Code No. **20MT1PC02**

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TEEGALA KRISHNA REDDY ENGINEERING COLLEGE

(UGC – AUTONOMOUS)

M TECH I Semester Examinations, July 2021

Advanced Data Structures

Time: 3 Hours **Max. Marks: 75**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A.
Part B consists of 5 Units.
Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A **5 × 5 Marks = 25**

1. a) What is Dictonary.Explain the implementation of Dictionary with example
   b) Define is skip list .Explain the Search and Update Operations on Skip Lists,
   c) Implement Binary Search Tree Insertion and Deletion algorithms
   d) Explain how The Knuth-Morris-Pratt Algorithm works with an example
   e) Compare one dimensional range searching and two dimensional range searching

PART-B

2. (i) Define collision in Hashing and give any 2-ellision resolution techniques In open addressing. [10]

OR

(ii) What is hashing. Explain different hashing techniques with examples

3 (i) Explain the need of Randomizing Data Structures .How insertion and deletion Will be done in randomized Skip Lists. [10]

OR

(ii) Explain different kind of skip lists. Create one skip list on your own

4 (i) demonstrate the process of Constructing AVL tree with the following Identifiers 4, 3, 2, 1 5,6,7,8,9,10,16,15,14,13,12,11 [10]

OR

(ii) Explain about red black trees. Construct Red- black tree by Inserting the following sequence of numbers 8, 18,5,15,17,25,40 and 80

5. (i)What is suffix tree .Construct Suffix tree with your own example data [10]

OR

(ii) Explain Longest Common Subsequence Problem (LCS). How we can Apply Dynamic Programming to the LCS Problem.

6. (i) Explain the construction and searching operations of priority Search tree with example. [10]

OR

(ii) Explain with an example how various computational geometry methods are used for efficiently solving The problems.

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