**1.3 SELECTIONS**

**Introduction to the Topic**

In the questions of this topic, a team or group of people or things has to be chosen from a number of given people or things. The questions contain number of people or items with certain conditions given to select or not to select them. A candidate has to use these conditions carefully to find the selections, group or team.

**Relevance in CAT**

The questions of this topic are very commonly asked in the CAT examination. Sometimes the data has been given in the form of paragraph and sometimes the data is given in form of the table. Before going online the last known instance of such question being asked was in CAT 2006 examination.

The questions asked so far on this topic have been moderate or slightly difficult in level and hence if asked in the examination, provides a good avenue to score in the logical reasoning section.

**Understanding Logical Conditions**

While solving the questions of this topic a student will across many different logical conditions. Some of the logical conditions with their meanings are listed below:

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| **Some common Logical Conditions** | | | |
| **Logical condition** |  |  | **Meaning** |
| A and B will always be selected together  A will selected only if B is in the team  A will not be selected unless B is selected |  |  | ● If A is selected, B has to be selected  ● If B is selected, A has to be selected  ● If A is not selected, B cannot be selected  ● If B is not selected, A cannot be selected |
| A and B will never be in the same team  Either A or B will be selected in the team |  |  | ● If A is selected, B will not be selected  ● If B is selected, A will not be selected  ● If A is not selected, B can be selected in the team  ● If B is not selected, A can be selected in the team |
| One of A or B has to be the part of the team |  |  | ● If A is selected, B will not be selected  ● If B is selected, A will not be selected  ● If A is not selected, B will be selected  ● If B is not selected, A will be selected |

These were some commonly used logical condition in the questions, there can be many more based on different data given.

**Example 1:** A group of three or four has to be selected from seven persons. Among the seven are two women: Fiza and Kavita, and five men: Ram, Shyam, David, Peter and Rahim. Ram would not like to be in the group if Shyam is also selected. Shyam and Rahim want to be selected together in the group. Kavita would like to be in the group only if David is also there. David, if selected, would not like Peter in the group. Ram would like to be in the group only if Peter is also there. David insists that Fiza be selected in case he is there in the group. **[CAT 2001]**

I) Which of the following is a feasible group of three?

a. David, Ram and Rahim b. Peter, Shyam and Rahim

c. Kavita, David and Shyam d. Rahim, Shyam and Ram

II) Which of the following is not a feasible group of four?

a. Ram, Peter, Fiza and Rahim b. Shyam, Rahim, Kavita and David

c. Shyam, Rahim, Fiza and David d. Fiza, David, Ram and Peter

III) Which of the following statements is true?

a. Kavita and Ram can be part of a group of four b. A group of four can have two women

c. A group of four can have all four men d. None of these

**Solution:**

According to the given information we can get the following points for team selection:

● 2 females, 5 males

● Team of 3 or 4

● If Shyam is selected then Ram will not be selected, means if Ram is there in the team then Shyam is not there.

● Shyam and Rahim are always together. On basis of this we can deduce that if Rahim is selected then Ram will not be selected.

● Kavita will be in the team only if David is there, but we cannot necessarily say that if David is there Kavita need to be in the team necessarily.

● Ram can part of the group only if Peter is there, but if Peter is there it is not necessary that Ram is there.

● If David is there then Peter will not be there, means if Peter is there David will not be selected.

● If David is there then Fiza will be in the team, but if Fiza is in the team then David may be selected but there is no compulsion.

Keeping all these points in mind let us now see the questions one by one.

I) The team of David, Ram and Rahim is not feasible as David can be in the team only if Fiza is there. The team of Peter, Shyam and Rahim is a valid team, as Shyam and Rahim should always be together also Peter cannot be with David hence no condition is violated. The team of Kavita, David and Shyam is not feasible as David need to have Fiza in the same team.v The team of Rahim, Shyam and Ram is not a feasible team as Shyam and Ram cannot be in the same team.

