**REVA UNIVERSITY**

**SCHOOL OF COMPUTING AND INFORMATION TECHNOLOGY**

**Design and Analysis of Algorithms Lab**

**Fourth Semester**

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| Sl. No | PROBLEM STATEMENT |
| 1 | Search for a given pattern in a text string using Brute Force String Matching. |
| 2 | Sort a set of elements in ascending order using Quick Sort algorithm. |
| 3 a | Find Minimum Cost Spanning Tree of a given undirected graph using Kruskal's |
| 3 b | Find Minimum Cost Spanning Tree of a given undirected graph using Prim’s algorithms. Differentiate the methods. |
| 4 | From a given vertex in a weighted connected graph, find shortest paths to other vertices using Dijikstra’s algorithm |
| 5 | Design and Implement 0/1 Knapsack problem using Dynamic Programming. |
| 6 | Implement All-Pairs Shortest Paths Problem using Floyd's algorithm |
| 7 | Obtain the DFS ordering of vertices in a given digraph. |
| 8 | Implement Horspool’s algorithm for String Matching and find the number of key comparisons in successful search and unsuccessful search. |
| 9 | Sort a given set of elements in ascending order which has duplicate entries. Use the sorting by counting algorithm. |
| 10 | Implement N Queen's problem using Back Tracking. |
| 11 | Write a program to sort all transactions of Big Mall by quantity of sales. |
| 12 | Write a program to find network of people of same location in Linkedin social network. |