them is an accountant. The engineer is sitting second to the right of A. The doctor is sitting opposite F. Either F or E is the painter. C is either the editor or the accountant. The editor is not sitting opposite the engineer.

25. Who is sitting opposite the engineer?
(A) A (B) B (C) D (D) C

26. If the doctor is to the immediate left of B, then who is sitting to the immediate left of the accountant?
(A) Painter
(B) Editor
(C) Engineer
(D) Cannot be determined

27. Which of the following statements is definitely true?
(A) The teacher is sitting second to the left of the doctor.
(B) D is an accountant.
(C) A is the teacher.
(D) A is sitting opposite the editor.

Directions for questions 28 to 30: These questions are based on the following information:

Seven people A,B,C,D,E,F and G live on seven floors (ground floor is considered the first floor and the floor just above the first floor is considered the second floor and so on.) of an apartment building. Each person takes an exam on each of the days Sunday, Monday, Tuesday, Wednesday, Thursday, Friday and Saturday, not necessarily in the same order. The following information is known about them:

(i) There are three floors between C's floor and D's floor from top to bottom in that order.
(ii) Either B or E lives on the top floor. The person who lives on the top floor takes an exam on Wednesday.

(iii) Neither F nor G takes an exam on Tuesday and there is one person between F's floor and G's floor there who takes an exam on Saturday.
(iv) The person who takes an exam on Tuesday does not live on an even - numbered floor.
(v) There are only two floors below A's floor.
(vi) C takes an exam either on Sunday or on Wednesday. Only two persons live between B and G and one of them takes an exam on Monday.
(vii) The person who takes an exam on Thursday is adjacent to the person who takes an exam on either Saturday or Monday.

28. Who lives on the sixth floor?
(A) A (B) B (C) C (D) E

29. A takes an exam on which day?
(A) Friday
(B) Saturday
(C) Monday
(D) Wednesday

30. How many persons live between E and F?
(A) None
(B) One
(C) Two
(D) Three

Key

Exercise – 3(a)

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

Exercise – 3(b)

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