

1. Mr. Bedi's family members went on a picnic. There were two grandfathers and four fathers and two grandmothers and four mothers in the group. There was at least one grandson or a granddaughter present in this group. There were two husband-wife pairs in this group. The single grandfather (whose wife was not present) had two grandsons and a son present in the party. The single grandmother (whose husband was not present) had two granddaughters present. A grandfather or a grandmother present with their spouses did not have any grandson or granddaughter present.

What was the minimum number of people present in this picnic group?

- (a) 14 (b) 10
(c) 12 (d) 16

Directions for Questions 2 to 4:

- I. Five girls—Seema, Reema, Neeta, Mona and Veena have total five tickets at movie theatres—Priya, Chanakya, M2K, PVR Saket, Satyam where movies—Gangster, Khiladi, Hero Saalaam Namaste and Iqbal are currently playing. Each girl has one movie ticket of one of the five theatres.
- II. The movie Gangster is running in Priya theatre whose ticket is not with Veena and Seema.
- III. Mona had ticket of Iqbal movie.
- IV. Neeta had ticket for the M2K theatre. Veena has the ticket of Satyam theatre where Khiladi is not running.
- V. In PVR Saket theatre Saalaam Namaste is running.
2. Which is the correct combination of the Theatre -Girl-Movie?
- (a) M2K-Neeta-Hero
(b) Priya-Mona-Gangster
(c) Satyam-Veena-Iqbal

8.

- (a) All universities appoint experienced teachers.
- (b) Kashi Vidyapeeth appoints experienced teachers.
- (c) Kashi Vidyapeeth is a university.
- (d) Some universities employ experienced teachers.
- (e) Kashi Vidyapeeth only appoints experienced teachers.

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|---------|---------|
| (a) ABC | (b) CDB |
| (c) ACB | (d) ACE |

9.

- (a) Migration of people augments housing problem in urban areas.
- (b) Increase in housing problem in urban areas is detrimental to economic growth.
- (c) Migration of people is detrimental to economic growth.
- (d) Some migration does not cause increase in urban housing problem.
- (e) Some migration is not detrimental to economic growth.

- | | |
|---------|---------|
| (a) CBA | (b) BDE |
| (c) CDE | (d) BAC |

10.

- (a) Some drivers are drug addicts.
- (b) All drug addict drivers should be terminated.
- (c) Driver Balbeer should be terminated.
- (d) Driver Balbeer is a drug addict.
- (e) Some drivers should be terminated.

- | | |
|---------|---------|
| (a) BAE | (b) BDE |
| (c) CDE | (d) BAC |

11.

- (a) No officer is a teacher.
- (b) Mr. Rangachary is not a teacher.
- (c) Mr. Rangachary is an officer.
- (d) Dr. Nandi is not an officer.
- (e) Dr. Nandi is a teacher.

- | | |
|---------|---------|
| (a) ABE | (b) ABC |
| (c) ADE | (d) ACB |

Directions for Questions 12 and 13: Answer the questions based on the following information.

In an institute there are five identical rooms having different items in it. Every identical looking room has a name indicating its contents. The details of the contents and the name of each room are as given below.

Contents	Name of Rooms
Two printers	Pashupatti
Two Computers	Chandrachud
Two Bags	Bagbahadur
One printer and one computer	Purnachandra
One bag and one computer	Biswachakrak

One day somebody in the institute changed the name plate of every room such that no room contains the name correctly explaining its contents.

12. If supervisor of the institute opened a room named Biswachakra and found that one item was a bag. Which of the following would *definitely be correct* ?
 - (a) the other item will be a bag
 - (b) the other item will not be a bag
 - (c) the other room named Bagbahadur will contain a bag
 - (d) the other item is a computer
13. If it is known that room named Purnachandra does not contain either any printer or any computer, the room named Pashupatti does not contain any printer and room named Chandrachud contains one computer and one bag, which of the following will *definitely be true* if only one of the remaining rooms is opened?
 - (a) It will have at least one computer and printer.
 - (b) It will have two printers.
 - (c) It will have at least one computer.
 - (d) It will have at least one printer.

Directions for Questions 14 to 17: Answer the questions based on the following information.

