LNCT UNIVERSITY, BHOPAL

Enrollment No.

CS-205PC
B.TECH(CS/AIML) II SEMESTER
EXAMINATION [JULY-2024]
DATA STRUCTURES

Maximum Marks: 70   **Time Allowed: 3Hours**

Note:- Attempt all questions internal choice are given.

(SECTION –A)

1. **Short Answer Type Questions (Attempt Any Five) [5x6=30]**

   i. Differentiate linear and non-linear data structure.

   ii. What are the types of linked lists?

   iii. What are the applications of stack?

   iv. Define a heap. How can it be used to represent a priority queue?

   v. Name the different ways of representing a graph?

   vi. What is a minimum spanning tree?

   vii. Explain Bubble sort algorithm with example.

(SECTION –B)

2. **Long Answer Type Questions (Attempt Any Four) [4x10=40]**

   i. Write a C program to perform searching operations using linear and binary search.

   ii. Briefly explain infix, prefix and postfix expressions.

   iii. Breifly explain various tree traversal methods with suitable example.

   iv. Explain the various representation of graph with example in detail?

   v. What are applications of hashing?

   vi. Explain array based implementation of queues?