



LR Foundation for CAT 2021 - Grouping

Special class



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Directions for questions 1 to 4: Refer to the data below and answer the questions that follow.

In a five-member team to go to a science fair, three scientists and two students are to be selected.

A, B, C, D and E are scientists and P, Q, R and S are students.

- i. A will not go if C goes.
- ii. P will go only if Q goes.
- iii. Q will not go if R goes.
- iv. B will go only if E goes.
- v. D will not go if S goes.
- vi. E will not go with P.
- vii. B will not go with R.

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Directions for questions 5 to 8: Refer to the data below and answer the questions that follow.

A combination of three students is being selected for a quiz competition. The students must be chosen from a group of seven students – Farid, Gaurav, Harish, Jayant, Kiran, Laxman and Mahesh – according to the following conditions:

1. If anyone of Farid or Gaurav is chosen, then the other must also be chosen.
2. Harish and Jayant cannot be chosen together.
3. Both or any one of either Harish or Farid must be chosen.

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Question 5. Which of the following combination of students conforms to the given conditions?

- | | |
|---------------------------|---------------------------|
| 1) Harish, Kiran, Mahesh | 2) Farid, Kiran, Laxman |
| 3) Gaurav, Harish, Mahesh | 4) Harish, Jayant, Laxman |

Question 6. If Jayant is chosen, then which of the following pairs of students must also be chosen?

- | | |
|---------------------|---------------------|
| 1) Farid and Gaurav | 2) Farid and Mahesh |
| 3) Gaurav and Kiran | 4) Laxman and Kiran |

Question 7. If Kiran is chosen, then which of the following pairs of students could also be chosen?

- | | |
|----------------------|----------------------|
| 1) Farid and Harish | 2) Farid and Laxman |
| 3) Gaurav and Harish | 4) Harish and Laxman |

Question 8. If Harish and Mahesh are chosen, then how many of the remaining students could possibly be chosen as the third student?

- | | | | |
|------|------|------|------|
| 1) 1 | 2) 2 | 3) 3 | 4) 4 |
|------|------|------|------|

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Directions for questions 9 to 13: Refer to the data below and answer the questions that follow.

Seven programmers (T, U, V, W, X, Y and Z) must be assigned to two projects, 4 to project 1 and 3 to project 2, subject to the following conditions:

- U and V must be in different projects
- If Z is assigned to project 2, W also must be assigned to project 2
- If T is assigned to project 2, U must be assigned to project 1
- Y has to be assigned to project 1

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Question 9. Which of the following could be an acceptable team assigned to project 1?

- 1) T, X, Y, Z 2) T, V, W, Y 3) T, V, Y, Z 4) V, W, Y, Z

Question 10. If W and X are assigned to the same project, then which of the following must be true?

- 1) V is in Project 2 2) Z is in Project 2 3) T is in Project 1 4) X is in Project 1

Question 11. If U and X are assigned to the project 1, then which of the following pairs must be together?

- 1) Z and W 2) Z and T 3) V and W 4) T and U

Question 12. If V is assigned to project 1, which of the following must be a correct assignation?

- 1) T – 1, W – 2 2) Z – 1, X – 2 3) U – 1, W – 2 4) X – 1, T – 2

Question 13. If Z is assigned to project 2, then which of the following must be true?

- 1) V is in Project 2 2) U is in Project 2 3) U is in Project 1 4) X is in Project 1

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Directions for questions 14 to 18: Refer to the data below and answer the questions that follow.

Company XYZ has a eight member HR team consisting of Shivani, Stella, Rhea, Karan, Rahul, Ravi, Rina and Amit. At the start of a two month campus recruitment drive, Company XYZ divides its eight member HR team into two groups: Group A and Group B each consisting of four members. After conducting campus recruitment drives at different colleges and cities for one month, the groups will meet and the team will again divide into: Group A and Group B of four members each, which will again conduct campus recruitment drives at different colleges and cities for a month.

The groups must be formed with the following restrictions:

- For the first month, Rina cannot be in the same group as Amit.
- For the second month, both Rina and Amit must be in the Group A.
- For each of the two months, if Shivani is in the Group B, Karan must also be in the Group B.
- For each of the two months, Rhea must be in the same group as Rahul.

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Question 14. Which of the following could be the members of the Group A for the first month?

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|------------------------------------|-----------------------------------|
| 1) Shivani, Stella, Karan and Amit | 2) Shivani, Karan, Rahul and Ravi |
| 3) Stella, Rhea, Ravi and Rina | 4) Stella, Karan, Rina and Amit |

Question 15. If Rahul is in the Group A for the second month, which of the following must be the members of the Group B for that month?

