

Total No. of Questions : 8]

SEAT No. :

P7580

[6180] - 95

[Total No. of Pages : 4

T.E. (Electronics Engineering) (E & TC)

Fundamentals of Java Programming

(2019 Pattern) (Semester - I) (Elective - I) (304185 C)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Answer Q1 or Q2, Q3 or Q4, Q5, or Q6, Q7 or Q8.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right indicate full marks.*
- 4) *Assume suitable data, if necessary.*

Q1) a) Write a program to implement single inheritance in java. [5]

b) Complete the following Java code to display lower triangular matrix. [10]

```
public class LowerTriangular
{
    public static void main (String[ ] args) {
        int rows, cols;
        //Initialize matrix a
        int a [ ][ ] = {
            {1, 2, 3},
            {8, 6, 4},
            {4, 5, 6}
        };
        //Calculates number of rows and columns present in given matrix
        rows = a. length;
        cols = a[0].length;
        if(rows != cols) {
            System.out.println("Matrix should be a square matrix");
        }
        else {
```

P.T.O.

//Performs required operation to convert given matrix into lower triangular matrix

Complete the code

```
}  
}
```

- c) Write a program to join two strings. [3]

OR

- Q2) a)** What is difference between array and array list? When will you use array over array list. [4]

- b) Explain [6]

- i) Super Class
- ii) Sub Class
- iii) Reusability

With reference to inheritance in Java.

- c) Explain the concept of abstract class and abstract method with suitable example. [8]

- Q3) a)** What is the difference between an Interface and an Abstract class? [8]

- b) List out the advantages of packages. [6]

- c) How to hide a class in package ? Explain. [3]

OR

- Q4) a)** Correct the following code to rectify the compile error generated if any and justify your answer. Rewrite the corrected code. [8]

```
interface NewShape {  
    void draw ();  
}  
class NewCircle1 implements NewShape{  
    public void draw() {
```

```

System.out.println ("New Circle1 drawn");
    }
}
class NewCircle2{
    public void draw()
    {
        System.out.println(New Circle2 drawn");
    }
}
public class CastInterface {
    public static void main(String[ ] args) {
        // TODO Auto-generated method stub
        NewShape obj1 = new NewCircle1 ( );
        NewShape obj2 = new NewCircle2 ( );
        obj1.draw( );
        obj2.draw( );
    }
}

```

- b) List out Java API package. [6]
- c) Which is the package by default imported in every Java program? Why? [3]

- Q5)** a) Write a java code using bufferReader class to read name from the user. [5]
- b) Explain life cycle of an applet . [6]
- c) What is a finally block? Where and how is it used? Give a suitable example. [7]

OR

- Q6)** a) Explain the available thread states in a high-level. [7]
b) What is the difference between throw and throws? What is the importance of finally block in exception handling? [5]
c) Explain applet and differentiate between applet and application. [6]

- Q7)** a) Explain the Graphics class in Java. List out and explain any three drawing methods from Graphics class. [9]
b) Write a Java program using Swing to display "Welcome to Java". [8]

OR

- Q8)** a) List difference between swing and AWT in Java. [5]
b) Write a Java program using Swing to display "Hello World". [8]
c) Explain the FileReader and File Writer class in Java. [4]