II) Ram, Peter, Fiza and Rahim is not a feasible team as Rahim and Shyam will always be together. Shyam, Rahim, Kavita and David is not a feasible team as condition of David being in the team should also have Fiza in the team is violated. Shyam, Rahim, Fiza and David are a feasible team as Fiza is there when David is there and Shyam and Rahim are also together. Fiza, David, Ram and Peter is not a feasible team as if David is there Peter cannot be there.

III) First statement says Kavita and Ram can be a part of group of 4. According to conditions if Ram is there then Peter has to be there. If Kavita is there then David needs to be there, but David and Peter cannot be in the same and hence the statement is not correct. The next statement says a group of 4 can have 2 women; means both Fiza and Kavita are selected. Now if they are selected then David will also be selected. David is there means Peter cannot be there and hence Ram cannot be there. Also Shaym and Rahim have to be in the same team so one of them alone cannot be selected. We don’t have a 4th candidate and hence the statement is not true. The next statement says that all the four members can be males. Shyam and Rahim are always together so if they are selected we cannot select Ram. We can select Peter but then David will not be selected. We cannot find a legitimate team of 4 males. Hence none of the statements are true.

**Example 2:** The table below reports the gender, designation and age-group of the employees in an organization. It also provides information on their commitment to projects coming up in the months of January (Jan), February (Feb), March (Mar) and April (Apr), as well as their interest in attending workshops on: Business Opportunities (BO), Communication Skills (CS), and E-Governance (EG).

An employee cannot attend the workshop on:

● Communication Skills, if he/she is committed to internal projects in the month of January.

● Business Opportunities, if he/she is committed to internal projects in the month of February.

● E-governance, if he/she is committed to internal projects in the month of March.

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| --- | --- | --- | --- | --- | --- | --- |
| **SI No.** | **Name** | **Gender** | **Designation** | **Age Group** | **Committed to Project during** | **Interested in workshop on** |
| 1. | Anshul | M | Mgr. | Y | Jan, Mar | CS, EG |
| 2. | Bushkant | M | Dir. | I | Feb, Mar | BO, EG |
| 3. | Charu | F | Mgr. | I | Jan, Feb | BO, CS |
| 4. | Dinesh | M | Exe. | O | Jan, Apr | BO, CS, EG |
| 5. | Eashwaran | N | Dir. | O | Feb, Apr | BO |
| 6. | Fatima | F | Mgr. | Y | Jan, Mar | BO, CS |
| 7. | Gayatri | F | Exe. | Y | Feb, Mar | EG |
| 8. | Hari | M | Mgr. | I | Feb, Mar | BO, CS, EG |
| 9. | Indira | F | Dir. | O | Feb, Apr | BO, EG |
| 10. | John | M | Dir. | Y | Jan, Mar | BO |
| 11. | Kalindi | F | Exe. | I | Jan, Apr | BO, CS, EG |
| 12. | Lavanya | F | Mgr. | O | Feb, Apr | CS, EG |
| 13. | Mandeep | M | Mgr. | O | Mar, Apr | BO, EG |
| 14. | Nandlal | M | Dir. | I | Jan, Feb | BO, EG |
| 15. | Parul | F | Exe. | Y | Feb, Apr | CS, EG |
| 16. | Rahul | M | Mgr. | Y | Mar, Apr | CS, EG |
| 17. | Sunita | F | Dir. | Y | Jan, Feb | BO, EG |
| 18. | Urvashi | F | Exe. | I | Feb, Mar | EG |
| 19. | Yamini | F | Mgr. | O | Mar, Apr | CS, EG |
| 20. | Zeena | F | Exe. | Y | Jan, Mar | BO, CS, EG |

M = Male, F = Female; Exe = Executive, Mgr = Manager, Dir = Director; Y = Young, I = In between, O = Old

For each workshop, exactly four employees are to be sent, of which at least two should be Females and at least one should be Young. No employee can be sent to a workshop in which he/she is not interested in. **[CAT 2005]**

I) Assuming that Parul and Hari are attending the workshop on Communication Skills (CS), then which of the follow-

ing employees can possibly attend the CS workshop?

