

I. Mid Semester I

1. Introduction - Complexity, Substitution, Recursion Tree, Master Theorem.
2. Divide and Conquer - Merge Sort and Quick Sort, Strassen's matrix multiplication algorithm.
3. Graph traversal - BFS, DFS, cycle detection using BFS for an undirected graph.
4. Greedy - Properties, Fractional Knapsack, Job sequencing, MST (Prim's and Kruskal's).
5. DP - Properties, Matrix Chain Multiplication problem, 0-1 Knapsack.