

(i) Printed Pages: 2

Roll No.

(ii) Questions : 9

Sub. Code :

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Exam. Code :

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B.A./B.Sc. (General) 4th Sem.

(2042)

COMPUTER SCIENCE

Paper : CS08-Data Structure

Time Allowed : Three Hours]

[Maximum Marks : 30

Note :— Attempt FIVE questions in all, by selecting at least ONE question from each Unit i.e. I, II, III and IV, and Unit-V is compulsory.

UNIT—I

1. What do you mean by array ? Discuss various types of array with suitable example. 6
2. What is complexity ? Describe various asymptotic notations of time complexity. 6

UNIT—II

3. What is circular linked list ? How it is different from linked list ? Write an algorithm to insert an element in a circular linked list. 6
4. Describe the advantages and disadvantages of a linked list over an array. 6

UNIT—III

5. Describe post order method to traverse a binary tree with a suitable example. 6
6. What is Graph ? Describe Adjacency matrix representation of a graph along with its pros and cons. 6

UNIT—IV

7. Write various steps to sort below given list of elements using bubble sort :

55	25	40	63	11	56	63	40	38	12
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8. Which sort method would you prefer among bubble and quick ? Justify your answer. Describe your preferred method with suitable example. 6

UNIT—V

9. Answer the following questions :—

- (1) Define full binary tree.
- (2) What do you mean by push and pop operations in a stack ?
- (3) Define directed acyclic graph.
- (4) What is infinite graph ?
- (5) Define priority queue.
- (6) What is big O notation ?

6×1=6