|  |  |
| --- | --- |
| A picture containing text, outdoor, sign  Description automatically generated | **DEPARTMENT OF COMPUTER ENGINEERING**  **ACADEMIC YEAR 2021-22** |

**Course Name: Data Structures**

**Class: SE / Semester 3**

|  |  |
| --- | --- |
| **Course Outcomes:** | |
| 1 | Students will be able to implement Linear and Non-Linear data structures. |
| 2 | Students will be able to handle various operations like searching, insertion, deletion and traversals on various data structures. |
| 3 | Students will be able to explain various data structures, related terminologies and its types. |
| 4 | Students will be able to choose appropriate data structure and apply it to solve problems in various domains. |
| 5 | Students will be able to analyze and Implement appropriate searching techniques for a given problem. |
| 6 | Students will be able to demonstrate the ability to analyze, design, apply and use data structures to solve engineering problems and evaluate their solutions. |

|  |  |  |
| --- | --- | --- |
| **List of Experiments:** | | |
| **Sr. No** | **Title of Experiment** | **CO** |
| 1 | Implement Stack ADT using array. | CO1 |
| 2 | Convert an Infix expression to Postfix expression using stack ADT. | CO4 |
| 3 | Evaluate Postfix Expression using Stack ADT. | CO4 |
| 4 | Applications of Stack ADT (Checking correctness of parenthesis) | CO6 |
| 5 | Implement Linear Queue ADT using array. | CO1 |
| 6 | Implement Circular Queue ADT using array. | CO3 |
| 7 | Implement Priority Queue ADT using array. | CO3 |
| 8 | Implement Singly Linked List ADT. | CO1 |
| 9 | Implement Circular Linked List ADT. | CO3 |
| 10 | Implement Doubly Linked List ADT. | CO3 |
| 11 | Implement Stack / Linear Queue ADT using Linked List. | CO2 |
| 12 | Implement Binary Search Tree ADT using Linked List. | CO2 |
| 13 | Implement Graph Traversal techniques:) Depth First Search b) Breadth First Search | CO5 |