Matrix Arrangements and Grouping

Homework

1-4: Given below is some common information for questions 6-9. Each question from 6-9 is followed by two statements, A and B. Answer each question using the following instructions:

Mark (1) if the question can be answered by using the statement A alone but not by using the statement B alone.

Mark (2) if the question can be answered by using the statement B alone but not by using the statement A alone.

Mark (3) if the question can be answered by using either of the statements alone.

Mark (4) if the question can be answered by using both the statements together but not by either of the statements alone.

Mark (5) if the question cannot be answered on the basis of the two statements.

There are 5 actors who have worked in 5 different movies in 5 consecutive years from 1993-1997. The 5 movies are Yoddha, Sangam, Jodiwale, Kashmakash and Tanha Dil. Shahrukh worked in a movie released in 1994. Jodiwale was released in 1997. Yoddha was released in the year immediately after Salman's movie was released. No movie had 2 actors.

1. In which movie did Sunny act ?

   I. Aamir quit acting in 1993 after his last film Kashmakash flopped.

   II. Sunny did not act in the 1997 movie.

2. In which year did Aamir's movie release?

   I. Aamir worked in a movie released after Yoddha.

   II. Aamir's movie released before Salman's.

3. In which movie did Sunny act?

   I. No actor acted in a movie with the same initials as his name.

   II. Aamir acted in Yoddha

4. When did Sangam release?

   I. Aamir acted in Sangam.

   II. Tushar did not act in Jodiwale.

Classwork

1. Amit, Bina, Chandu, Dilip and Eshwar like 5 different types of chocolates – Daily Milk, 5*, Nuts and Bolts, Kat Kit and Perky. Also, we have the following information:

   i.   Any person likes a chocolate whose initials match the chocolate's first alphabet

   ii. Bina does not like Daily Milk or Kat Kit

   iii. Eshwar likes Perky

   iv. Amit prefers Daily Milk or 5*

a) Who likes Nuts and Bolts?
b) What chocolate does Bina like?

2. Abraham, Bindu, Chintu and Darpan like 4 different brands of cars and eat 4 different food items. Some of their preferences are listed below:
   i. Bindu eats pizza while Abraham does not like sandwiches
   ii. The person who drives Honda City eats Pav Bhaji
   iii. Abraham drives a car of the Honda brand.
   iv. Bindu does not drive the Mercedes.
   v. Chintu does not drive the Honda city or the Honda Civic.
   vi. Abraham likes dosa.
a) What car does Chintu drive?
b) What does Darpan like to eat?
c) Who drives Santro?
d) Who eats sandwiches?

3. 6 people P, Q, R, S, T and U like to play 6 different sports from cricket, football, hockey, badminton, wrestling and kabaddi and also like watching 6 different movies – KHKN, HAHK, KKHH, KGKG, MPK and Dil. Some details known about the players are as follows:
   i. P likes MPK or Dil, and plays either cricket or hockey.
   ii. Q, U and T like a movie starting with K.
   iii. R likes Badminton while U likes KKHH.
   iv. The person who likes Kabaddi likes KHKN.
   v. T does not like hockey or football, while U does not like cricket or hockey.
   vi. The person who likes wrestling likes Dil.
   vii. Q does not like hockey, kabaddi or football.
a) What movie does the cricket player like?
b) Who likes to watch MPK?
c) What is the sport played by R and which movie does he watch?

4. A group of 9 members A, B, C, D, E, F, G, H and I is to be divided into 3 boats carrying 3 persons each for travelling purposes. The groups are made on following conditions:
   a. A and I will never travel in the same boat.
   b. G and H are best friends and always want to be together.
   c. If B goes in a particular boat, E has to accompany him.
   d. A will not travel with E.
   e. C will not travel with G.
   f. D and F will not travel with each other.
a) If F is travelling with H, then who is definitely travelling with B?
1) D   2) A   3) I   4) E   5) Both 3 and 4

b) If A travels on the same boat as G, then who of the following will definitely travel with C?
1) D   2) H   3) I   4) E   5) None of these

2) If D travels with G, which of the following is a possible combination on one of the boats?
1) ACF   2) AIF   3) CEB   4) FEB   5) CFI

