

**MASTER OF COMPUTER
APPLICATIONS/BACHELOR OF
COMPUTER APPLICATIONS
(MCA/BCA) (REVISED)**

Term-End Examination

December, 2024

**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.*

1. (a) Why main() is not included in writing a
Java applet ? Explain with the help of an
example code. 5

- (b) Explain the concept of method overloading with the help of suitable code in Java. 5
- (c) Explain the process of inter-thread communication, with the help of a suitable diagram. 5
- (d) What is an Interface ? Write a program in Java to show how a class implements two interfaces. 5
- (e) What is Object Serialization ? Discuss the working of object serialization with suitable block diagram. 5
- (f) What is stream tokenize ? Discuss its usage with the help of suitable example. 5
- (g) Compare doGet() and doPost() methods. 5
- (h) What are cookies in Java ? Discuss the role of cookies in session tracking. 5

2. (a) Briefly discuss the types of JDBC drivers.
Give advantage and disadvantage of each. 8
- (b) How does Servlets differ from Applets ?
Briefly discuss the lifecycle of both, with suitable block diagram for each. 8
- (c) Compare 'throw' statement with 'throws' statement in Java. 4
3. (a) What is an abstract class ? How is it used to implement polymorphism in Java ? Give suitable example code in support of your answer. 7
- (b) Differentiate between 'Final', 'Finally' and 'Finalize' statements in Java. 6
- (c) Compare object oriented programming with the structured programming. Write features of object oriented programming. 7

4. (a) What is Polymorphism ? Explain the relation between Inheritance and Polymorphism. Compare the method overloading and method overriding with the help of suitable code in Java. 10
- (b) Write a Java program which takes two 3×3 matrices as input and find the sum of these two matrices. Define constructor for initialization of matrix object. Support your code with suitable comments. 10
5. Write short notes on the following (Give example for each) : $4 \times 5 = 20$
- (a) Message Passing
 - (b) Java Beans
 - (c) JVM
 - (d) Layout Manager
 - (e) String Class

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