Four persons (1) Mohit, (2) Monohar, (3) Prasant and (4) Dinesh each had some initial money with them. They all were playing bridge in a way that the loser doubles the money of each of the other three persons from his share. They played four rounds and each person lost one round in the order 1, 2, 3 and 4 as mentioned above. At the end of the fourth round each person had ` 32000/-.

14. What was the amount with Mohit to start with?
 - (a) ` 60000
 - (b) ` 34000
 - (c) ` 66000
 - (d) ` 28000
15. What was the amount with Monohar at the end of the first round?

(a) ` 68000

(b) ` 72000

(c) ` 64000

(d) ` 80000

16. Who has the lowest amount at any round of play throughout the tournament?

(a) Mohit

(b) Monohar

(c) Prasant

(d) Dinesh

17. What was the amount with Prasant at the end of the second round?

(a) 36000

(b) 72000

(c) 16000

(d) 68000

18. The VC (Vice-Chancellor) of a university has to select four professors, out of eight professors for a committee. The VC decided to select these four professors in such a manner that each selected professor has a habit common with at least one of the other three professors selected. The selected professors must also share at least one of the non-common habits of any of the other three professors selected.

Professor Arora likes surfing and smoking but hates gambling.

Professor Bhalla likes smoking and drinking but hates surfing.

Professor Chadha likes gambling but hates smoking.

Professor Dhyani likes movies but hates drinking.

Professor Eswar likes drinking but hates smoking and movie.

Professor Fazil likes surfing but hates smoking and movie.

Professor Goyal likes gambling and movies, but hates surfing.

Professor Hooda likes smoking and gambling but hates movies.

Who are the four professors selected by the VC for the committee?

(a) Prof. Chadha, Prof. Dhyani, Prof. Eswar, Prof. Goyal

(b) Prof. Arora, Prof. Bhalla, Prof. Eswar, Prof. Fazil

(c) Prof. Bhalla, Prof. Chadha, Prof. Goyal, Prof. Hooda

(d) Prof. Dhyani, Prof. Eswar, Prof. Fazil, Prof. Hooda

Directions for Questions 19 to 22: While selecting candidates for positions of engineers, a software firm followed criteria as given below. A candidate must

- i. be an engineering graduate with at least 60% marks at degree and 80% marks at higher secondary level;
- ii. have at least one year's experience of working;
- iii. be ready to sign a bond of three years;
- iv. must not be more than 28 years of age on 1.2.2007;

However, if a candidate fulfils all the criteria except—

- (a) at (i) above but has obtained 50% marks at degree and 70% at higher secondary respectively and has at least three years experience of working, the case may be referred to the Director of the firm.
- (b) at (iii) above, but is willing to pay an amount of 1 lakh if required to leave, the case may be referred to the President of the firm.
- (c) at (ii) above but is a computer engineer, the case may be referred to the DGM.

Based on the above criteria and the information given in each of the following cases, you have to take the decision on employing a candidate. You are not to assume anything and in the absence of adequate information, choose option b (not to be selected). The case is given to you as on 1.2.2007. The options available for you are provided in a, b, c and d.

19. Amar is a mechanical engineer with 65% marks at degree and 88% marks at HSC. He completed his engineering degree in 2003 at the age of 22 years and immediately started working in an engineering firm. He is keenly interested in going to USA and is not ready to sign a bond. However, he does not mind paying an amount of ` 1 lakh.
 - (a) The case is to be selected
 - (b) The case is not to be selected
 - (c) The case is to be referred to Director
 - (d) The case is to be referred to President
20. Rajkishore, a computer engineer, has just completed graduation in July 2006, at the age of 23 years obtaining 72% marks. He had obtained 92% marks in HSC. He is willing to sign a bond with the company. He had joined a software company and has been working as trainee in August 2006 and is working there till date.
 - (a) The case is to be selected
 - (b) The case is not to be selected
 - (c) The case is to be referred to the Director
 - (d) The case is to be referred to the President
21. Madhuri is an electrical engineer and working as an assistant engineer for the past two years. She had secured 85% and 69% marks at HSC and degree respectively. She has just completed 25 years of age.
 - (a) The case is to be selected
 - (b) The case is not to be selected
 - (c) The case is to be referred to the Director
 - (d) The case is to be referred to the President
22. Kamla is an engineering graduate with 66% marks at degree and 90% at HSC. She joined an engineering firm 2 years ago at the age of 24 years. She is ready to sign the bond.
 - (a) The case is to be selected
 - (b) The case is not to be selected
 - (c) The case is to be referred to Director
 - (d) The case is to be referred to President

Directions for Questions 23 to 25: Answer the questions on the basis of the information given below.

