Q.P. Code: 16HS605 **R16**

Reg. No: | | | | | | | | | | |

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech II Year I Semester Regular & Supplementary Examinations November 2018

ADVANCED DATA STRUCTURES THROUGH C++

(CSE,CSIT)

Time: 3 hours Max. Marks: 60

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

UNIT-I

1	**a**	Explain the characteristics of Object Oriented Programming.	4M
	b	Explain Data Abstraction and Polymorphism with an example.	8M
		OR	
2	**a**	Describe about the parameter passing methods?	7M
	b	Write a C++ program to swap two numbers using parameter passing method.	5M

UNIT-II

3	**a**	Explain about the Generic Programming? Write the syntax for both function and class templates?	7M
	b	Write a C++ program to find the maximum of two numbers using class templates.	5M
		OR	
4	**a**	Define stream I/O? Explain the use of if stream and of stream classes?	7M
	b	Write a C++ program to check whether the given file is available or not.	5M

UNIT-III

5	**a**	What is a Binary Tree? Explain the Preorder, In order and Post order traversals?	7M
	b	Write the code for Binary Tree Insertion.	5M
		OR	
6	**a**	Define Selection Tree.	2M
	b	Construct a Winner Tree and a Loser Tree by taking an example.	10M

UNIT-IV

7	**a**	Define Dictionary. Define Hash Function and Mapping.	5M
	b	Construct a Hash table for the values 12, 5, 34, 6, 42, 8, 45, 21, 24. Use Hashing Function as MOD 7.	7M
		OR	
8	**a**	Define Priority Queue. Define Min Heap and Max Heap.	4M
	b	Construct a Min Heap for the following Elements: 40 12 3 9 50 26 16 5 14 30	8M

UNIT-V

9	**a**	Define AVL Tree. How to find the Balance factor of a Node in a AVL Tree.	4M
	b	Explain How LL and RR Rotations can be performed on a AVL Tree.	8M
		OR	
10	**a**	List the operations that can be performed on a B Tree.	2M
	b	Explain any two operations of B Tree with an example.	10M

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