

MCA (Revised)
Term-End Examination
December, 2007

**MCS-024 : OBJECT ORIENTED
TECHNOLOGIES AND JAVA
PROGRAMMING**

Time : 3 hours

Maximum Marks : 100

Note : Question number 1 is **compulsory**. Attempt any **three** questions from the rest.

1. (a) Explain the life cycle of applet, briefly describing all its methods. 8
- (b) Explain the different application areas of OOPS. 4
- (c) What is a constructor ? Write a java program to explain how super class constructors are called in their subclass. 5
- (d) Compare and contrast multiple inheritance and multilevel inheritance with example. 6
- (e) Explain the difference between String and StringBuffer Class with example. 3

(f) Write the output of the following :

(i) protected class Student

```
{ int x=1;
  static int y;
  public static void main (string arg[ ])
  {
  system.out.println ("The value of y is:" +y);
  }
}
```

2

(ii) string S1 = "Hello";

string S2 = "Hello";

string S3 = new string ("Hello");

system.out.println ("S1 is equal to S2" + S1 equals (S2));

system.out.println ("S1 is equal to S3" + S1==S2);

2

(iii) int X = 5*2 + 10/2 - 3;

system.out.println ("The value of X is:"+X);

1

(g) Write a program in java to find the length of string "Practice in programming is always". Find the difference between first and last occurrence of "r" in this string.

5

(h) What are the various data types supported by java ?
What are their value storage limits ?

4

2. (a) Explain the use of final keyword with variable, method and class. 5
- (b) Explain the URL connection class. Explain any four methods of this class. 6
- (c) What are various access specifiers in java ? Write their accessibility. 5
- (d) Find the errors in the following java program and correct them. 4

```
public class test_string
{
    public static main(string)
    {
        string str = "Hi java";
        int x = str . length;
        system.out.println ("length is" +x);
    }
}
```

3. (a) Write a program to create an applet which contains 3 buttons having labels "one", "two" and "three" and one text field. When user clicks any button its label text appears in the text field. 10
- (b) What is a bitwise operator ? If i is int i = 28, what will be the value of i after 5
- (i) $i = \lll 2;$
- (ii) $i = i + i \lll 2;$

- (c) What are the differences between checked and unchecked exceptions ? Name two classes in each category. 5
4. (a) Write an exception subclass which throws an exception if the string variable passed as an argument to a method, doesn't have first letter in upper case. 9
- (b) Compare and contrast "equals()" & "==" operator in context of string class with example. 5
- (c) What is meant by Stream and what are the types of Streams and Classes of the Streams ? 3
- (d) Differentiate between 'Transient' and 'Volatile' keyword. 3
5. (a) Why is Pushback Input Stream used ? 3
- (b) Write a program which calculates the size of a given file and then renames that file to another name. 6
- (c) Explain the concept of 'Stub' and 'Skeleton' in RMI. 4
- (d) What are the differences between Get and Post methods ? 3
- (e) What is the difference between a java bean and instance of a normal java class ? 4