Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER II
SESSION 2023/2024

COURSE NAME	:	JAVA PROGRAMMING
COURSE CODE	:	BIT 33803
PROGRAMME CODE	:	BIT
EXAMINATION DATE	:	JULY 2024
DURATION	:	3 HOURS
INSTRUCTIONS	:	1. ANSWER ALL QUESTIONS 2. THIS FINAL EXAMINATION IS CONDUCTED VIA ☐ Open book ☒ Closed book 3. STUDENTS ARE **PROHIBITED** TO CONSULT THEIR OWN MATERIAL OR ANY EXTERNAL RESOURCES DURING THE EXAMINATION CONDUCTED VIA CLOSED BOOK

THIS QUESTION PAPER CONSISTS OF **FOUR (4)** PAGES

Q1 Determine whether each of the following statements is **TRUE** or **FALSE**.

(a) A static variable is a variable shared by all instances of the same class.

(2 marks)

(b) A superclass inherits accessible data fields and methods from its subclass.

(2 marks)

(c) A final class cannot be inherited.

(2 marks)

(d) A class can extend only one superclass but can implement one or more interfaces.

(2 marks)

(e) All methods in an abstract class must be declared as abstract methods.

(2 marks)

Q2 Determine whether each of the following segment codes is **VALID** or **INVALID**. If **INVALID,** Justify your answers.

(a)
```
JComboBox jcboColor = new JComboBox("Red","Green","Blue");
```

(2 marks)

(b)
```
abstract public void display(){
      System.out.println("Welcome to Java Classroom");
}
```

(2 marks)

(c)
```
Font myFont = new Font("SansSerif ",16,Font.BOLD);
```

(2 marks)

(d)
```
public interface AnimalSound {
     public void Cat() {
          System.out.println("Meow.. Meow..");
     }
}
```

(2 marks)

(e)
```
class Rectangle(){
     public Rectangle(){
         System.out.println("This is default constructor");
     }
}
```

(2 marks)

Q3 Determine the output of the segment code in **Figure Q3.1**.

(4 marks)

```
public static void main(String[] args) {
      for (int i=-2; i<2;i++) {
            for(int j=-2; j<2; j++) {
                  if(i<j)
                        System.out.print("7");
                  else
                        System.out.print("3");
            }
            System.out.println();
      }
}
```

Figure Q3.1

Q4 Answer **Q4(a) - Q4(c)** based on **Figure Q4.1.**

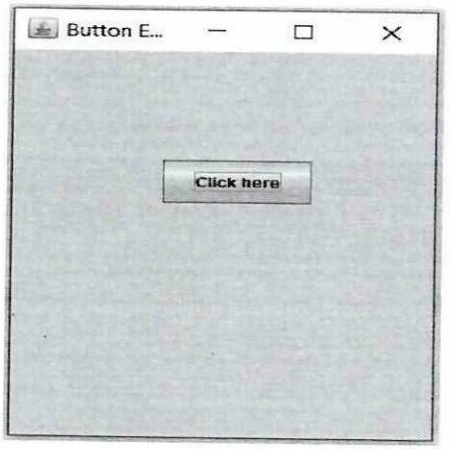

Figure Q4.1

(a) Write a Java Swing program to create Graphical User Interface (GUI) application as shown as in **Figure Q4.1**.

(12 marks)

(b) Discuss the main elements of GUI applications.

(10 marks)

(c) Based on The Delegation Event Model, explain how the event handling process involved when a user clicks the button in **Figure Q4.1**.

(10 marks)

Q5 Write a Java Swing program to create a GUI application as shown as in **Figure Q5.1**.

(24 marks)

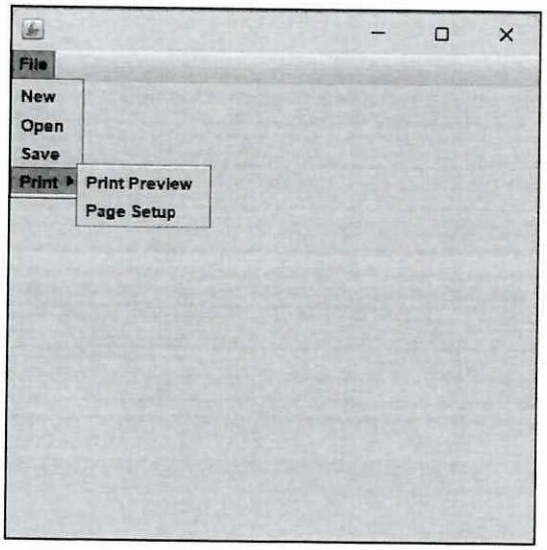

Figure Q5.1

- END OF QUESTIONS -