

2056
Bachelor of Arts (FYUP) Fourth Semester
Computer Science and Applications
CSA-DSC-7(Maj)-403: Data Structure
(Common with B.Sc. 4th Semester FYUP)

Time allowed: 3 Hours

Max. Marks: 45

NOTE: Attempt five questions in all, including Question No. IX (Unit-V) which is compulsory and selecting one question each from Unit I - IV.

x-x-x

UNIT - I

- I. Define Data Structures. Explain all Linear and Non Linear types of Data Structure. (9)
- II. Explain types of Arrays and the memory representation of Arrays. Also WAP to print user defined 1-D array in C language. (9)

UNIT - II

- III. Explain Stack and its applications. Write algos for Push and Pop operations of Stack. (9)
- IV. Explain types of Linked List. Write algo to insert an element in the linear linked list at the position specified by the user. (9)

UNIT - III

- V. Discuss different types of Queues with diagrams and examples and the explain the operations which can be performed on Linear Queue. (9)
- VI. Discuss Binary Search Tree. Explain different traversal operations and write their algorithms on Binary tree. (9)

UNIT - IV

- VII. Explain Depth First Search graph traversal in detail. Also write the algorithm for it. (9)
- VIII. Explain Binary Search technique. Also WAP in C language to demonstrate it. (9)

P.T.O.

Sub. Code: 11322

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UNIT - V

IX. Write short note on any three of the following:-

- a) Array vs Linked List
- b) Linked List Traversal
- c) Searching operation in BST
- d) Bubble Sort

(3x3)

x-x-x

