

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY-GURAJADA VIZINAGARAM
II B. Tech I Semester Regular/Supply Examinations, November – 2025
OBJECT ORIENTED PROGRAMMING THROUGH JAVA
(CSE, AI&ML, DS, AI&DS, CS, AI&DS)

Time: 3 hours

Max. Marks: 70

Question paper consists of Part A, Part B.

Part A is compulsory, Answer all questions.

In Part B, Answer any one question from each unit.

PART-A**(20 Marks)**

- 1 a) Define object-oriented programming. List any two OOP principles. [2]
- b) Differentiate between **break** and **continue** statements in Java. [2]
- c) Differentiate between a constructor and a method in Java. [2]
- d) Explain the use of the **this** keyword with an example. [2]
- e) Define Method Overloading. [2]
- f) What is the purpose of the **super** keyword in the context of inheritance? [2]
- g) Write a Java statement to import all classes from the **java.util** package. [2]
- h) What is the difference between checked and unchecked exceptions? [2]
- i) Differentiate between **String** and **StringBuffer** [2]
- j) List the four main **Thread States** in Java. [2]

PART-B**(50 Marks)****Unit-1**

- 2 a) Explain Java program structure with an example. [5]
- b) Describe the concept of Type Casting in Java. Explain both implicit and explicit type casting with suitable examples. [5]

(OR)

- 3 a) Illustrate the use of the **switch** statement in Java with a program snippet. [5]
- b) Explain the Precedence and Associativity of Operators with an example. [5]

Unit-2

- 4 a) Explain how you can declare and use Overloaded Constructor Methods. [5]
- b) How are objects created and accessed in Java? Write a sample program. [5]

(OR)

- 5 a) Discuss different types of constructors with code examples. [5]
- b) What are Recursive Methods? Write a small Java method to calculate the factorial of a number using recursion. [5]

Unit-3

- 6 a) Discuss single and multilevel inheritance with examples. [5]
- b) Define an abstract class. How is it different from an interface? [5]

(OR)

- 7 a) Describe Dynamic Method Dispatch and its importance in achieving polymorphism. [5]
- b) Describe default methods in interfaces with examples. [5]

Unit-4

- 8 a) How do you define and use a package in Java? Explain with code. [5]
- b) Describe the use of the **Scanner** class for file input [5]

(OR)

- 9 a) Explain the mechanism of Auto-boxing and Auto-unboxing in Java with examples. [5]
- b) Write a short note on Character streams and Byte streams in the Java I/O API. [5]

Unit-5

- 10 a) Explain any four important methods of the ***String*** class with examples. [5]
b) What is synchronization? Explain with respect to threads. [5]
- (OR)
- 11 a) Explain the steps involved in event handling in JavaFX GUI programming. [5]
b) Demonstrate the creation of a simple JavaFX window with text. [5]
