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Total No. of Pages : 02

Total No. of Questions : 8

M.Tech. (CSE Engg.) (2018 Batch) (Sem.-1)**ADVANCED DATA STRUCTURES**

Subject Code : MTCS-102-18

Paper ID : [75154]

Time : 3 Hrs.

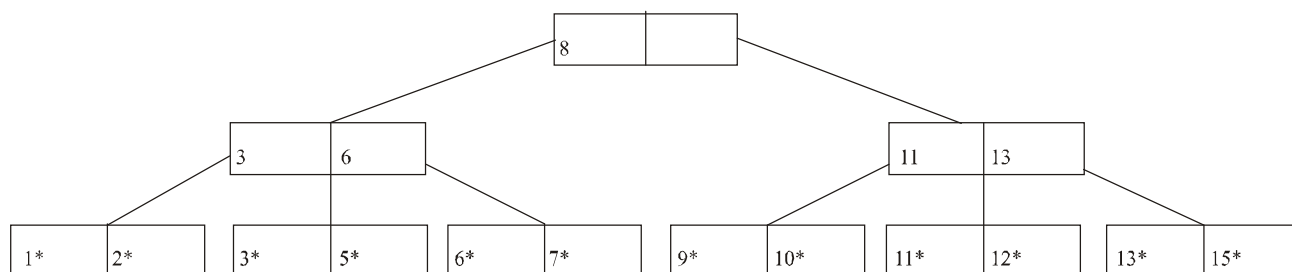
Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. Attempt any FIVE questions out of EIGHT questions.

2. Each question carries TWELVE marks.

1.
 - a. How does a hash table implementation compare with a tree table implementation of Set and Table?
 - b. What are some advantages and disadvantages of quadratic probing?
2. Write pseudo code for inserting to, searching from and deleting from a separate chaining hash table.
3.
 - a. Given two strings A and B and a few substrings, Write an algorithm whether the substrings exist in either of the two strings.
 - b. What are the various factors affecting the Hash Table Design?
4.
 - a. Write a function to delete a node from BST considering all possible cases.
 - b. What is an expression tree? Write a program to evaluate an expression tree.
5. Consider the following tree :



Suppose this is an ISAM tree. Show the tree after inserting the following elements: (16, 17, 18) and then deleting the following elements: (11, 12, 16).

6.
 - a. Where are B trees used?
 - b. What is meant by B tree index?
 - c. What is the order of AB tree?
 - d. What is B tree degree?
7.
 - a. In a sorted set of elements skip lists, What are the various operations possible?
 - b. Explain the Boyer-Moore algorithm with an example.
8. Write short notes on :
 - a. Solution to LCS problem using Dynamic Programming.
 - b. Brute force Pattern Matching.

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