

Exam.Code:0922
Sub. Code: 6838

1058
B.E. (Information Technology)
Fourth Semester
ITE-471: Data Structure

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

I. Attempt the following:-

- a) Write any two applications of data structures.
- b) What are sparse matrices? Give example.
- c) Explain the concept of garbage collection.
- d) What is meant by hashing?
- e) Define the weighted graph. (5x2)

UNIT - II

II. What is queue data structure? How a queue can be represented in memory? Write an algorithm to insert an item in the queue using linked list. (10)

III. Write short notes on the following:-

- a) Priority Queues
- b) Linked representation of stack (2x5)

IV. Explain the following:-

- a) Algorithms complexity
- b) Two- way lists (2x5)

UNIT - II

V. What is binary tree? Discuss various tree traversals. Write an algorithm of In-order traversal of binary tree. (10)

VI. What is hashing? Explain various hashing schemes. (10)

VII. Write short notes on the following:-

- a) AVL- tree
- b) Binary Search (5,5)

x-x-x