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| **4th Semester** | **RCS4C202** | **Design and Analysis of Algorithms Lab** | **L-T-P 0-0-3** | **2 CREDITS** |

**1.Using a stack of characters, convert an infix string to postfix string (1 class)**

2.Implement insertion, deletion, searching of a BST. (1 class)  
3.(a) Implement binary search and linear search in a program  
(b)Implement a heap sort using a max heap.  
4. (a) Implement DFS/ BFS for a connected graph.  
(b)Implement Dijkstra’s shortest path algorithm using BFS.  
5. (a) Write a program to implement Huffman’s algorithm.  
(b)Implement MST using Kruskal /Prim algorithm.  
6.(a) Write a program on Quick sort algorithm.  
(b)Write a program on merge sort algorithm.  
Take different input instances for both the algorithm and show the running time.  
7. Implement Strassen’s matrix multiplication algorithm.  
8.Write down a program to find out a solution for 0 / 1 Knapsack problem.  
9.Using dynamic programming implement LCS.  
10. (a) Find out the solution to the N-Queen problem.  
(b)Implement back tracking using game trees.  
● \*College should conduct at least one NSDC program under this category