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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)

B.Tech II Year I Semester Supplementary Examinations November-2020

ADVANCED DATA STRUCTURES THROUGH C++

(Common to CSE & CSIT)

Time: 3 hours

Max. Marks: 60

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

- 1 a** Write a C++ program to display the student result using Dynamic Memory Allocation. **7 M**
b Describe 'this' pointer and friend function with suitable examples. **5 M**

OR

- 2 a** Describe about the parameter passing methods? Write a C++ program to swap two numbers using parameter passing method. **6M**
b What are static classes? How static members are executed with an example. **6M**

UNIT-II

- 3 a** What are the differences between function overloading and function overriding? Give suitable example. **6M**
b Define stream I/O? Explain the use of ifstream and ofstream classes? Write a C++ program to check whether the given file is available or not. **6M**

OR

- 4** Explain about the Generic Programming? Write the syntax for both function and class templates? Write a C++ program to swap two numbers (int, float) using function template. **12 M**

UNIT-III

- 5 a** Explain about the Binary Search Tree? What are the rules to create a BST? Give an example. **6M**
b Compare BFS and DFS with examples and also with a good example **6M**

OR

- 6** Explain Graph Terminology: **12 M**
 i) Graph Definition ii) Directed Acyclic Graph
 iii) Isomorphic Graph iv) Weighted Graph
 v) Digraph vi) Completely Connected Graph.

UNIT-IV

- 7** Define different Collision resolution Techniques. **12 M**

OR

- 8 a** Explain Skip List. Why it is called as a Randomized Data Structure. **6M**
b Explain Binomial Heaps with an example. **6M**

UNIT-V

- 9** Define AVL Tree. How to find the Balance factor of a Node in a AVL Tree. **12 M**

OR

- 10 a** Explain the properties of Red Black Trees with an example. **6M**
b Define M-Way Search Tree. How the height has been balanced in M-way Search Trees. **6M**

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