a. Rahul and Yamini b. Dinesh and Lavanya

c. Anshul and Yamini d. Fatima and Zeena

II) How many Executives (Exe) cannot attend more than one workshop?

a. 2 b. 3 c. 15 d. 16

III) Which set of employees cannot attend any of the workshops

a. Anshul, Charu, Eashwaran and Lavanya

b. Anshul, Bushkant, Gayatri, and Urvashi

c. Charu, Urvashi, Bushkant and Mandeep

d. Anshul, Gayatri, Eashwaran and Mandeep

**Solution:**

I) Parul and Hari are there out of them one is female and other is male. We need another female in the team, also one need to be young the condition being met by Parul. Rahul and Yamni contains 1 female so the condition of another female is being satisfied, also they are not committed in the month of January. Dinesh and Lavanya contain a female so the condition is met, but Dinesh has a commitment in month of January so he cannot be selected. Anshul and Yamini have one female so the condition is met. But Anshul is committed in the month of January hence he cannot be selected. Fatima and Zeena are both females hence the condition is met. Fatima and Zeena are both committed in the month of January and hence cannot be selected.

II) Dinesh can attend BO and EG workshops only as he is committed in January and hence cannot attend the workshop on CS. Gayatri cannot attend any of the workshops as she is committed in the month of February and March. Kalindi can attend BO and EG workshops but cannot attend CS workshop due to commitment in the month of January. Parul can attend both CS and EG workshops. Urvashi cannot attend the EG workshop the only workshop she has been nominated for as she is busy in the month of March. Zeena cannot attend CS and EG as she is committed Jan and Mar but she can attend BO workshop. So, there are 3 executives viz. Gayatri, Urvashi and Zeena who cannot attend more than 1 workshop.

III) From the given conditions Anshul, Bushkant, Charu, Eashwaran, Gayatri and Urvashi cannot attend even 1 workshop. Hence the quartet given in the (ii) option fits the given condition.

**Practice Exercise – Easy**

**Directions (Q. Nos. 1 – 5):** *Read the following information carefully and answer the questions given below it.*

The Director of a B-school wishes to select four members of a faculty-student committee as representatives to meet with the School’s Board of Directors. The faculty - student committee consists of exactly four faculty members –Singhvi, Chopra, Arora and Gupta– and four students –Anshul, Hitu, Kapil and Jaya.

The Director can select any of the committee members as representatives as long as he observes the following restrictions:

I. The group of four representatives must consist of exactly two faculty members and two students

II. Either Singhvi or Chopra must be one of the representatives, but Singhvi and Chopra cannot both be representatives.

III. If Anshul is a representative, Arora must also be a representative.

IV. If Kapil is a representative, Chopra cannot be a representative.

1. If Chopra, Gupta and Hitu are representatives, which of the following must also be a representative?

a. Arora b. Jaya c. Anshul d. Kapil

2. If Anshul is a representative, which of the following cannot

also be a representative?

a. Gupta b. Arora c. Hitu d. Kapil

3. If Kapil is a representative and Arora is not a representative,

the group of representatives would be completely determined if it were also true that?

a. Chopra is not a representative

b. Jaya is not a representative

c. Anshul is not a representative

d. Gupta is a representative

4. If neither Hitu nor Jaya is a representative, which of the

following is the pair of faculty members who must be representatives?

a. Singhvi and Arora b. Singhvi and Gupta

c. Chopra and Arora d. Chopra and Gupta

5. If Chopra is a representative, which of the following can be the other three representatives?

a. Gupta, Jaya, Anshul b. Arora, Hitu, Anshul

c. Arora, Hitu, Kapil d. Singhvi, Hitu, Jaya

**Directions (Q. Nos. 6 – 10):** *Read the following information carefully and answer the questions given below it.*

Zenith Consultants presently has three SME’s – P, Q, and R – and five Managers – J, K, L, M and N. Its Management is planning to open a new office in Chennai using three Managers and two SME’s from its present staff. The following guidelines have been established to set up the new office:

