

322553(22)

BE (5th Semester)
Examination, Nov.-Dec., 2017
(New Scheme)

Programming in Java

Time Allowed : 3 hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : (i) All questions are compulsory. Part (a) of each question is compulsory. Attempt any two parts from (b), (c) and (d) of each question.

(ii) The figures in the right-hand margin indicate marks.

1. (a) What is the difference between Array List and Vector? [2]
- (b) What do you mean by control flow? Write a Java Program to demonstrate the use of control flow used in Java. [7]
- (c) Explain the following line used under Java Program—in detail public static void main (String args[]) [7]

(Turn Over)

[2]

- (d) Specify code written below is correct or not? If yes, what will be the output? [7]

```
class A
{
    static void staticMethod ()
    {
        System.out.println("Static
        Method");
    }
}
public class MainClass
{
    public static void main (String[] args)
    {
        A a = null ;
        a.staticMethod();
    }
}
```

2. (a) What is immutable object? Can you write immutable object? [2]
- (b) What will be the Boolean "flag" value to reach the finally block? [7]

```
try {
    if (flag) {
        while (true) {
        }
    } else {
        System.exit(1);
    }
} finally {
    System.out.println("In Finally")
}
```

(Continued)

- (c) "In Java, a child class has to satisfy the parent class constructor." Justify this statement with a program in Java. [7]
- (d) Explain inbuilt and user defined, checked and unchecked exceptions in Java and demonstrate them, using a Java program. [7]

3. (a) How do you ensure that N thread can access N resources without deadlock? [2]

(b) What do you understand by thread-safety? Why is it required? And finally, how to achieve thread-safety in Java Applications? [7]

(c) Write a Java program to count the number of alphabets, numeric values, words and special symbols in a line of text entered from the user during runtime. [7]

(d) You have been given a task to create a database of Student Names, the database used here is disk file. Develop a Java application with facilities to add, search and view. All the names stored in File. [7]

4. (a) Which type of JDBC driver is the fastest one? [2]

(b) What are types of JDBC drivers? [7]

(c) Inspect the following code carefully and answer the questions with justification : [7]

(i) Code runs or gives compilation time error.

(ii) If code runs, then what would be the size/length of application box made by the program

```
import java.awt.* ;
import java.applet.*;
public class myapplet extends Applet {
    Graphi g;
    g.drawString ("A Simple Applet",
    20, 20);
}
```

(d) What are Sockets in Java? Explain using Java program the use of TCP and UDP Sockets to send and receive data. [7]

5. (a) What is the difference between Swing and AWT components? [2]

(b) Explain the steps to create RMI-based clients and server. [7]

(c) Explain in brief various types of Layouts in Java. Demonstrate using a Java program any four types of Layouts and explain their effects on the components. [7]

(d) Compare Frame and Panel. Demonstrate using a Java program how the handling of a Frame is different than handling of a Panel. [7]