Data Structures and Algorithms

Using a fundamental computer model as a prototype, the program highlights the very intimate link between data structures, algorithms and programs. This program focuses on basic algorithms and problem solving techniques, understanding stacks and binary searches.

SYLLABUS

- Role of Algorithms and Data Structures in Problem Solving
- Designing Algorithms and Measuring Their Efficiency
- Implementing different Sorting Techniques
- Sorting Data by Using Bubble Sort
- Sorting Data by Using Selection Sort
- Sorting Data Using Insertion Sort
- Sorting Data by Using Shell Sort
- Sorting Data by Using Quick Sort
- Sorting Data by Using Merge Sort
- Performing Linear Search
- Performing Binary Search
- Implementing Hashing
- Implementing Singly-Linked Lists
- Implementing a Doubly-Linked List
- Implementing a Circular Linked List
- Implementing Stacks
- Implementing Queues
- Implementing a Binary Tree
- Implementing a Binary Search Tree