I. P and R are constantly finding faults with each other and should not be sent as members of the same team.

II. R and K function well alone but not as a team. They should not be sent as members of the same team.

III. J and M do not enjoy good relations. They should not be sent as members of the same team.

IV. Since J and L have been competing for a promotion, they should not be sent as members of the same team.

6. If R and L are moved to the new office, then what is the number of different teams that can be formed?

a. 1 b. 2 c. 3 d. 4

7. If R is sent to the new office, then which member of the staff cannot go with R?

a. J b. L c. M d. N

8. Under the guidelines developed, which of the following must go to the new office?

a. J b. Q c. K d. M

9. Under the guidelines developed, which one of the following

is the possible number of different teams which can be sent to the new office?

a. 6 b. 8 c. 12 d. 15

10. If J goes to the new office, then which of the following is/are correct?

I. R cannot go.

II. P cannot go

III. N must also go

a. I only b. II only c. I and II d. I and III

**Practice Exercise – Medium**

**Directions (Q. Nos. 1 – 5):** *Read the following information carefully and answer the questions given below it.*

There are five males M1, M2, M3, M4 and M5 and six females F1, F2, F3, F4, F5 and F6. M1, M2 and F3 are young; M3, M4, F1, F2 and F4 are middle aged and the rest are old. Some teams are to be selected from amongst these eleven persons subject to the following conditions:

I. M1, F1 and F6 have to be together.

II. M2 cannot go with M4 or F3.

III. M5 and F2 have to be together.

IV. M3 and F5 have to be together.

V. M4 and F1 cannot go together.

VI. M3 cannot go with F2.

1. If the team is to consist of two young males, two middle aged ladies and one old person, the members of the team are?

a. M1, M2, F1, F2, F6 b. M1, M2, F1, F6, F4

c. M1, F1, F3, M4, F6 d. M2, M5, F2, F3, F4

2. If the team is to consist of one young, two middle aged, three old person and M3 may not go with M5, the mem- bers of the team are?

a. M1, M5, F1, F2, F4,F6

b. M1,M5, F1, F2, F5,F6

c. M2, M5, F2, F4, F5, F6

d. M5, F2, F3, F4, F5, F6

3. If the team is to consist of one young male, one middle aged male, one middle aged female and two old persons, the members of the team are?

a. M1, M3, F1, F5, F6 b. M1, M4, M5, F1, F5

c. M1, M4, M5, F1, F6 d. M2, M3, M5, F2, F6

4. If the team is to consist of one young, three middle aged persons and an old male, the members of the team are:

a. M1, M4, F1, F4, F6 b. M3, M4, F3, F4, F5

c. M4, M5, F2, F3, F4 d. M4, M5, F2, F3, F5

5. If the team is to consist of two young, two middle aged persons, two old persons and not more than three females, the members of the team are?

a. M1, M2, M3, F1, F5, F6

b. M1, M3,F1, F3, F5, F6

c. M1, M5, F1, F2, F3, F5

d. M2, M3, M5, F2, F3, F5

**Directions (Q. Nos. 6 – 10):** *Read the following information carefully and answer the questions given below it.*

Five players are to be selected to play an exhibition match before the start of ICC World Cup 2015. The available players are Shikhar, Rohit, Virat,Suresh, Dhoni, Akshar, Jadeja, Kumar, Ishant and Ashwin.

I. Exactly one of Jadeja and Kumar must be selected.

II. Kumar and Shikhar must be selected together, if selected.

III. Rohit and Akshar must be selected together, if selected.

IV. Akshar and Ashwin cannot be selected together.

V. Virat and Suresh cannot be selected together.

6. Which of the following can be a possible team?

a. Rohit, Virat, Dhoni, Akshar, Ishant

b. Rohit, Akshar, Virat, Jadeja, Ashwin

c. Kumar, Suresh, Rohit, Akshar, Ishant

d. Shikhar, Kumar, Rohit, Akshar, Dhoni

7. If Ashwin is selected and Dhoni is not selected, then who among the following cannot be selected?

a. Kumar b. Suresh c. Virat d. Jadeja

8. Which of the following statements must be true?

a. If Jadeja is selected, then Rohit is selected.

b. If Jadeja is selected, then at least one of Dhoni and Ishant is selected.

c. If Kumar and Rohit are selected, then Dhoni cannot be selected.

d. If Ashwin is not selected, then Rohit is selected.

