Q.P. Code: **16CS5804** **R16**

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

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

M.Tech I Year I Semester Regular & Supplementary Examinations February 2018

Advanced Datastrucures and Algorithms

(CSE)

Time: 3 hours Max. Marks:60

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

UNIT-I

1	a	What is stack? Explain stack ADT and implementations?	8M
	b	Define Space Complexity?	4M
		OR	
2	a	What is Queue? Explain Queue operations using arrays?	6M
	b	What is average, best and Worst Complexities?	6M

UNIT-II

3	a	Explain different types of Binary Trees?	4M
	b	Explain Tree Traversing Techniques with suitable examples?	8M
		OR	
4		Explain the following Graph terminologies A) Connected Graph B) Weighted Graph C) Sub Graph D) Isomorphic Graph	12M

UNIT-III

5	a	What is Binary Search Tree? Explain Insertion & Deletion algorithms with examples?	10M
	b	Explain about RED BLACK Tree & its properties?	2M
		OR	
6	a	Define B tree and give its applications?	6M
	b	What is Splay Tree? Explain one level operations in detail?	6M

UNIT-IV

7	a	Explain Minimum Cost Spanning Tree using Prim's Algorithm with example	8M
	b	Write algorithm for Binary search Method?	4M
		OR	
8	a	Sort the following elements using Quick sort? 27 56 72 92 97 13 69 57 25 82	8M
	b	Explain General Method of Divide –and – Conquer?	4M

UNIT-V

9	a	What is 0/1 knapsack problem? Explain example by using Dynamic programming	6M
	b	Write about 8 Queen's Problem using Backtracking with example?	6M
		OR	
10	a	Write general method of Dynamic Programming?	8M
	b	Write about Branch and Bound in detail?	4M

***** END *****