Q.P. Code: 16CS503 **R16**

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

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

B Tech I Year II Semester Supplementary Examinations October-2020

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		What is linked list? Explain the operations insertion and deletion on Circular linked list.	**12M**
		OR	
2		Write short notes on i)Sparse matrix manipulation ii) Polynomial Addition	**12M**

UNIT-II

3		Convert the following Infix expression into Postfix expression using algorithm. **(A+B)^C-(D*E)/F.**	**12M**
		OR	
4		Define Circular Queue. Explain the operations on circular Queues.	**12M**

UNIT-III

5		Construct a Max heap tree for the following elements and sort them in ascending order 76 69 5947 8599 98	**12 M**
		OR	
6	**a**	What is binary tree? Explain Binary tree Traversal algorithms?	**6M**
	b	What is binary search tree? Write an algorithm to insert into binary search tree.	**6M**

UNIT-IV

7	**a**	Explain merge sort with an example.	**6M**
	b	Explain quick sort with an example.	**6M**
		OR	
8	**a**	What is meant by sorting? Write an algorithm for selection sort.	**6M**
	b	Explain heap sort with example.	**6M**

UNIT-V

9	**a**	What is searching? Write an algorithm for binary search.	**6M**
	a	Write the algorithm for Fibonacci search. Give an example.	**6M**
		OR	
10	**a**	What is Hashing? Explain i) Open Hashing. ii) Closed Hashing.	**7M**
	b	Explain the Linear search algorithm.	**5M**

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