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MCS-024

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

Term-End Examination

December, 2025

**MCS-024 : OBJECT ORIENTED
TECHNOLOGIES AND JAVA PROGRAMMING**

Time : 3 Hours

Maximum Marks : 100

Weightage : 75%

***Note :** Question No. 1 is compulsory and carries
40 marks. Attempt any **three** questions
from the rest.*

C-2041/MCS-024

P. T. O.

1. (a) Define a class and an object. What is the advantage of having data members and member functions with the class ? 5
- (b) Define the terms exception and error. How does exception routines help us to deal with abnormal program termination ? 5
- (c) How are threads 'lightweight' as compared to processes ? Justify your answer. 5
- (d) How does object-serialization help to save the state of an object ? 5
- (e) Discuss the prominent characteristics of string-class in Java with examples. 5

- (f) List the differences between an applet and application programs with their life cycle. 5
- (g) Explain the role of `LayoutManager` with respect to container and component classes. 5
- (h) Explain the JDBC-architecture in a 3-tier model with a diagram. 5
2. (a) Explain the concept of overloading of methods in Java with an example. 10
- (b) Explain the garbage collection process in Java language. What are its major advantages compared to other languages ? 10

3. (a) Differentiate between checked and unchecked exceptions in Java with suitable examples. 10
- (b) Write a file I/O Java program which reads a line of text from user and writes it to a file 'Myfile.txt'. Further, the program reads the file 'Myfile.txt' and displays its content to output screen. 10
4. (a) Explain the life cycle of a thread with all the functions/methods with a diagram. Also explain thread priority. 10
- (b) Explain the characteristics of character stream classes with special reference to PrintStream class. 10

5. (a) Write a Java program to display the following : 10
- (i) Buttons with Label 'Yes' and 'No'.
 - (ii) Text field to enter name with Label 'Name'.
 - (iii) Submit button with text 'Submit' on it.
- (b) Explain the concept of TCP/IP programming in Java with the methods of java.net package. 10

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