

B.E. (Information Technology)  
Third Semester  
ITE-302: 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. Explain the following:-
- What is algorithm complexity?
  - What is transverse?
  - What is prefix notation?
  - Difference between linked stack and queue.
  - What is binary tree?
  - State two differences between B tree and Height balance tree.
  - What is AVL?
  - State the importance of sorting
  - What is breadth first search?
  - How merge sort is different from Radix sort. (10x1)

UNIT - I

- II. Explain the concept of Transverse, Insert and delete and sorting of data in data structures. (10)
- III. How searching and sorting of data in list can be achieved, explain. (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 of B-Tree. (10)
- VI. With the help of diagrams, explain spanning forests. What is the significance of Depth and Breadth first search in graphs? (10)
- VII. With the help of suitable diagrams, explain Hashing schemes. (10)

x-x-x