

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 8 Analyze and write a program to store a set of values of same data type into a single variable. [L4][CO2] [12M]

CO1 L2 12M

OR

a) Identify the steps to print the product of two numbers.

CO1 L3 6M

UNIT-2

3 4

CO1 L2 12M

OR

a) Prepare an algorithm to insert an element at the end of doubly linked list . [L3][CO2] [6M]

CO1 L2 12M

UNIT-3

5 9 Identify the following terms from the given tree i) Parent ii) Child iii) Siblings iv) Path v) Sub Tree [L3][CO3] [12M]

CO1 L2 12M

OR

b) Find various terminologies used in a tree. Explain any six terminologies [L3][CO3] [8M]

CO1 L2 12M

UNIT-4

7 8

CO1 L2 12M

OR

a) Discuss Space and Time Complexity for Linear and Binary Search. [L2][CO4] [6M]

CO1 L2 12M

UNIT-5

9 6

CO1 L2 12M

OR

b) Explain DFS Graph traversal with steps for the following Graph . [L2][CO5] [9M]

CO1 L2 12M

***** END *****