- | | |
|-----------------------------------|------------------------------------|
| 1) Shivani, Stella, Rhea and Ravi | 2) Shivani, Stella, Karan and Ravi |
| 3) Stella, Rhea, Karan and Ravi | 4) Stella, Rhea, Ravi and Amit |

Question 16. If, for each month, Ravi is in a different group from Rina, Ravi must be in a group with which of the following for exactly one month?

- | | | | |
|------------|-----------|----------|---------|
| 1) Shivani | 2) Stella | 3) Karan | 4) Amit |
|------------|-----------|----------|---------|

Question 17. If Rhea is in the Group B for the first month, which of the following must be in the Group A for that month?

- | | | | |
|------------|-----------|----------|---------|
| 1) Shivani | 2) Stella | 3) Karan | 4) Amit |
|------------|-----------|----------|---------|

Question 18. If exactly two person change groups at the end of the first month, those two persons could be which of the following?

- | | | | |
|---------------------|--------------------|------------------|-------------------|
| 1) Stella and Karan | 2) Stella and Ravi | 3) Rina and Amit | 4) Karan and Amit |
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Directions for questions 19 to 21: Refer to the data below and answer the questions that follow.

10 members of a family are going on a picnic. Albert, Claire, Effie, Francis, Irwin and Josh are adults while Beth, Darren, George and Hammie are children. They have two vehicles, a jeep which can hold 6 people and a car which can hold 4 people.

There have to be at least 2 adults in each vehicle, at least one of whom has a driving license.

Darren must be with Albert.

Hammie wants to be with at least one out of Francis or Claire.

Albert, Effie and Josh have driving licenses.

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Question 19. If Darren and Effie are in the jeep, while Claire and Francis are in the car, then in how many ways can the ten people be split among the two vehicles?

- 1) No arrangement possible 2) 1 way 3) 2 ways 4) More than 2 ways

Question 20. If Darren and Beth are the only children in the jeep, then which of the following pairs could be together?

- 1) Hammie and Albert 2) Francis and Claire 3) George and Irwin 4) Irwin and Francis

Question 21. If Claire, Francis and George are travelling together, in how many ways can the ten people be split among the two vehicles?

- 1) 5 2) 6 3) 7 4) 8

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Directions for questions 1 to 5: Refer to the data below and answer the questions that follow.

Ten students A, B, C, D, E, F, G, H, I, J went for a camp. Three groups Satyam, Shivam and Sundaram were formed out of these students such that there were at least three students in a group. B, F, H and I are girls. A, C, E, F, J and H can cook and B, C, D, G, H and I can put up a tent. Each group contained at least one girl, two students who could cook and two students who could put up a tent. F is the only girl in Satyam group. A and E were in the Sundaram group.

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Question 1. Which group has four students in it?

- 1) Satyam 2) Sundaram 3) Shivam 4) Cannot be determined

Question 2. Which one of the following students is definitely in the Shivam group?

- 1) C 2) D 3) J 4) G

Question 3. If J and B were not in the same group, then which of the following students is definitely in the Sundaram group?

- 1) G 2) J 3) I 4) None of these

Question 4. If there are two girls in the Sundaram group, then which of the following students can be in the Shivam group?

- 1) C, G, D 2) H, J, G 3) H, G, C 4) C, B, I

Question 5. Which of the following two students were definitely not in the same group?

- 1) B and D 2) H and G 3) F and D 4) C and I

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There are five events A, B, C, D and E that can happen. The occurrence of every event is governed by a few rules, which are:

- If A occurs then either of B or C or both must occur.
- If B occurs then D cannot occur.
- If C occurs then E must occur.
- If D occurs then C must occur.
- If E occurs then A must occur and B cannot occur.
- If D has not occurred then A will also not occur.

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Q1. If C has occurred, then which event definitely occurs?

- 1) A 2) B 3) D 4) A and D

Q2. If E has not occurred, then which of the following statements must be true?

- I. C has not occurred. II. B has occurred.
III. D has not occurred. IV. A has not occurred.
- 1) I and II 2) III and IV 3) I, III and IV 4) I and IV

Q3. If B has occurred, then which of the following statements will definitely be false?

- 1) D has not occurred 2) C has not occurred
3) E has not occurred 4) A must occur

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- If B occurs then D cannot occur.
- If C occurs then E must occur.
- If D occurs then C must occur.
- If E occurs then A must occur and B cannot occur.
- If D has not occurred then A will also not occur.

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Q4. If A has occurred, then which event(s) will definitely occur?

- 1) B 2) C and D 3) B and E 4) C, D and E

Q5. If D occurs, then any of the events can occur except:

- 1) A 2) B 3) A and E 4) Cannot say