5. Four boys A, B, C and D, four girls P, Q, R and S and four teachers L, M, N and O are to be divided into 3 groups. Each group must have atleast 1 boy, 1 girl and 1 teacher. The conditions are the following:
   a. A and Q never want to be together.
   b. O alone will lead a group of 2 boys and 1 girl.
   c. No group should exceed 5 participants.
   d. M and N never want to be together.
   e. R and D don't want to be together.
   f. L's group has Q and R in it.
   g. N is in a group which has only 2 students.
   a) Which of the following is a possible group combination?
   1) LQRS   2) OBCR   3) MOCB   4) NAS   5) ASO
   b) If A is in the same group as B, then which of the following will definitely be in N's group?
   1) C   2) D   3) L   4) R   5) S
   c) If S and A are the students in the 2-student group, who are the students in O's group?
   1) DCP   2) BCP   3) DBP   4) CBP   5) 1 or 3

Some Practice Questions
1-5. K, L, M, N, P, Q, R, S, U and W are the only ten members in a department. There is a proposal to form a team from within the members of the department, subject to the following conditions:
A team must include exactly one among P, R, and S.
A team must include either M or Q, but not both.
If a team includes K, then it must also include L, and vice versa.
If a team includes one among S, U, and W, then it must also include the other two.
L and N cannot be members of the same team.
L and U cannot be members of the same team.
The size of a team is defined as the number of members in the team.
  Q1) What could be the size of a team that includes K?
  (1) 2 or 3   (2) 2 or 4   (3) 3 or 4   (4) Only 2   (5) Only 4
  Q2) In how many ways a team can be constituted so that the team includes N?
  (1) 2   (2) 3   (3) 4   (4)5   (5) 6
  Q3) What would be the size of the largest possible team?
  (1) 8   (2) 7   (3) 6   (4) 5   (5) Cannot be determined
  Q4) Who can be a member of a team of size 5?
  (1) K   (2) L   (3) M   (4) P   (5) R
  Q5) Who cannot be a member of a team of size 3?
  (1) L   (2) M   (3) N   (4) P   (5) Q

6. The surnames of four professionals are: Bannerji, Chatterji, Mukherji and Pestonji. Their professions are accountant, lawyer, dentist and doctor (not necessarily in this order). The accountant and lawyer work in their offices, while the dentist and doctor work in their nursing homes. The accountant looks after Mukherji's and Chatterji's account. Chatterji, does not know Bannerji, although his nursing home is in the same street as Bannerji's office. Chatterji is not a doctor. What are the occupations of the four people?

  (A) Bannerji Doctor,Chatterji Dentist,Mukherji-accountant and PestonjiLawyer

  (B) Bannerji-Lawyer,Chatterji-Dentist,Mukherji-accountant and pestonji-Doctor

  (C) Bannerji-Lawyer,Chatterji-Dentist,Mukherji-Doctor and Pestonji-Accountant

  (D) Bannerji-Doctor,Chatterji-Accountant,Mukherji-Dentist and Pestonji-Lawyer

  (E) Bannerji-Dentist,Chatterji-Lawyer,Mukherji-Doctor and Pestonji-Accountant

7-10: A, B, C, D and E are 5 friends who like 5 different types of fruits – apple, banana, chickoo, mango and orange and use 4 different types of vehicles for transport – Altis, Innova, Polo and Verna. Given:
●   There are 3 married people in the group of which 2 are married to each other
●   The boy who is single eats chickoo and drives a Polo
●   A loves mangoes while E hates oranges
●   The only males in the group are D and E.
●   The married couple share the Innova between them and prefer orange and apple as fruits
●   Girls prefer banana, apple and mango.
●   C drives an Altis and is a spinster

7. Which is the married couple?

(a) A-D   (b) B – E   (c) A – E   (d) B – D   (e) None of these

8. What fruit does C like?

   (a) Apple   (b) Banana   (c) Chickoo   (d) Mango   (e) Orange

9. Who drives the Verna?

   (a) A   (b) B   (c) D   (d) E   (e) Cannot be determined

10. Who among the following are married?

(a)   A, B and D   (b) A, B and E   (c) A, C and D   (d) A, C and E   (e) Cannot be determined