

LRDI CLASS

Two teams are to be selected from twelve persons -A, B, C, D, E, F, G, H, I, J, K and L under the following constraints.

- (i) Each team must contain at least four persons.
- (ii) If G is selected in a team, then H must be selected in the other team.
- (iii) If I or J is selected in any team, then L must not be selected in any of the teams.
- (iv) Unless D or E is selected in a team, K is selected in any team.
- (v) F can be selected in a team only if A is selected in the other team.
- (vi) If B is selected in a team then A should not be selected in that team.
- (vii) No two of A, C and E can be selected in the same team.

Q1 If H is selected in a team, then which of the following cannot be the other team?

- (A) K, D, L, G (B) G, D, I, A (C) A, G, L, F (D) More than one of the above

Q2. If B and E are selected in a team and each team has five members, then in how many ways can the other team be selected?

- (A) 8 (B) 6 (C) 5 (D) 9

Q3. If A is selected in a team and J is selected in the other team, then who among the following must be selected in the team where A is selected?

- (A) G (B) H (C) I (D) None of these

Q4. If F is selected in a team then how many of the remaining persons can be selected in the other team?

- (A) 11 (B) 10 (C) 9 (D) 8

In a class, there are 80 students. The following table gives the details regarding the distribution of the marks scored (in percentage terms) by the students in each of the six subjects — Mathematics, Physics, Chemistry, History, English and Geography. Every student wrote all the six subjects.

Subject	The number of students scoring marks (m) in the range				
	90%	75%	60%	40%	20%
	< m	< m	< m	< m	< m
	≤ 90%	≤ 75%	≤ 60%	≤ 40%	≤ 20%
Mathematics	14	15	13	17	13
Physics	7	23	13	8	17
Chemistry	9	10	16	12	18
History	11	17	15	11	20
English	13	19	10	7	27
Geography	8	14	14	9	25

Q1- Option 1

Q2- Option 4

Q3- Option 2

Q4- Option 3

Q5- Option 3

Q1. Which of the following is a possible number of students who scored more than 20% but not more than 90% of marks in each of the six subjects?
A- 53 B- 57 C- 61 D- 63

Q2. What is the minimum possible number of students who could have scored more than 40% but not more than 75% of marks in at least two of the six subjects?
A- 11 B- 9 C- 15 D- 13

Q3. What is the maximum possible number of students who could have scored more than 40% but not more than 60% of marks in at least four of the six subjects?
A- 16 B- 15 C- 14 D- None of these

Q4. What is the minimum possible number of students who scored more than 60% but not more than 90% in at most three of the six subjects?
A-40 B-38 C-36 D-None of these

Q5. What is the maximum possible number of students for each of who the marks scored in all the six subjects are the same?
A- 47 B- 60 C-51 D-None of these