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**Academic Year:2018-19**

**Semester: I**

**Course Name: Discrete Mathematics**

**Class: SE**

**Division: B**

**Name of the Faculty: M. J. Patil**

**Name of Method: GATE Questions**

**Description:** Students were given a questions from previous GATE exam and asked to solve it. Solution of each question was discussed afterword. Through this activity ,students solved questions with more difficulty level. This is useful for solving MCQs in online exam.

### **Sample GATE Questions**

Q1 ) The postorder traversal of a binary tree is 8,9,6,7,4,5,2,3,1. The inorder traversal of the same tree is 8,6,9,4,7,2,5,1,3. The height of a tree is the length of the longest path from the root to any leaf. The height of the binary tree above is \_\_\_\_\_.

Q2 ) Let  $G$  be a simple undirected graph. Let  $TD$  be a depth first search tree of  $G$ . Let  $TB$  be a breadth first search tree of  $G$ . Consider the following statements.

(I) No edge of  $G$  is a cross edge with respect to  $TD$ . (A cross edge in  $G$  is between two nodes neither of which is an ancestor of the other in  $TD$ .)

(II) For every edge  $(u,v)$  of  $G$ , if  $u$  is at depth  $i$  and  $v$  is at depth  $j$  in  $TB$ , then  $|i - j| = 1$ .

Which of the statements above must necessarily be true?

(A) I only (B) II only

(C) Both I and II (D) Neither I nor II

### **Impact of Innovative Method:**

It helped students to analyze the given problem statement and apply proper formulae to solve the problem.

**Note:** For feedback please email us at [njmetkar@kkwagh.edu.in](mailto:njmetkar@kkwagh.edu.in)