

CSE43D:DATA STRUCTURE USING C LABORATORY

L:0 T:0 P:4 Credits:2

Course Outcomes: Through this course students should be able to

CO1 :: Use skills to design and analyze simple linear and non linear data structures.

CO2 :: Classify the ability to identify and apply the suitable data structure for the given real-world problem.

CO3 :: Acquaint the technique to solve the problems using data structures such as linear arrays, linear lists.

CO4 :: Illustrate the implementation of stacks, queues, binary search trees, and graphs.

CO5 :: Practice the Implementation of various sorting algorithms and to compare them for checking efficiency.

CO6 :: Demonstrate the implement of stacks, queues, binary search trees, and graphs.

List of Practicals / Experiments:

Array

- Inserting and deleting elements in an array
- Find largest and smallest element in an array

Linked List

- Insertion and deletion of elements in linked list
- Linear Search in a given linked list
- Insertion and deletion of elements in double linked list

Stacks

- Stack implementation using arrays
- Stack implementation using linked list
- Conversion from infix and post-fix notation

Queues

- Queue implementation using arrays
- Queue implementation using linked list

Searching

- Linear search in a given array
- Binary search in a given array

Trees

- Implementation of binary search tree
- Insertion and deletion operation on binary search tree
- Implementation inorder, preorder, postorder traversal.

Recursion

- Implementation of factorial of a number using recursion
- Implementation of fibonacci series using recursions

Sorting

- Implementation of bubble sort algorithm
- Implementation of quick sort algorithm

- Implementation of insertion sort algorithm
- Implementation of selection sort algorithm

Text Books:

1. DATA STRUCTURES WITH C by SEYMOUR LIPSCHUTZ, Tata McGraw Hill, India

References:

1. DATA STRUCTURE USING C by ISRD GROUP, MCGRAW HILL EDUCATION
2. DATA STRUCTURE USING C by REEMA THAREJA, OXFORD UNIVERSITY PRESS
3. DATA STRUCTURE USING C by MANOJ KUMAR JAMBLA, EAGLE PRAKASHAN
4. DATA STRUCTURES USING C by E BALAGURUSAMY, Tata McGraw Hill, India