Paper Cade: BCADSC 3.8	**Paper Title:** Design and Analysis of Algorithms-Lab	
Teaching Hours: 3 Hrs / Week	**Marks:** Th-40+IA-10	**Credits**: 1

Section A:

1. Write a program to find minimum and maximum value in an array using divide and conquer.
2. Write a program to sort a list of N elements using Selection Sort Technique.
3. Sort a given set of n integer elements using Merge Sort method and compute its time complexity. Run the program for varied values of n> 5000, and record the time taken to sort.
4. Sort a given set of n integer elements using Quick Sort method and compute its time complexity. Run the program for varied values of n> 5000 and record the time taken to sort.
5. Write C program that accepts the vertices and edges for a graph and stores it as an adjacency matrix. Implement function to print In-Degree, Out-Degree and to display that adjacency matrix.

Section B:

1. Write a program to perform Knapsack Problem using Greedy Solution
2. Write a program to perform Travelling Salesman Problem
3. Write a program to find Minimum Cost Spanning Tree of a given connected undirected graph using Prim's algorithm
4. Design and implement in Java to find a subset of a given set S = {Sl, S2,.....,Sn} of n positive integers whose SUM is equal to a given positive integer d. For example, if S ={1, 2, 5, 6, 8} and d= 9, there are two solutions {1,2,6}and {1,8}. Display a suitable message, if the given problem instance doesn't have a solution.
5. Write a program to implement N Queen Problem using Backtracking.

Note: Programs to be implemented using java language