There was an effort to study the relative importance that beneficiaries of five states assigned to five different development programmes implemented by their governments. The programmes were Jawahar Rozgar Yojana (JRY), Indira Awas Yozna (IAY), Mid-Day Meal (MDM), Rural Health Mission (RHM), National Rural Employment Guarantee Scheme (NREG). The level of dissimilarity between two states is the maximum difference in the rank allotted by the two states to any five programmes. The following table indicates the rank order of the five programmes for each state.

Rank	Orissa	Bihar	Rajasthan	Kerala	Karnataka
1	JRY	MDM	IAY	NREG	NREG
2	RHM	JRY	MDM	IAY	JRY
3	MDM	RHM	JRY	RHM	MDM
4	NREG	IAY	NREG	JRY	RHM
5	IAY	NREG	RHM	MDM	IAY

23. Which of the following states is least dissimilar to Orissa?
(a) Bihar (b) Rajasthan
(c) Kerala (d) Karnataka
24. Which of the following states is most dissimilar to Orissa?
(a) Bihar (b) Rajasthan
(c) Kerala (d) Karnataka
25. Three of the following four pairs of states have identical levels of dissimilarity. Which is the odd one out?
(a) Kerala & Bihar
(b) Bihar & Karnataka
(c) Rajasthan & Kerala
(d) Karnataka & Rajasthan

Answer Key

1. (c) 2. (d) 3. (b) 4. (b)
5. (d) 6. (a) 7. (d) 8. (c)
9. (d) 10. (a) 11. (d) 12. (a)
13. (d) 14. (c) 15. (a) 16. (a)

- | | | | |
|---------|---------|---------|---------|
| 17. (b) | 18. (b) | 19. (b) | 20. (d) |
| 21. (b) | 22. (a) | 23. (a) | 24. (b) |
| 25. (c) | | | |

Solutions:

- The distribution of males and females that would give us the minimum number of people in the family would be as follows.

Note: In the table M# represents a Male and F# represents a female.

					Explanation
Generation 1	M1 (single grandfather whose wife is not present)	M2-F1 (Couple)	F2 (Single grandmother whose husband is not present)		We have 2 grandfathers and 2 grandmothers out of which we are constrained to have at least 1 single grandfather and 1 single grandmother
+Generation 2	M3-F3 (Couple)		F4	M4	There are a total of 4 fathers and 4 mothers, which means that after the two grandfathers and 2 grandmothers there must be another two fathers and two mothers. Thus we have to introduce M3,M4 and F3 and F4.
Generation 3	M5,M6		F5,F6		The single grandmother has two granddaughters and the single grandfather has two grandsons; thus we need to introduce F5, F6 and M5, M6 respectively. Also note that the son of the single grandfather is M3 and the daughter of the single grandmother is F4

From the logic of the above table, we see that we can do the required conditional match by using 6 men and 6 women. Thus, a minimum number of 12 people can be present in the gathering. Option (c) is the correct answer.

Solutions for Questions 2 to 4:

The starting gird for this question set would involve three variables, viz: Girl name, Theatre and Movie.

Name	Movie	Theatre
Seema		
Reema		
Neeta		
Mona		
Veena		

We also know that the movie theatres are: P, C, M, PVR and S. Always make sure you use abbreviations for the names in solving reasoning questions, although in this question moving forward we would be showing the full names for your understanding.

Further, the movies are G, K, H, S and I.

