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18AA1002

M.Tech. EXAMINATION, May 2019

(First Semester)

(C. Scheme) (Re-appear)

(CSE)

MTCSE503C

ADVANCED DATA STRUCTURES

Time : 3 *Hours*] [*Maximum Marks :* 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. What is Dictionary Data Structure ? Discuss its applications and methods to implement. **15**

2. Discuss the various Probing techniques with advantages and disadvantages of each. **15**

Unit II

3. What are skip lists ? Discuss insertion and deletion process for it. Also discuss deterministic skip lists. **15**

4. Write a note on various computational geometry methods. **15**

Unit III

5. Describe the advantages of AVL over Binary Search Tree. Also discuss the algorithm to insert new node into a AVL. **15**

6. State and prove the worst time complexity of a search operation in Red Black Tree. **15**

Unit IV

7. What is 2-dimensional range search ? Give some example of it. Also illustrate how a Binary search tree can be used to implement 2-Dimensional range search. **15**

8. Write short notes on K-D tree and Priority Range Tree. **15**