

# Abstract Data Type and Java Collections

## PART(A)

**Subject: CSW2(CSE3141)**  
**Session: March 2023 to Aug 2023**  
**Branch: CSE&CSIT**  
**Section : All**

- Q1.** Write a program to create an ArrayList of Integer type and perform the below operation on it.
- (a.) Display the list
  - (b.) Ask the user to enter a number and search that number is it present in the list or not.
  - (c.) Remove an element from an asked position.
  - (d.) Add a condition to check the ArrayList is empty or not.
- Q2.** Create a class Student having member variable name, age, mark and required member variable. Create an LikedList of Student type and perform the below operation on it.
- (a.) Display the list
  - (b.) Ask the user to enter a student object and print the existence of the object. Specify is the object is search according to reference or contain.
  - (c.) Remove an specified student object.
  - (d.) Count the number of object present in the list.
- Q3.** Write a java program to convert a decimal to binary equivalent using stack(Stack collection).
- Q4.** Write a java program to evaluate a postfix expression using Stack.

- Q5.** Write a java program to traverse a graph using breadth first search (use ArrayDeque collection ).
- Q6.** Write a java program to traverse a graph using depth first search (use Stack collection ).