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**MCS-024**

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

**Term-End Examination**

**December, 2023**

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

*Time : 3 Hours*

*Maximum Marks : 100*

*Weightage : 75%*

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

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1. (a) What is a class ? How does it accomplish data hiding ? Explain with an example. 5
- (b) Differentiate between AWT and Swing components. Give suitable example for each. 5

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- (c) Explain the relationship between inheritance and polymorphism. Give example of each. 5
- (d) What is Java Bean ? Briefly discuss the features of Java Bean. 5
- (e) Explain why main( ) method is not included in writing a Java applet program using an applet coding. 5
- (f) Compare structured programming and object oriented programming. 5
- (g) Discuss the utility of final and finalize keywords in Java. Give example code for each. 5
- (h) How does datagram socket differ from stream socket ? 5
2. (a) Write a Java applet to display. “Java is an object oriented programming language” in red color. Support your code with suitable comments. 5

- (b) What is a layout manager ? Explain the flow layout and border layout. Also explain how a layout is set. 8
- (c) What are packages in Java ? How do we create a package in Java ? What are the steps to add Classes and Interfaces in a package ? 7
3. (a) Differentiate between thread and process. Explain Java thread model using thread life cycle. 7
- (b) Compare Applet and Servlet. Write the steps to incorporate applet in a webpage. 8
- (c) Explain method overriding in Java using a program in Java. 5
4. (a) Write a Java program for writing files in “C:\javafiles\” location. Support your program with suitable comments. 7
- (b) Write the steps of JDBC in establishing a connection for creating dynamic website for INSERT/UPDATE the attendance record for students of a college. 7

- (c) What is synchronization ? Explain how methods are synchronized in Java with the help of an example. 6
5. Write short notes on the following : 4×5=20
- (a) Object serialization
  - (b) Liberals and its types
  - (c) Servlet life cycle
  - (d) Garbage collection
  - (e) Role of cookies in session handling