

# DI – LR CAT 2017 Slot 1

# Qn: Team Project

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There are 21 employees working in a division, out of whom 10 are special-skilled employees (SE) and the remaining are regular skilled employees (RE). During the next five months, the division has to complete five projects every month. Out of the 25 projects, 5 projects are "challenging", while the remaining ones are "standard". Each of the challenging projects has to be completed in different months. Every month, five teams - T1, T2, T3, T4 and T5, work on one project each. T1, T2, T3, T4 and T5 are allotted the challenging project in the first, second, third, fourth and fifth month, respectively. The team assigned the challenging project has one more employee than the rest.

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In the first month, T1 has one more SE than T2, T2 has one more SE than T3, T3 has one more SE than T4, and T4 has one more SE than T5. Between two successive months, the composition of the teams changes as follows:

- a. The team allotted the challenging project, gets two SE from the team which was allotted the challenging project in the previous month. In exchange, one RE is shifted from the former team to the latter team.
- b. After the above exchange, if T1 has any SE and T5 has any RE, then one SE is shifted from T1 to T5, and one RE is shifted from T5 to T1. Also, if T2 has any SE and T4 has any RE, then one SE is shifted from T2 to T4, and one RE is shifted from T4 to T2.

Each standard project has a total of 100 credit points, while each challenging project has 200 credit points. The credit points are equally shared between the employees included in that team.

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1. The number of times in which the composition of team T2 and the number of times in which composition of team T4 remained unchanged in two successive months are:

- A) (2, 1)                  B) (1, 0)                  C) (0, 0)                  D) (1, 1)

2. The number of SE in T1 and T5 for the projects in the third month are, respectively:

- A) (0, 2)                  B) (0, 3)                  C) (1, 2)                  D) (1, 3)

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3. Which of the following CANNOT be the total credit points earned by any employee from the projects?

- A) 140                      B) 150                      C) 170                      D) 200

4. One of the employees named Aneek scored 185 points. Which of the following CANNOT be true?

- A) Aneek worked only in teams T1, T2, T3, and T4  
B) Aneek worked only in teams T1, T2, T4, and T5  
C) Aneek worked only in teams T2, T3, T4, and T5  
D) Aneek worked only in teams T1, T3, T4, and T5

# Qn: Square Platform

In a square layout of size  $5\text{m} \times 5\text{m}$ , 25 equal sized square platforms of different heights are built. The heights (in metres) of individual platforms are as shown below:

<b>6</b>	<b>1</b>	<b>2</b>	<b>4</b>	<b>3</b>
<b>9</b>	<b>5</b>	<b>3</b>	<b>2</b>	<b>8</b>
<b>7</b>	<b>8</b>	<b>4</b>	<b>6</b>	<b>5</b>
<b>3</b>	<b>9</b>	<b>5</b>	<b>1</b>	<b>2</b>
<b>1</b>	<b>7</b>	<b>6</b>	<b>3</b>	<b>9</b>

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Individuals (all of same height) are seated on these platforms. We say an individual A can reach an individual B if all the three following conditions are met:

- (i) A and B are In the same row or column
- (ii) A is at a lower height than B
- (iii) If there is/are any individual(s) between A and B, such individual(s) must be at a height lower than that of A.

# Qn: Square Platform

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Thus in the table given above, consider the Individual seated at height 8 on 3rd row and 2nd column. He can be reached by four individuals. He can be reached by the individual on his left at height 7, by the two individuals on his right at heights of 4 and 6 and by the individual above at height 5.

Rows in the layout are numbered from top to bottom and columns are numbered from left to right.

# Qn: Square Platform

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1. How many individuals in this layout can be reached by just one individual?

- A) 3                      B) 5                      C) 7                      D) 8

2. Which of the following is true for any individual at a platform of height 1m in this layout?

- A) They can be reached by all the individuals in their own row and column.  
B) They can be reached by at least 4 individuals.  
C) They can be reached by at least one individual.  
D) They cannot be reached by anyone.

# Qn: Square Platform

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3. We can find two individuals who cannot be reached by anyone in

- A) the last row
- B) the fourth row
- C) the fourth column
- D) the middle column

4. Which of the following statements is true about this layout?

- A) Each row has an individual who can be reached by 5 or more individuals
- B) Each row has an individual who cannot be reached by anyone
- C) Each row has at least two individuals who can be reached by an equal number of individuals
- D) All individuals at the height of 9 m can be reached by at least 5 individuals