Roll No. ☐☐☐☐☐☐☐☐☐☐☐☐☐   Total No. of Pages : 01

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M.Tech. (CSE) (Sem.–1)
ADVANCED DATA STRUCTURES
Subject Code : MTCS-102-18
M.Code : 75154
Date of Examination: 14-01-2023

Time : 3 Hrs.   Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :
1.Attempt any FIVE questions out of EIGHT questions.
2.Each question carries TWELVE marks.

1. a) Define Dictionary and Dictionary with duplicates. List the operation performed on dictionary.

    b) Explain in detail how symbol tables are implemented? Mention the applications of symbol tables too.

2. Write short notes on :

    a) Rehashing

    b) Extendible hashing.

3. What are probabilistic skip lists? Explain search and update operations on skip lists.

4. Explain deletion procedure in AVL tree with an example.

5. a) Draw the flowchart for Knuth-Morris-Pratt algorithm,

    b) Explain the main features of Boyer-Moore algorithm.

6. What is range searching in computational geometry? Explain two dimensional range searching.

7. **Discuss about :**

    a) Lazy binomial queues.

    b) Recent trends in hashing

8. **Create a 2-3 tree from the following list of data items :**

    5, 6, 8, 21, 12, 30, 34, 27, 23, 4, 33, 7, 24, 9, 10, 11, 13, 38

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.