9. If Jadeja is selected, then which of the following can be the group of players who are not selected?

a. Kumar,Shikhar,Akshar,Suresh,Ishant

b. Kumar,Shikhar,Suresh,Dhoni,Ishant

c. Kumar, Shikhar, Dhoni, Suresh, Ashwin

d. Kumar, Virat, Suresh, Ashwin, Dhoni

10. If Jadeja is not selected and Ashwin is selected, then the total numbers of possible selections are:

a. 4 b. 5 c. 2 d. 6

**Directions (Q. Nos. 11 – 14):** *Read the following information carefully and answer the questions given below it.*

Giani asked Bittoo to select 6 ice-creams of different flavours from the available ten flavours - Vanilla, Chocolate, Strawberry, Butter Scotch, Belgian Chocolate, Fruit, Tutti-Fruti, Cookie crumbs, Hot Choco fudge and Kesar-Pista.

Giani has laid down some conditions for Bittoo, as given below:

I. If Bittoo selects the Strawberry ice-cream, then he must select the Vanilla ice-cream also, and vice versa.

II. If Bittoo selects the Cookie Crumbs ice-cream, then he must select the Tutti-Fruti ice-cream also, and vice versa.

III. If Bittoo selects the Fruit ice-cream, then he cannot select the Cookie crumbs ice-cream.

IV. Exactly one of Chocolate and Hot Choco fudge icecreams must be selected.

11. If Bittoo selects the Fruit ice-cream, then he has to select the

a. Butter Scotch ice-cream.

b. Strawberry ice-cream.

c. Hot Choco fudge ice-cream.

d. Kesar-Pista ice-cream.

12. If Bittoo does not select the Cookie Crumbs or the KesarPista ice-cream, then among the following choices he can reject the

a. Belgian Chocolate ice-cream.

b. Butter Scotch ice-cream.

c. Vanilla ice-cream.

d. Chocolate ice-cream.

13. Which of the following can be the list of flavours of icecreams selected by Bittoo?

a. Fruit, Belgian Chocolate, Butter Scotch, Strawberry, Kesar-Pista, Vanilla.

b. Chocolate, Strawberry, Vanilla, Butter Scotch, Cookie crumbs, Fruit.

c. Tutti-Fruti, Cookie crumbs, Kesar-Pista, Hot Choco fudge, Belgian Chocolate, Butter Scotch.

d. Chocolate, Belgian Chocolate, Strawberry, Vanilla, Hot Choco fudge, Butter Scotch.

14. Which of the following can confirm the selection of icecreams?

a. Strawberry and Fruit ice-creams are selected.

b. Chocolate and Cookie crumbs ice-creams are selected.

c. Vanilla and Chocolate ice-creams are not selected.

d. Cookie crumbs ice-cream is not selected, but the Vanilla ice-cream is selected.

**Directions (Q. Nos. 15 – 20):** *Read the following information carefully and answer the questions given below it.*

A team of five players is to be selected from a group of ten players –Peter, Swamy, Anna, Ashwin, Murali, Ranga, Naga, Smith, Shyam and Prasad. Exactly one of Naga and Smith must be selected. Smith and Peter must be selected together, if selected. Swamy and Ranga must be selected together, if selected. Ranga and Prasad cannot be selected together. Anna and Ashwin cannot be selected together.