Once we get to this point, we first look for direct clues that can directly fit into our solution grid. In this context, the easiest and most convenient clue to use are clues (iii) and (iv) which on using would change our grid to:

Name	Movie	Theatre
Seema		
Reema		
Neeta		M2K
Mona	Iqbal	
Veena	Not Khiladi means either Gangster/Hero /Salaam Namaste	Satyam

At this point in our solution grid, clue (ii) becomes usable. “Movie Gangster is running in Priya theatre whose ticket is not with Veena or Seema.” This should be interpreted in the fashion that Gangster and Priya is a movie-theatre combination which has to be kept together and since it is not with Seema, looking at the grid the only place it can be fit inside the solution grid is in front of Reema. Thus, the solution grid changes to:

Name	Movie	Theatre
Seema		
Reema	Gangster	Priya
Neeta		M2K
Mona	Iqbal	
Veena	Hero /Salaam Namaste	Satyam

We can now directly use clue (v) and the grid would then fill out the details for Seema, and also since Salaam Namaste goes to Seema, Veena must be watching Hero. The grid would now become:

Name	Movie	Theatre
Seema	Salaam Namaste	PVR Saket
Reema	Gangster	Priya
Neeta		M2K
Mona	Iqbal	
Veena	Hero	Satyam

The missing values in the above grid can be filled up looking at what has not been used and the final answers can be read off the following table:

Name	Movie	Theatre
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Seema	Salaam Namaste	PVR Saket
Reema	Gangster	Priya
Neeta	Khiladi	M2K
Mona	Iqbal	Chanakya
Veena	Hero	Satyam

2. Option (d) is correct.
3. Option (b) is correct.
4. Veena has the ticket to the Hero movie. Option (b) is correct.

Solutions for Questions 5 to 7:

5. Daljeet # Chiranjeet \$ Baljeet means Daljeet is the brother of Chiranjeet who is the wife of Baljeet. Obviously this means that Daljeet is the brother-in-law of Baljeet. Option (d) is correct.
6. Manjeet * Chiranjeet @ Daljeet @ Baljeet shows us three relations. These are:
Daljeet is the father of Baljeet. Chiranjeet is the father of Daljeet and Manjeet is the daughter of Chiranjeet. From these relationships we can confirm that the relations specified in options (b), (c) and (d) are true. Manjeet is the mother of Baljeet is the false statement as we can see that Manjeet being the daughter of Chiranjeet would be the sister of Daljeet. Hence, she is the aunt of Baljeet and not the mother. Option (a) is correct as we have to mark what is not true.
7. Abhijeet # Chiranjeet * Baljeet means that Chiranjeet is Baljeet's daughter and Abhijeet being Chiranjeet's brother it also means that Abhijeet and Chiranjeet are the son and daughter of Baljeet.
Option (d) is not true and since that is what we are looking for, we can conclude that option (d) is the correct answer.

Solutions for Questions 8 to 11:

8. The statement string read in the order A-C-B is logical as, if all universities appoint experienced teachers and Kashi Vidyapeeth is a university it follows that Kashi Vidyapeeth appoints good teachers.
Thus, option (c) is correct.
Note that A-C-E is incorrect because the conclusion Kashi Vidyapeeth 'only' appoints experienced teachers is ambiguous in the context of the given pre-conditions stated in A-C.
9. The structure of the argument in B-A-C can be looked at as follows:
B: X causes Y; A: Z causes X; Hence, the conclusion in C: Z causes Y, is correct.
Note here in the context of the statements in the question:
X-Increase in housing problem;
Y- Detriment to economic growth;
Z- Migration of people
Hence, B-A-C is the valid logical structure in this case and hence option (d) is correct.

10. B-A-E is a valid logical argument. The conclusion should be “to terminate all those drivers who are drug addicts meaning that fraction of drivers who are drug addicts should be terminated. Option (a) is correct.
11. A-C-B is a valid argument as, if Mr. Rangachary is an officer he would naturally not be a teacher, given that no officer is a teacher.
Option (d) is correct.

Solutions for Questions 12 and 13:

The main thing you need to understand here is that once the name plates are interchanged, none of the room names would have the original items as given in the table of the question.

12. The room Biswachakrak would not have it's original contents, viz.: one bag and one computer. Thus, if the supervisor opens the room and finds a bag, the room must necessarily contain two bags (as there are only 2 possible combinations of items that include a bag). Thus, the other item must be a bag. Option (a) is correct.
13. If Purnachandra does not contain any printer or computer, it can only mean that Purnachandra contains 2 bags. Further, since Chandrachud contains one computer and one bag AND Pashupatti does not contain any printers, it must necessarily follow that Pashupatti contains two computers. In this case, the table of room names and contents would look like:

Pashupatti	Two computers
Purnachandra	Two bags
Chandrachud	One bag and one computer
Bagbahadur	These rooms would have any of: 2 printers OR One printer and One Computer
Biswachakrak	

If someone opens a room other than Pashupatti, Purnachandra and Chandrachud, it necessarily means that they would have opened either Bagbahadur or Biswachakrak. In either case, the room opened would have at least one printer. Option (d) is correct.

