| MCS-024 |

MCA (Revised)/BCA (Revised)
Term-End Examination
June, 2014

12559

MCS-024 : OBJECT ORIENTED TECHNOLOGIES AND JAVA PROGRAMMING

Time : 3 hours *Maximum Marks : 100*

(Weightage 75%)

Note : (i) *Question No. 1 is compulsory.*

(ii) *Answer any three questions from the rest.*

(iii) *Attempt all of a question together.*

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1. (a) What is object oriented programming ? 8
        How is it different from structured
        programming ? Explain advantages of
        using object oriented programming.

   (b) Explain why is Java called platform 3
        independent language ?

   (c) What is abstraction ? Explain why classes 5
        in OOP, known as abstract data types.

   (d) What is Java applet ? How is it different 5
        from Java application program ?

   (e) Explain any five interfaces of the Java IO 5
        package.

(f) What is Exception ? Explain how exceptions are handled in Java. Write a Queue class that throws an exception when the Queue is full. Display exception message as "Queue is full". **9**

(g) Explain the Java RMI architcuture with the help of a diagram. **5**

2. (a) What is multithreading ? Explain the steps for creating thread in Java. Also, explain different predefined thread priorities in Java. **10**

(b) Write a Java Program which takes two 3×3 matrices as input and find sum of the two matrices ? Define constructor for initializing matrix objects. **10**

3. (a) Write a Java program that reads the contents of a text file and counts the number of white spaces, number of characters, number of words, number of semicolons in the contents. Print the output of program on standard output. **10**

(b) Write a Java program to find factorial of a number. **5**

(c) What is inheritance ? Explain with an example how is multiple inheritance achieved in Java ? **5**

4. (a) Write a Java program to setup JDBC and **10** execute an SQL statement on a database table 'BOOK', with the fields BOOK_ISBN, BOOK_AUTH, BOOK_PRICE, BOOK_PUBL. The SQL statement should find the BOOK_AUTH and BOOK_PRICE of the Book having ISBN = 235001.

(b) What is Polymorphism ? Explain advantage **10** of polymorphism with an example of managing different types of Bank Accounts.

5. (a) What is Java Bean ? Explain its advantages. **5**

(b) What is String Class in Java ? Write a **5** program to insert a substring in the middle of a string. (Do not use methods of string class)

(c) What is layout manager ? Explain any two **5** layouts in Java briefly.

(d) Differentiate between overloading and **5** overriding with the help of suitable example.

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