15. Which of the following can be a possible team?

a. Swamy, Anna, Murali, Ranga, Shyam

b. Swamy, Ranga, Anna, Naga, Prasad

c. Smith, Ashwin, Swamy, Ranga, Shyam

d. Peter, Smith, Swamy, Ranga, Murali

16. If Prasad is selected and Murali is not selected, then who among the following cannot be selected?

a. Smith b. Ashwin

c. Naga d. Shyam

17. Which of the following statements must be true?

a. If Naga is selected, then Swamy is selected.

b. If Naga is selected, then at least one of Murali and Shyam is selected.

c. If Smith and Swamy are selected, then Murali cannot be selected.

d. If Prasad is not selected, then Swamy is selected.

18. If Naga is selected, then which of the following can be the group of players who are not selected?

a. Smith, Peter, Ranga, Ashwin, Shyam

b. Smith, Anna, Ashwin, Prasad, Peter

c. Smith, Peter, Murali, Ashwin, Ranga

d. Smith, Peter, Ashwin, Murali, Shyam

19. If Naga is not selected and Prasad is selected, then the total number of possible selections are

a. 4 b. 5 c. 6 d. 3

20. Which of the following is not possible team?

a. Naga, Smith, Peter, Swamy, Ranga

b. Shyam, Peter, Swamy, Ranga, Prasad

c. Swamy, Ranga, Smith, Anna, Shyam

d. None of these

**Practice Exercise – Difficult**

**Directions (Q. Nos. 1 – 5):** *Read the following information carefully and answer the questions given below it.*

Two different teams of four persons each are to be selected from twelve persons P1 through P12. Among them 6 persons P1 through P6 like Indian Cuisine and the remaining persons like Chinese Cuisine. In a team there must be two people who like Indian Cuisine and two people who like Chinese Cuisine. The teams are to be selected based on the following conditions:

I. If P1 is selected, then P12 should not be selected.

II. If P2 is selected in a team, then P8 must be selected in the other team.

III. If P10 is selected in a team, then P11 must be selected in the same team.

IV. Exactly one among P3, P4 and P11 must be selected.

V. Only if P4 is selected, P9 can be selected.

VI. At most one of P4 and P8 can be selected.

1. Who will not be selected?

a. P1 b. P5 c. P6 d. P12

2. If P11 is selected in team 1, then in how many ways team 2 can be selected?

a. 1 b. 2 c. 3 d. 4

3. Which of the following is a possible team?

a. P11-P10-P5-P6 b. P5-P2-P7-P10

c. P1-P2-P10-P8 d. P8-P1-P5-P7

4. If P9 is selected in a team, then who among the following must be selected in that team?

a. P2 b. P5 c. P6 d. P1

5. If the persons who are not selected form a team, what is the team?

a. P3-P4-P9-P12 b. P3-P4-P7-P11 c. P1-P5-P7-P9 d. None of these

**Directions (Q. Nos. 6 – 10):** *Read the following information carefully and answer the questions given below it.*

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:

I. A team must include exactly one among P, R, and S.

II. A team must include either M or Q, but not both.

III. If a team includes K, then it must also include L, and vice versa.

IV. If a team includes one among S, U, and W, then it must also include the other two.

V. L and N cannot be members of the same team.

VI. 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. **[CAT 2006]**

6. Who cannot be a member of a team of size 3?

a. L b. M c. N d. P

7. Who can be a member of a team of size 5?

a. K b. L c. M d. P

8. What would be the size of the largest possible team?

a. 7 b. 6

c. 5 d. Cannot be determined

9. What could be the size of a team that includes K?

a. 2 or 3 b. 3 or 4

c. Only 2 d. Only 4

10. In how many ways a team can be constituted so that the team includes N?

a. 3 b. 4 c. 5 d. 6

**Directions (Q. Nos. 11 to 15):** *Read the following information carefully and answer the questions given below it.*

In a reception party there are 4 bar counters and a total of 14 varieties of wine available. Any counter should have at least 2 varieties of wine and not two counters have the same number varieties available. A variety can be present only at one of the counters. Some conditions to place the wines at different counters are given:

