International Institute of Information Technology, Bangalore
2023-T2- EG 102P Data Structures and Algorithms Lab

There are Six modules.

For each module, there will be 6 practice questions and 2 home work questions.

For practice questions, the solutions will be discussed during the lab hours and solutions to home work questions will not be discussed, students are expected to solve on their own.

For each module, there will be one test for 2 hours for 15 marks. There will be 3 questions , one easy (3 marks), one medium (5 marks) and one hard (7 marks).

Module tests will carry 50% weight age to final grade. Best of five out of six, each test carry 10 marks will be considered.

Practice and home work, for each module will carry 5 marks each, total marks for this is 30 %.

20% will be for attendance, in both theory and lab.

1 Data Structures

Linked Lists, Stacks and Queues, Hashing.

Test on 3, April 2023.

2 Time and Space Complexity

Fibonacci number modulo 100, Binary Search, Merge Sort and Quick Sort, kth Largest number, sliding windows, two pointer methods.

Test on 24, April 2023.

3 Binary Trees

Binary Tree Traversal. Tries. Binary Heap.

Test on 15, May 2023.

4 Data Structures

Segment Tree and Binary Index Tree, Binary Search Tree and AVL Tree.

Test on 19, June 2023.

5 Graph Traversal

BFS and DFS and applications

Test on 3, July 2023.

6 Graph Algorithms

Shortest path Algorithms - Dijkstra's, Bellmen-Ford, Floyd Warshall.
Minimum/Maximum Spanning Trees-Prim's and Krushkal's Algorithms.
Test on 17, July 2023.