MCS-024

M. C. A. (REVISED)/B.C.A. (REVISED)

Term-End Examination

December, 2020

MCS-024 : OBJECT ORIENTED TECHNOLOGIES AND JAVA PROGRAMMING

Time : 3 Hours   *Maximum Marks : 100*

Weightage : 75%

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

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1. (a) What is Multithreading ? How is multithreading supported in Java ?   5

    (b) What is explicit casting ? Explain with suitable example.   5

    (c) What is the difference between declaring a variable and defining a variable ? Explain with the help of an example.   5

(d) Explain the following and their usage using suitable examples :   5

    (i)   Extends

    (ii) Implements

(e) Write a java program to convert a given string to uppercase and also display the length of the string.   5

(f) What is datagram socket ? Explain the use of datagram socket with the help of a program in java.   5

(g) Write a java program to draw a triangle. 5

(h) What is function overloading ? Explain it with the help of a program, written in java.   5

2. (a) How does java application differ from java applet ? Do we write "public static void main(string args [ ]) in applet ? Justify.   5

  (b) Write a java program to copy the text content of one file into another file. Support your program with suitable comments.   7

(c) What is the relation between interface and inheritance ? Explain how multiple inheritance can be implemented in Java using interface.   8

3. (a) Explain the life cycle of servlet, along with a program that creates a simple servlet generating HTML to write "welcome students".   10

    (b) What is an exception ? What is runtime exception ? Write a java program to search element in a given array with provision of exception handling.   10

4. (a) How java implements the model of interprocess synchronization using threads ? Explain with the help of a program.   10

    (b) What is Inheritance ? What are the advantages of inheritance ? Write a java program to demonstrate implementation of inheritance.   10

5. Write short notes on the following : $5 \times 4 = 20$

   (a)   Cookies and their role in session handling

   (b)   Layout manager and its role

   (c)   Buffered stream classes and their utility

   (d)   Uses of super keyword

   (e)   Garbage collection