

Exam.Code:0929

Sub. Code: 6598

2123

B.E. (Electronics and Communication Engineering)

Fifth Semester

EC-507: Data Structure and Algorithms

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. Explain the following:-

- a) What is algorithm complexity?
- b) What is transverse?
- c) What is prefix notation?
- d) Difference between linked stack and queue.
- e) Difference between merging and merge sort. (5x2)

UNIT - I

- II. Explain the Arrays, Stacks and Queues. (10)
- III. Explain two way lists and their corresponding representation. Also explain sparse matrix representation using generalized list structure. (10)
- IV. Explain the concept of link list and how storage allocation and garbage collection is possible? (10)

UNIT - II

- V. With the help of suitable diagrams, explain trees and their applications. Also state the advantages and disadvantages of B-Tree. (10)
- VI. With the help of diagrams, explain Graph Traversal and spanning forests. What is the significance of Depth and Breadth first search in graphs? (10)
- VII. With the help of suitable diagrams, explain Binary search tree. (10)

x-x-x