



**S.Y. B. Tech. Academic Year 2022-23 Semester: IV**

## **Advance Data Structures**

### **LABORATORY WRITE UP**

**Experiment Number: 01**

**TITLE:Polynomial UsingCircular Linked List**

#### **PROBLEM STATEMENT:**

Implement polynomial operations using Circular Linked List: Create, Display, Addition and Evaluation

#### **OBJECTIVE:**

1. To study data structure: Circular Linked List
2. To Study different operations that could be performed on CLL
3. To Study Applications of Circular Linked list

**THEORY:** *//To be Written by Students*

*// Write theory by elaborating below points*

Write in brief about Data structure:

- Circular Linked List
- Difference between SLL,CLL and DLL
- Various operations on CLL.

#### **IMPLEMENTATION:**

- **PLATFORM:**
  - 64-bit Open source Linux or its derivatives.
  - Open Source C++ Programming tool like g++/Eclipse Editor.

- **INPUT & OUTPUT:**

TEST CASE NO	INPUT	OUTPUT
01	$3X^2+5X+9$ $4X^6+8X$	$4X^6+3X^2+13X+9$

- **TEST CONDITIONS:-**

1. Input at least five nodes.
2. Addition of two polynomials with at least 5 terms.
3. Evaluate polynomial with floating values.

- **PSEUDO CODE:**      *//To be Written by Students*

Write pseudo code for create, display, Addition and evaluation

- **TIME COMPLEXITY:**      *//To be Written by Students*

Find out time complexity of above operations

- **CONCLUSION:**

Thus, implemented different operations on CLL.

- **FAQs**      *//To be Written by Students*

1. Write an ADT for CLL.
2. How to perform multiplication of two polynomials?
3. Write polynomial addition algorithm if terms are not sorted.

- **PRACTICE ASSIGNMENTS**

1. Write a program to multiply two polynomials using CLL.

Code: // Can be copy pasted.