I. Each of Grost, Sula, Seagram and Royal must be on the different bar counters.

II. Each of Bollinger, Crop, Pinna and Shalt must be on the different bar counters.

III. Rene, Casto and Neelo must be on the same bar counter. Hoff and Riviera also must be on the same counter.

IV. Grost cannot be on the same counter with any of Crop, Pinna and Shalt.

V. Sula cannot be placed on the same counter with either Shalt or Pinna.

VI. Seagram cannot be on the same counter with Shalt.

VII. Yardly is placed on one of the counters.

11. How many possible ways are there to set up the bar counters with these 14 wines?

a. 24 b. 120 c. 64 d. 6

12. If Bollinger must be on the same counter with Riviera, then how many possible ways are there to set up the counters?

a. 24 b. 120 c. 64 d. 6

13. Which of the following statements is not definitely true?

a. Yardly is on the counter where 3 varieties are available.

b. There is a counter with only 2 varieties being available.

c. Neelo is on the counter with 4 more varieties.

d. Hoff has only one more variety available with it on the counter.

14. Which of the following additional statements is sufficient to know which wines are one which counter?

a. Bollinger and Crop are on the counters with 5 and 4 varieties respectively and Seagram is not on the counter where 3 varieties are available.

b. Neelo and Riviera are on the counters with 5 and 4 varieties respectively and Yardly is not on the counter with 2 varieties.

c. Rene and Yardly are on the counters with 5 and 3 varieties respectively and Hoff is not on the counter with 2 varieties.

d. None of these

15. Who of the following must be a on the counter with 5 wines varieties present on it?

a. Pinna b. Rene c. Shalt d. Hoff

**Directions (Q. Nos. 16 – 20):** *Read the following information carefully and answer the questions given below it.*

India needs to pick 11 players out of the squad of 16 for their first match of WC 2015 which is against Pakistan. The squad consists of Dhawan, Vijay, Dhoni, Jadeja, Binny, Yadav, Kumar, Ashwin and Rayudu who are batsmen. Sharma, Rahane, Samson, Jadeja, Patel, Ashwin, Kumar and Kohli are bowlers. Aaron and Sami are wicket-keepers. Any player who can bowl and bat both is called an all-rounder. The captain and the vice-captain are all-rounders. The team should contain 5 batsmen, 3 bowlers, 2 all-rounders and a wicket keeper and the captain and the vice-captain must be selected. Neither Jadeja nor Kumar is the captain and neither Ashwin nor Jadeja is the vice-captain. The players mentioned in the following pairs must not get selected together: Ashwin and Sami, Sharma and Samson, Rahane and Patel, Rahane and Kohli, Dhoni and Binny, Dhawan and Dhoni, Sharma and Vijay.

16. Which two players are the Captain and the Vice- Captain of the team respectively for the match against Pakistan?

a. Ashwin and Jadeja b. Jadeja and Kumar

c. Ashwin and Kumar d. Jadeja and Yadav

17. Who are the three bowlers selected in the team?

a. Samson, Patel and Kohli

b. Rahane, Samson and Patel

c. Samson, Patel and Sharma

d. Sharma, Rahane and Samson

18. Which of the following is definitely true?

a. Dhawan, Vijay, Samson, Sami, Rayudu and Kohli are selected.

b. Sharma, Rajane, Dhoni, Binny, Jadega and Sami are not selected.

c. Kumar, Aaron, Yadav, Ashwin, Sami and Binny are selected.

d. Vijay, Samson, Patel, Binny, Ashwin and Yadav are selected.

19. Which of the following is definitely false?

a. Ashwin, Rayudu, Kohli, Dhawan, Aaron and Binny are selected.

b. Aaron,Rayudu, Samson, Patel and Vijay are not selected.

c. Sharma, Rahane, Dhoni and Sami are not selected.

d. Kumar, Binny, Yadav, Kohli and Rayudu are selected.

