

SYLLABUS :-

Prerequisite: Programming and Data Structures

Basic concepts of algorithms, Complexity, Asymptotic notations, Trees: Binary tree, Binary Search Tree, Tree traversals. Heap as data structure. Basic sorting algorithms: selection sort, insertion sort. Greedy algorithms: Coin change problem, activity selection, Minimum Spanning Tree, Single source shortest path, knapsack problem. Divide - and - Conquer technique: Merge sort, quick sort. Solving Recurrence relations. Dynamic programming: matrix chain multiplication, all pair shortest path algorithm, 0-1 Knapsack. Graph algorithms: Warshall's algorithm, Depth First Search, Breadth First Search. Height Balanced Tree. Branch and Bound technique, Backtracking. NP completeness.