

DESIGN AND ANALYSIS OF ALGORITHMS LAB (BCSP-503)

Course Outcomes:

1. Ability to analyze the performance of algorithms.
2. Ability to choose appropriate algorithm design techniques for solving problems.
3. Ability to understand how the choice of data structures and the algorithm design methods impact the performance of programs.

List of Programs:

1. Divide and conquer method (quick sort, merge sort, Strassen's matrix multiplication),
2. Greedy method (knapsack problem, job sequencing, optimal merge patterns, minimal spanning trees).
3. Dynamic programming (multistage graphs, OBST, 0/1 knapsack, traveling sales person problem).
4. Back tracking (n-queens problem, graph coloring problem, Hamiltonian cycles).
5. Sorting: Insertion sort, Heap sort, Bubble sort
6. Searching: Sequential and Binary Search
7. Selection: Minimum/ Maximum, Kth smallest element