

[This question paper contains 4 printed pages.]

8195

Your Roll No.

B.Sc. (G) / II

BS

COMPUTER SCIENCE – Paper III

(Object Oriented Programming)

Time : 3 Hours

Maximum Marks : 38

*(Write your Roll No. on the top immediately
on receipt of this question paper.)*

Attempt All questions.

Answer all parts of a question together.

Give explanation of the output wherever required.

1. (a) Why is Java known as a platform-independent language ? (1)
- (b) What is an abstract class ? How is it different from an interface ? Explain, why cannot we instantiate any of these two. (3)
2. (a) What is a constructor ? How is it different from other methods ? Give an example where one constructor is called from another in a class having multiple constructors. Can a class inherit the constructor of its superclass ? Justify. (4)
- (b) How is Garbage collection done in Java ? What is the significance of finalize() method ? (2)

P.T.O.

3. (a) Differentiate between simple and short-circuit logical operators, giving example. (2)
- (b) Describe, with help of examples, levels of access protection available in Java. (4)
4. (a) Define an exception class called "Mismatch Exception" that is thrown when two strings are not equal. Write a program that uses this exception. (3)
- (b) What is the purpose of 'finally' clause in a try-catch-finally statement? (1)
5. (a) Create an applet which handles mouse events. It prints message "Examination" wherever the mouse is clicked on applet window. (4)
- (b) What is a thread? What Java interface must be implemented by all threads? What is the significance of run() method? (3)
6. (a) Give output of the following code. Justify your answer.

```
class Exam6{
    public static void main (String args[ ])
    {
        int i = -2;
        int j, k;
        j = i >> 2;
```

```
        k = i >>> 2;
        System.out.println(j);
        System.out.println(k);
    }
} (2)
```

(b) What is the significance of modifier 'final' for a class, a method and a variable? (3)

(c) What is the difference between method overloading and method overriding? Explain giving example. (2)

7. (a) Find errors in the following code and correct them. Justify your answers.

```
class Circle{
    int radius
    static float Pi;
    private Circle(int i)
    { Pi = 3.14;
      i = radius;
    }
    void area( )
    {
        float ar = Pi * radius * radius;
        return ar;
    }
    public static void main(int args[ ])
    {
```

```
Circle C = new Circle(3);
System.out.println("Area of the circle is:"
                  + area ());
    }
}                                     (3)
```

- (b) What is the problem with the following code snippet ? Explain.

```
try {
    int j = 0;
    int i = 4;
    int k = new int[4];
        i = i/j;
        k[i] = 3;
    }
catch (Exception e)
{
    . . . .
}
catch (ArithmeticException ae)
{
    . . . .
}
catch (Array Index Out of Bound Exception ae)
{
    . . . .
}                                     (1)
```