M S Ramaiah Institute of Technology

(Autonomous Institute Affiliated to VTU)

Department of Information Science and Engineering

**Data Structures Lab (IS333L)**

**(Academic Year Aug 2016-Dec 2016)**

**List of Programs for the Semester End Examination:**

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| 1 | Develop a C program to convert a given valid infix expression (with parenthesis) to its equivalent postfix expression using stack data structure. |
| 2 | 1. Develop a C program to search for a given key in a given list using recursive binary search. 2. Develop a C program to evaluate a given valid postfix expression using stack data structure. |
| 3 | 1. Develop a C program to solve Tower of Hanoi puzzle for n disks using recursion. 2. Develop a C program to implement Singly Linked List with the following operations: 3. Insertion at the beginning 4. Display |
| 4 | 1. Develop a C program to solve Tower of Hanoi puzzle for n disks using recursion. 2. Develop a C program to implement Singly Linked List with the following operations: 3. Insertion at the end 4. Display |
| 5 | 1. Develop a C program to find GCD of 2 numbers using recursion. 2. Develop a C program to implement Singly Linked List with the following operations: 3. Insertion at the beginning 4. Display |
| 6 | Develop a C program to implement linear queue (insertion, deletion and display). |
| 7 | Develop a C program to implement circular queue (insertion, deletion and display). |
| 8 | Develop a C program to implement Singly Linked List with the following operations:   * 1. Inserting a new node at the beginning.   2. Deleting a node at the given position.   3. Display |
| 9 | Develop a C program to implement Singly Linked List with the following operations:   * 1. Inserting a new node at the given position.   2. Deleting a node at the end.   3. Display |
| 10 | Develop a C program to implement Circular Linked List with the following operations:   1. Inserting a new node at the given position. 2. Deleting a node at the end. 3. Display. |
| 11 | Develop a C program to implement Circular Linked List with the following operations:   1. Inserting a new node at the beginning. 2. Deleting a node from the given position. 3. Display. |
| 12 | Develop a C program to implement Stack using CLL. |
| 13 | Develop a C program to implement Linear Queue using CLL. |
| 14 | Develop a C program to implement Doubly Linked List with the following operations:   1. Inserting a new node at the beginning. 2. Deleting a node from the given position. 3. Display. |
| 15 | Develop a C program to implement Doubly Linked List with the following operations:   1. Inserting a new node at the given position. 2. Deleting a node at the end. 3. Display. |
| 16 | Develop a C program to create an ascending order DLL. Perform deletion at the beginning. |
| 17 | Develop a C program to create a descending order DLL. Perform deletion at the end. |
| 18 | Develop a C program to create and display Binary Search Tree. |
| 19 | Develop a C program to create Binary Tree. And traverse the constructed BT using any two traversing techniques. |
| 20 | Develop a C program to create and evaluate Expression Tree. |

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