LAB NO: 2 **Date:**

APPLICATION DEVELOPMENT USING JAVA SWING

Objectives:

In this lab students should be able to implement GUI application using Java Swing

Introduction to Java Swing

Swing components provide GUI environment to java. It is the collection of lightweight visual components that provide a replacement for the heavyweight AWT components.

- ✓ A swing GUI consists of two key items i.e. *components* and *containers.*
- ✓ Components are derived from the JComponent class and defined within the package javax.swing.

  The following shows the class names for Swing components: JButton, JCheckBox, JComboBox, JList, JMenu, JMenuBar, JRadioButton, JTable, JTextField, JTogglebutton, JTextArea, JToolBar, JLabel etc.
- ✓ Swing defines two types of containers:
  - Top level containers: JFrame, JApplet, JWindow and JDialog. Each Top level containers defines a set of panes, example content pane
  - Lightweight containers: JPanel
- ✓ The layout managers are used to position the components. Different types of layout managers are: FlowLayout Manager, BorderLayout Manager and GridLayout Manager
- ✓ Events specific to Swing are stored in javax.swing.event

A Simple Swing Application

```
import javax.swing.*;
class SwingDemo {
   SwingDemo()  {
     // create a new JFrame container
     JFrame jfrm = new JFrame ("A simple swing application");
```

```
        // give the frame an initial size
        jfrm.setSize(275, 100);      // Similarly, jfrm.setText("Click")
        // Terminate the program when the user closes the application
        jfrm.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        // create a text based label
        JLabel jlab = new JLabel(" swing means powerful GUIs");
        jfrm.add(jlab);      // Add the label to the content pane
        jfrm.setVisible(true);   // Display the frame
}
public static void main (String args[])  {
  // create the frame on the event dispatching thread
  SwingUtilities.invokeLater (new Runnable()  {
    public void run()  {

      new SwingDemo();   }
});
} }
```

Lab exercises

1. Write a program to create a GUI with any eight functionalities for Order Processing System using Java Swing. Use at least 8 swing components, two layout manager and necessary event handlers to show the functionalities of Order Processing System

Additional Questions:

1. Write a program to create a GUI with any six functionalities using Java Swing for the following:
   i) Crisis Management System
   ii) Employer's Performance Management System