

O.P.Code: 24mca110	Regulation2022	H.T.No.																	
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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

MCA I Year II Semester Regular & Supplementary Examinations June/July-2025

DATASTRUCTURES

Time: 3 Hours

Max. Marks: 60

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

UNIT-1

1 2

CO1 L2 12M

OR

b) Differentiate linear and non -linear data structure . [L4][CO1] [6M]

CO1 L2 12M

UNIT-2

3 a) Convert the expression $(5 + 6) * (6 - 5)$ from infix to postfix [L2][CO2] [6M]

CO1 L2 12M

OR

b) Design an algorithm to delete an element at end of circular ly linked list. [L3][CO2] [6M]

CO1 L2 12M

UNIT-3

5 a) Define binary tree and give the binary tree node structure. [L1][CO3] [6M]

CO1 L2 12M

OR

b) Analyze the steps to search element in Binary Search Tree. [L4][CO3] [6M]

CO1 L2 12M

UNIT-4

7 b) Design a program to demonstrate selection sort. [L3][CO4] [7M]

CO1 L2 12M

OR

a) Explain selection sort with an algorithm and example. [L2][CO4] [5M]

CO1 L2 12M

UNIT-5

9 9 Explain in detail about various minimum cost spanning tree algorithms. [L2][CO5] [12M]

CO1 L2 12M

OR

a) Discuss BFS Graph Traversal with an algorithm. [L2][CO5] [3M]

CO1 L2 12M

***** END *****