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MCS-206

**POST GRADUATE DIPLOMA IN
COMPUTER APPLICATIONS
[PGDCA-NEW]**

Term-End Examination

June, 2025

**MCS-206 : OBJECT ORIENTED
PROGRAMMING USING JAVA**

Time : 3 Hours

Maximum Marks : 100

Weightage : 70%

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

1. (a) Discuss the utility of 'ByteStream' class
in Java with suitable example. 5

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- (b) Explain the use of getter methods and setter methods in Java. Give suitable example code for each. 5
- (c) How is event handling performed in JavaFx ? Explain with the help of a program. 5
- (d) Describe the term 'package' in Java. Explain the accessibility rules for packages in Java. 5
- (e) What are access specifiers ? List and discuss the various access specifiers available in Java. 5
- (f) Write a java program which takes a string as input and displays its length. Support your code with suitable

comments. Also print the first character of the string. 5

(g) What is a constructor ? How are parameterised constructors defined in Java ? Explain with suitable code. 5

(h) Discuss the features of 'AWT' and 'Swing' used for GUI programming in Java. 5

2. (a) What is JDBC ? Describe the utility of JDBC drivers. Write the steps to connect a database through JDBC. Also, write a suitable code in Java to showcase the database connectivity using JDBC. 10

- (b) What is 'Inheritance' ? Give advantages of inheritance. Also, write a suitable code in Java to describe the implementation of inheritance in Java. Support your code with suitable comments. 10
3. (a) What is an exception in Java ? Give basic causes of exception. Write a program to explain how to handle 'ArrayIndexOutOfBoundsException' in Java. Also, explain the use of 'finally' clause in exception handling. 10
- (b) What is multithreading in Java ? Explain how thread synchronization is achieved in Java, with the help of a

program. Support your program with suitable comments. 10

4. (a) Compare 2-tier architecture with 3-tier architecture in relation to JDBC. Draw suitable block diagram for both the architectures. Also, discuss the functionality of core components of JDBC. 10
- (b) Explain, why main method in Java is always static. 5
- (c) Write a Java program using appropriate GUI components, which takes your name and e-mail id as input and displays them on click of a button. Support your code with suitable comments. 5

5. Write short notes on the following : 5×4=20

- (a) Decision constructs in Java
- (b) PreparedStatement Interface
- (c) Role of Hashset and Hashmap
- (d) Assertion statement and its significance

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