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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.*

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