

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

**Laboratory Manual**

**REGULATION 2023**

CS23231 – DATA STRUCTURES

**Dept of Artificial Intelligence and Machine Learning** | **Rajalakshmi Engineering College**

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**RAJALAKSHMI ENGINEERING COLLEGE**

**An Autonomous Institution, Affiliated to Anna University**

**Rajalakshmi Nagar, Thandalam – 602 105**

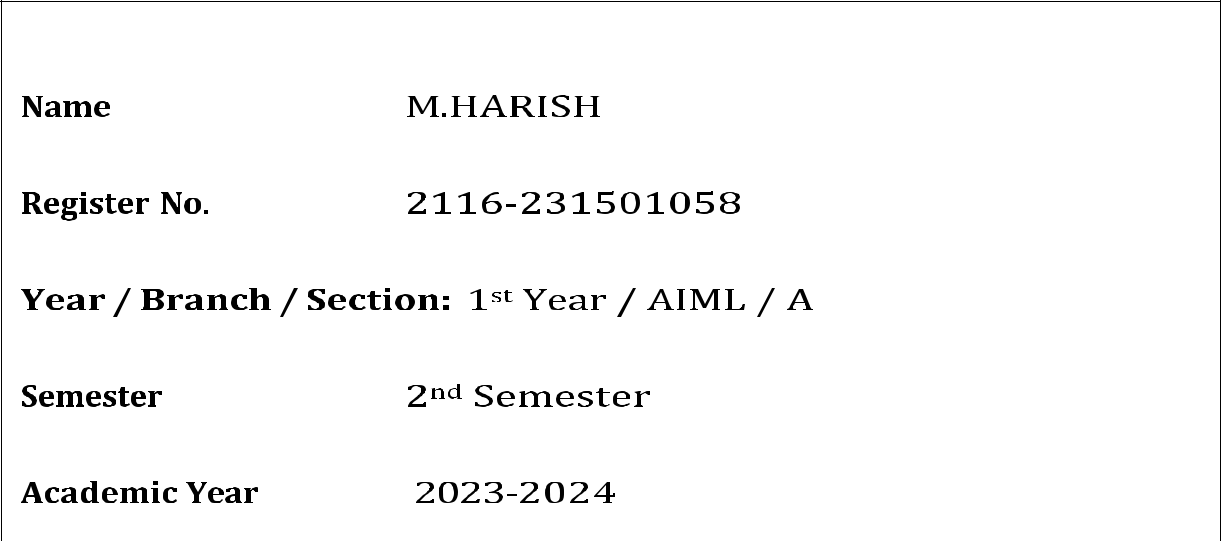
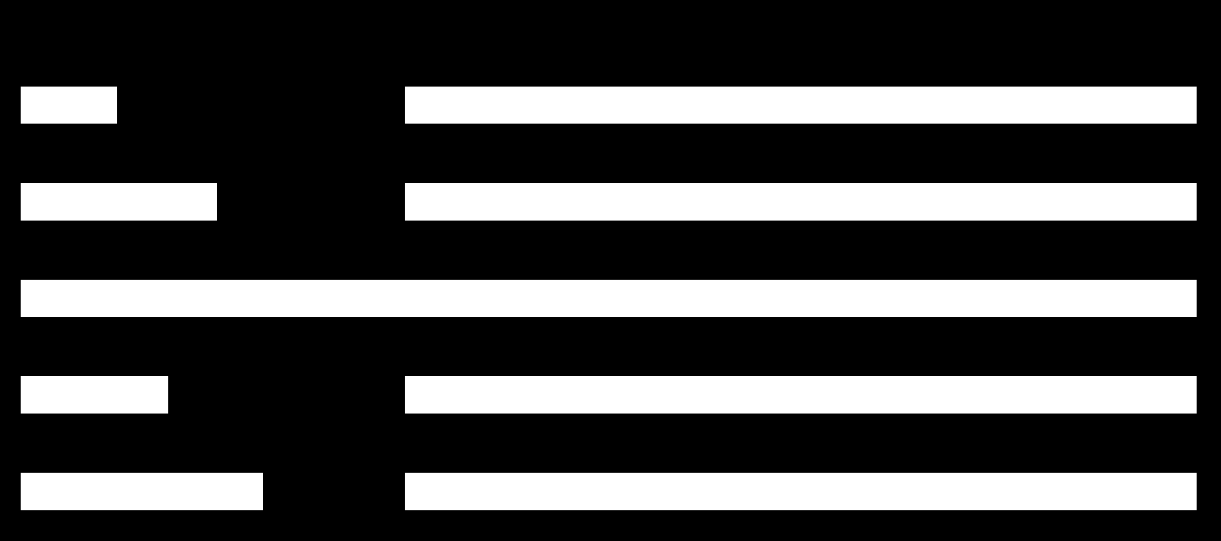


**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

**CS23231 – DATA STRUCTURES**

**(*Regulation 2023*)**

**LAB MANUAL**



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**LESSON PLAN**

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| **Course Code** | | |  | **Course Title** |  | **L** | **T** |  | **P** |  | **C** |  |
|  |  |  |  | **(Laboratory Integrated Theory Course)** |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| **CS23231** | |  |  | **Data Structures** |  | **1** | **0** |  | **6** |  | **4** |  |
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|  |  |  |  | **LIST OF EXPERIMENTS** | |  |  |  |  |  |  |  |
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| **Sl. No** |  |  |  | **Name of the experiment** | |  |  |  |  |  |  |  |
|  |  |  | | | | | | | | |  |  |
| Week 1 |  | Implementation of Single Linked List (Insertion, Deletion and Display) | | | | | | | | |  |  |
|  |  |  | | | | | | | | | |  |
| Week 2 |  | Implementation of Doubly Linked List (Insertion, Deletion and Display) | | | | | | | | | |  |
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| Week 3 |  |  | Applications of Singly Linked List (Polynomial Manipulation) | | | | | | | |  |  |
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| Week 4 |  |  | Implementation of Stack using Array and Linked List implementation | | | | | | | |  |  |
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| Week 5 |  |  |  | Applications of Stack (Infix to Postfix) | |  |  |  |  |  |  |  |
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| Week 6 |  |  |  | Applications of Stack (Evaluating Arithmetic Expression) | | | | |  |  |  |  |
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| Week 7 |  | Implementation of Queue using Array and Linked List implementation | | | | | | | | |  |  |
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| Week 8 |  |  |  | Implementation of Binary Search Tree | |  |  |  |  |  |  |  |
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| Week 9 |  |  |  | Performing Tree Traversal Techniques | |  |  |  |  |  |  |  |
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| Week 10 |  |  |  | Implementation of AVL Tree | |  |  |  |  |  |  |  |
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| Week 11 |  |  |  | Performing Topological Sorting | |  |  |  |  |  |  |  |
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| Week 12 |  |  |  | Implementation of BFS, DFS | |  |  |  |  |  |  |  |
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| Week 13 |  |  |  | Implementation of Prim’s Algorithm | |  |  |  |  |  |  |  |
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| Week 14 |  |  |  | Implementation of Dijkstra’s Algorithm | |  |  |  |  |  |  |  |
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| Week 15 |  |  |  | Program to perform Sorting | |  |  |  |  |  |  |  |
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| Week 16 | Implementation of Open Addressing (Linear Probing and Quadratic Probing) | | | | | | | | | | |  |
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| Week 17 |  |  |  | Implementation of Rehashing | |  |  |  |  |  |  |  |
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|  |  |  |  |  |  | **Date** | **No** | **Sign** |  |
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