Solutions for Questions 14 to 17:

These kind of questions are best solved in the reverse order by progressively doubling the money of the individuals depending on who lost the game. The following table is self explanatory:

AFTER ROUND	Mohit	Monohar	Prasant	Dinesh	Loser in Round
4	32000	32000	32000	32000	Dinesh
3	16000	16000	16000	80000	Prasant
2	8000	8000	72000	40000	Monohor
1	4000	68000	36000	20000	Mohit
Starting values	66000	34000	18000	10000	

The solutions can then be read off the table:

14. Mohit had ` 66000 to start with. Option (c) is correct.
15. Monohar had ` 68000 at the end of the first round. Option (a) is correct.
16. Mohit had ` 4000 at the end of the first round and that is the lowest value throughout the tournament. Option (a) is correct.
17. Prasant had ` 72000 at the end of the second round. Option (b) is correct.

Solutions for Questions 18:

The only combination amongst those given in the options that satisfies the given condition is the combination of Prof. Arora, Prof. Bhalla, Prof. Eswar and Prof. Fazil. In this combination of professors, each professor has a habit which is common with at least 1 of the other three professors selected. Also, the selected professors can be seen to share at least one non-common habit of any of the other three professors selected. Option (b) is correct.

Solutions for Questions 19 to 22:

The main criteria which need to be satisfied in this question is/are:

- (i) engineering graduate with minimum 60% marks at degree and 80% marks at higher secondary; Has a bypass of referral to Director subject to the marks being 50% and 70% respectively and having a minimum 3 year experience.
- (ii) Minimum 1 year experience; Has a bypass of referral to President if the candidate is willing to pay an amount of Rs.1 lakh if he is required to leave. This also has another bypass, i.e. of referral to the DGM if the candidate is a computer engineer.
- (iii) Readiness to sign a 3 year bond; Has no bypass.
- (iv) Must be 28 or below in terms of age on 1st February 2007. Has no bypass.

Based on this understanding of the flow chart of selection/ rejection/ referral we can now move on to the individual questions in the set.

19. Amar should not be selected as he is not ready to sign a bond which is a compulsory clause. Option (b) is correct.
20. The candidate Rajkishore meets criteria i, iii and iv. However, since he does not have a minimum of 1 year work experience he does not meet condition ii. In such a case he can be referred to the DGM as he is a computer engineer. Option (d) is correct.
21. The question clearly states that in case some information is not available the candidate is not to be selected. In Madhuri's case we do not have information about her willingness to sign a bond and hence we should not select her. Option (b) is correct.
22. Kamla should be selected as she meets each of the 4 criteria as per the original requirements of each criterion. Thus, option (a) is correct.

Solutions for Questions 23 to 25:

In order to solve this question, you need to be clear about what the level of dissimilarity means. As stated in the question set, the level of dissimilarity is the 'maximum difference of ranks' allotted by the two states to any of the five attributes.

Thus, for instance, if we look at the level of dissimilarity between Orissa and Rajasthan the rank

given to IAY by Orissa is 5th and by Rajasthan is 1st. Hence, their level of dissimilarity is 4, as no other pair can have a level of dissimilarity higher than 4.

23. The level of dissimilarity between Orissa and Bihar is 2 as the maximum difference in ranks allotted is for MDM (2). Orissa and Rajasthan have a dissimilarity of 4, while Kerala and Karnataka have a dissimilarity of 3 with Orissa. Thus, Bihar is least dissimilar to Orissa and option (a) is correct.
24. As already seen in the question above, Rajasthan has a dissimilarity of 4 with respect to Orissa and hence is the most dissimilar to Orissa. Option (b) is correct.
25. Kerala and Bihar; Bihar and Karnataka AND Karnataka and Rajasthan have a dissimilarity of 4 each. Only the pair of Rajasthan and Kerala have a dissimilarity of 3 and hence this pair is the odd pair out of the four pairs. Option (c) is correct.