Data Structures Using JAVA

Unit-1

1. Abstract Data Types.

2. Asymptotic Notations.

3. Case Analysis (Best, Worst and Average case).

4. Arrays, stacks, Queues and Linked Lists.

5. Evaluation of Expressions and Polynomial addition in Linked List.

Unit-II

1. Trees, Binary tree representations and Traversals.

2. Threaded binary trees, Application of trees.

3. Set, Union-find operations.

4. Graph, Representaion, Traversals (DFS and BFS), Connected components, Applications of Graph

5. Minimum Cost spanning tree using Kruskal's algorithm, Dijkstra's algorithm for single source shortest path problem.

Unit-III

1. Search Structures and priority Queues

2. AVL, Red-Black Trees, Splay Trees, Binary Heap

3. Priority Queue Implementation ADT with Heap.

Unit-IV

1. Merge Sort, Quick Sort

2. Comparision of Sorting Algorithms in terms of Complexity.

3. Sorting with disks-k-way merging.

4. Sorting with tapes-Polyphase merge.

Unit-V

1. Linear Search, Binary Search.

2. Hash Tables-Overflow Handling.

3.Cylinder Suface,Hash Indexes

4. B-Tree Indexing and B + trees