

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. Briefly 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?
-