| MCS-024 |

MCA (Revised)

Term-End Examination

June, 2013

01354

MCS-024 : OBJECT ORIENTED TECHNOLOGIES AND JAVA PROGRAMMING

Time : 3 hours   *Maximum Marks : 100*

Note :   *Question No. 1 is* **compulsory**. *Attempt* **any three** *questions from the rest. Attempt all parts of questions together.*

1.   (a)   Bring out the difference between the string   5
          and stringbuffer classes in Java.

     (b)   Explain the concept of inheritance. Give a   7
          suitable example by declaring a class and
          showing two levels of inherited classes with
          the methods of each.

     (c)   There are some classes that reside in a public   4
          package called my Package. Give three
          ways in which these can be accessed in the
          default unnamed package. If one of the
          classes in my Package has the same name
          as a class in the default package, how can it
          be referred to in the default package ?

     (d)   What are the steps involved in creating a   6
          distributed application using Remote
          Method Invocation ?

(e) (i) How would you transfer control from   1
          the innermost loop of a thrice nested
          loop to the next statement outside the
          loops ?

     (ii) What are the conditions necessary for   1
           a class to be serializable ?

     (iii) Why is it not necessary to handle   2
           Runtime Exception ?

(f) When is the "this" keyword used and   4
     why ? Write a program fragment to
     illustrate.

(g) Write a Java program to read a text file and   10
     output the number of case insensitive
     occurrences of the sequence of letters "the"
     in it.

2. (a) What   are   Java   controls   and   8
         containers ? Write an applet that displays
         three labels and four non-exclusive
         checkboxes on the screen.

    (b) Construct a programming problem where   6
         the switch statement cannot be used for
         taking decisions. Now write a Java program
         to solve the problem.

    (c) Write a program to track sessions through   6
         hidden form fields.   What is the
         disadvantage of this approach ?

3. (a) What is polymorphism ? Write a program 10 to illustrate late binding in Java.

(b) "Experiment 1" is a text file. Write a Java 10 program to read" Experiment 1" and copy the contents of "Experiment 1" to a new file "Experiment 2". Also count the number of words and lines copied.

4. (a) There is a database with a table emp_t that 12 has employee_id, name, old_basic_salary and new_basic. Write a Java program to find all employees whose old basic salary is less than ₹ 20,000 and give them a 10% raise, while all others get a 6% raise. Update emp_t with the new basic salary of each employee.

(b) Suppose x in octal notation is $(567)_8$ and 8 similarly $y = (-325)_8$. Write down the values of :

(i) $x<<y$ (ii) x/y

(iii) x & y (iv) $x>>3$

(v) $x >>> 3$ (vi) $x^{\wedge}y$

(vii) $\sim x$ (viii) $\sim y$

5. (a) What is meant by thread priority ? Write a 8
Java program that creates two threads-one
with minimum and the other with
maximum priority. The first prints the
letters A to Z while the second prints the
numbers 1 to 26. Which thread would you
expect to finish first and why ?

(b) Write a Java program that finds : 8
(i) the area of a circle with that radius if
1 parameter is passed to it.
(ii) the area of a rectangle with those sides
if 2 parameters are passed to it.
(iii) the surface area of a box if 3
parameters are passed to it.

(c) Explain how to compile and run a Java 4
Servlet.

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