20. 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 final match? (In the tournament there are two groups of 8 teams with top 4 teams from each group playing the knockout rounds. In group each team plays all the other teams of the same group once)

a. Ashwin

b. Kumar

c. Either Ashwin or Kumar

d. Aaron

**Directions (Q. Nos. 21 – 24):** *Read the following information carefully and answer the questions given below it.*

In a corporate office there are three departments – Consulting, Marketing and Operations. There are in all, twenty managers and consultants. Of them five are MBA managers – MM1, MM2, MM3, MM4 & MM5; seven are MBA consultants– MC1, MC2, MC3, MC4, MC5, MC6 & MC7; three are graduate managers – GM1, GM2 & GM3 and five are graduate consultants– GC1, GC2, GC3, GC4 & GC5. Operations department is composed MM1, MC1, MC2, MC3, GM1 and GC1. Marketing department is composed of MM2, MM3, MC4, MC5, GM2, GC3 and GC4. The remaining persons are in the consulting department. Different groups are to be formed out of these managers and consultants as per the constraints below.

I. No MBA consultant in the Operations department can be grouped with any graduate consultant in Consulting department.

II. No graduate manager can be grouped with any MBA consultant.

21. A group of six members is to be formed with one manager

and one consultant from each department. There must be a minimum of two graduate members in the group. Which of the following combination is possible?

a. MM1, MM3, MM5, MMC2, GM2, GC4

b. MM1, GC1, MM2, GC3, GM3, GC5

c. MM2, MM3, MM5, GM1, GM2, GC5

d. MM1, GC3, MM4, GC1, GM3, GC5

22. A delegation of graduates is to be sent to attend a seminar. Any manager in Marketing department is not ready to

join with any consultant in the Operations department. The delegation should have a minimum three managers. Further every department must be represented in the delegation. Which of the following is possible?

a. MM1, MM2, MC3, GM1, GM2, GM3

b. MM1, MM3, MM2, GM3, MC5, MC7

c. GC1, GM2, GC4, GC5, GM3, GC3

d. GM1, GM2, GM3, GC3, GC5, GC4

23. A joint committee of five members is to be formed from the managers & consultants of Operations and Consulting department’s only. The committee must have minimum two managers and two consultants. There should be at- least two graduate members in the committee. Which of the following combination is possible?

a. MM1, MM4, MC1, GC2, GC5

b. MM1, MC1, MM4, MC7, GC5

c. MM1, MM5, MM3, MC1, GC1

d. MM1, MM4, MC7, GC2, GC5

24. A departmental committee is to be formed in Marketing department only. There should be four members in the committee and one of them must be a graduate. The committee must include the superior manager of the department H. However, he cannot work with N, further I cannot work with M. Which of the following is possible?

a. MM2, GC3, GM2, MC5

b. MM3, MC4, GC4, MC5

c. MM2, MM3, GM2, MC4

d. MM2, GC3, MC4, MC5

**Directions (Q. Nos. 25 – 29):** *Answer the question on the basis of the information given below.*

Devilliers, Gayle, Smith, Sharma, Finch, Kohli, Williamson, Corey, Kevin, and Maxwell are ten players that are playing in the World cup 2015. Several fantasy teams comprising of one or more than one out of these ten mentioned players are formed. ‘Strength’ of a team is defined as the total number of players in the team. The strength of each team that is formed is at least 2.

I. Devilliers, and Corey must be together in the same team but Corey and Devilliers should not be present in the same team.

II. Gayle and Finch should not be together in the same team.

III. Kevin, Gayle and Smith if present should be present in the same team.

IV. Kohli and Maxwell must be together in the same team but Devilliers, and Kohli should not be together in the same team.

25. What is the maximum possible strength of a team?

a. 9 b. 8 c. 7 d. 6

**Additional information for (Q. Nos. 26 – 27):**

All the teams formed have strength 4.

26. How many such teams can be formed?

a. 5 b. 4 c. 3 d. 6

27. How many out of these ten given players cannot be in a team whose strength is 4?

a. 0 b. 1 c. 2 d. 3

28. What is maximum possible strength of the team that has both Finch and Sharma?

a. 3 b. 6 c. 4 d. 5

29. How many teams can be formed whose strength is 3?

a. 11 b. 10 c. 9 d. 7