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MCS–206

**POST GRADUATE DIPLOMA IN
COMPUTER APPLICATIONS (PGDCA–
NEW)**

Term-End Examination

December, 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) What is encapsulation ? How is encapsulation implemented in Java ? Explain through a program. 5
- (b) Differentiate between abstract class and interface in Java. Give example of each. 5
- (c) Discuss the utility of map interface in Java, with the help of a program. 5
- (d) What is object serialization in Java ? Explain the working and utility of object serialization. 5
- (e) Describe the utility of 'final' and 'super' keywords in Java with suitable code. 5

- (f) Write a Java program to find the sum of two matrices of dimension 3×3 . Support your code with suitable comments. 5
- (g) Explain the use of ResultSet interface in JDBC, with the help of a program. 5
- (h) Explain the advantage of function overloading in Java with the help of a suitable program. 5
2. (a) What is multithreading ? Write suitable code in Java to illustrate the creation of thread. Also, explain the use of `isAlive()` method in multithreaded programming with the help of a program. Support your code with suitable comments. 10

- (b) What is Number Class ? Explain the use of parseInt (String s) method with the help of an example. 5
- (c) Explain event handling in Java FX, with the help of an example. 5
3. (a) Describe the term 'Exception Handling' in Java. Discuss the role of 'throws' clause in exception handling, with the help of a suitable code in Java. Support your code with suitable comments. Also, explain the advantages of exception handling. 10
- (b) Write a program in Java using JDBC to store the employees

information which includes ID, Name, Date of Birth, Department, position in a database table named Employee. Support your code with suitable comments. 10

4. (a) What is Polymorphism ? Explain different types of polymorphism that are supported by Java, with the help of example codes for each. 10
- (b) Discuss the purpose of stream classes in Java. How do byte streams differ from character streams ? Give suitable example for each. 10
5. Write short notes on the following : $4 \times 5 = 20$
- (a) CallableStatement Interface

- (b) Garbage collection and role of finalize()
method in garbage collection
- (c) JavaFX and its features
- (d) Utility of TreeSet and HashSet

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