# WALCHAND COLLEGE OF ENGINEERING, SANGLI DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

#### **EXERCISE NO. 10**

## [MAP-HASHMAP-SORTED-NAVIGABLE-TREEMAP]

#### **PROBLEM NO 1:**

Construct a HashMap with initial capacity and load factor. Create a user-defined class as a type for HashMap that stores student information like name, class, year, address and email.

Use Roll number as a key HashMap.

Perform various operations on the HashMap.

Display set of keys, collection of values and set of key-value pair. Handle all exceptions that may come during execution.

Create a GUI for application.

### PROBLEM NO 2:

Write a Java program to show the working of LinkedHashMap. Construct a LinkedHashMap with initial capacity, load factor and access order. Handle the exceptions if any.

## **PROBLEM NO 3:**

Write a menu driven program to implement TreeMap. Construct a TreeMap using Natural ordering of elements. Display the elements in the both orders.

User should check for the presence of particular key as well as particular value.

Retrieve the elements within given range and perform operations on them.

Also retrieve elements greater than and smaller than specified number.

Handle Exceptions if any.