

[This question paper contains 8 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 2908

H

Unique Paper Code : 32341201

Name of the Paper : Programming in JAVA

Name of the Course : **B.Sc. (Hons.) Computer Science (Old Course)**

Semester : II

Duration : 3 Hours

Maximum Marks : 75

### Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. **Section A** is Compulsory.
3. Attempt any **Four** Questions from **Section B**.

### **Section – A**

1. (a) Write the output(s) of the following Java code snippets : (3×2)

P.T.O.

```
(i) class SumBytes {
    public static void main (String [] args) {
        System.out.println("Adding bytes");
        byte b1 = 10, b2 = 10;
        System.out.println("b1 + b2 = " + (b1 + b2));
        b2 = 20;
        System.out.println("b1 + b2 = " + b1 + b2);
    }
}
```

```
(ii) public class test {
    public static void main(String[] args){
        String str = "javaprogram";
        System.out.println(str.substring(1,5)); }}
```

(b) public class test { (3)

```
    public static void main(String[] args){
        int[] x = {50,60,70,80,90};
        for(int i = 0; i < x.length; i=i+2){
            System.out.print(x[i]);
        }
    }
```

(c) What will be the output of the following Java program? (3×2)

- (i) `public class Demo {`  
     `static {`  
         `System.out.println("Seema in the first static block");`  
     `}`  
     `public static void main(String[] args)`  
     `{`  
         `System.out.println ("Samita is in the main method");`  
     `}`  
     `Static {`  
         `System.out.println("Meena is in the second static block");`  
     `}`  
`}`
- (ii) `int sum=0;`  
     `int b[]={ 1,2,3,4};`  
     `for(int i:b)`  
         `sum=sum+i;`  
     `System.out.println("Sum is"+sum);`

P.T.O.

- (d) `class Demo {` (5)  
     `public static void main(String[] args) {`  
         `int a = 5;`  
         `int b = 9;`  
         `System.out.println(a | b);`  
         `System.out.println(a & b);`  
         `System.out.println(a ^ b);`  
         `System.out.println(~a);`  
         `System.out.println(~a & 0x0f);`  
     `}`  
`}`
- (e) What is the result after execution of following expression in Java? (2\*2)
- (i) `int a = 4, b = 6 and c =5;`  
     `a += b/c + 2;`
- (ii) `int m = 2, n = 4;`  
     `int k = n%m+2;`
- (f) Name event listener interface that is notified when the following event occurs : (5)

- (i) When a mouse is clicked.
  - (ii) When a component gains focus.
  - (iii) When Key is pressed.
  - (iv) When mouse is dragged.
  - (v) When text value is changed.
- (g) Given the following hierarchy of classes (3)
- Class A {....}
- Class B extends A {....}
- Class C extends B {....}
- In what order, the constructors are called when an object of class "C" is instantiated?
- (h) How is the class prevented from being inherited? Give an example. (3)

### Section – B

2. (a) How is exception handling managed in Java? Is it possible to use multiple catch with a single try? Explain with an example. (6)
- (b) Rewrite the following code segment to handle the Exception that will occur on executing the following codes segments : (2×2)

P.T.O.

- (i) 

```
public static void main(String[]args)
{
    int a = 98, b = 0;
    int c = a/b;
    System.out.println(c);
}
```
- (ii) 

```
int z[ ] = new int[10];
z[10] = 10;
```
3. (a) Using Java AWT, write a program that does the following : (5)
- Creates a frame titled "New Frame" having two fields to add Userid and Password. If the user types in correct user id and correct password, display a message "Successful" inside the frame otherwise display "Invalid Credentials".
- (b) Using appropriate adapter class to display the message "Typed character is: "<typed Character>" in the frame window when user types any key. (5)
4. (a) Given an integer variable int a = 2, what is the output for a >> 1 and a << 1? (3)

- (b) Find the Error in the following code segment. Also rewrite the correct code after making suitable changes. (4)

```
class Box{
private int width; int height; int length ;
}
class mainclass {
public static void main(String[] args)
{
Box obj=new Box();
obj.width = 10; obj. height =2; obj.length=10;
int y = Obj.width *obj. height* obj.length;
System.out.println (y);
}
}
```

- (c) What is the output of the following Java program? (3)

```
class Show{
public static void main(String[] args)
{
int x = 9, y = 0;
if(++x == 1 && ++y == 1)
{
System.out.println(x);
System.out.println(y);
}
}
}
```

P.T.O.

5. (a) Explain the term polymorphism. How does Java support run time polymorphism? Illustrate with an example. (6)
- (b) What is Method overriding in Java? Explain with the help of an example. (4)
6. (a) Write a program in Java to read a file "SourceFile.txt" and copy only those lines that contain both the characters '#' and '@' to another file "DestFile.txt". (6)
- (b) Differentiate between paint() and repaint() methods defined by AWT. (4)
7. (a) Differentiate : (2×3)
- (i) Byte Stream and Character Stream
  - (ii) == and equals
  - (iii) String and StringBuffer class
- (b) Write a program in Java to read multiple strings from the command line and display the length of each string? (4)

(200)