



# Techno College of Engineering Agartala

An Engineering College Approved by AICTE, MHRD, Govt. of India

Affiliated to Tripura University (A Central University),

Department of Computer Science & Engineering



## List of Laboratory Experiments

Java Programming Lab							
Course Code	Hours / Week				Maximum Marks		
PC CS 307	L	T	P	C	CIA	SEE	Total
	0	0	4	2	40	60	100
<b>Number of classes: 24 Hours</b>		<b>Prerequisites: ES 208 (Programming for Problem Solving Lab)</b>					
<b>Branch: CSE</b>		<b>Semester: III</b>					

### Course overview:

The Java Programming Lab provides hands-on experience in object-oriented programming using Java. It covers core concepts such as classes, objects, inheritance, polymorphism, exception handling, file I/O, multithreading, and GUI development. Through practical exercises, students enhance problem-solving and coding skills, and gain familiarity with Java libraries and tools. The lab aims to bridge theoretical knowledge with real-world programming applications, preparing students for advanced courses, industry projects, and professional software development using modern Java practices.

### Course objectives:

- To develop proficiency in writing and executing Java programs using core syntax and data structures.
- To implement object-oriented programming concepts such as classes, inheritance, and polymorphism.
- To apply exception handling and file I/O operations for robust and reliable coding.
- To create multithreaded programs and basic GUI applications using AWT/Swing.
- To enhance problem-solving and debugging skills through hands-on programming practice.

### Course outcomes:

CO Number	CO Description	K-level
CO-1	Apply Object oriented features and Java concepts.	K-3
CO-2	Apply the concept of multithreading and implement exception handling.	K-3
CO-3	Compare the development of JAVA applets vs. JAVA applications.	K-4
CO-4	Develop program to access data from a Database with java program.	K-6
Sl. No.	EXPERIMENT NAME	CO
1.	Write a program to swap two values using method.	CO-1
2.	Write a program to demonstrate method overloading by defining two different parameters in the same method.	CO-1



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3.	Write a program to demonstrate Java Package.	CO-1
4.	Write a program to perform calculation based on numbers and operator entered.	CO-1
5.	Write a program to sum the elements of an array and determine the max element.	CO-1
6.	Write a program to add two matrices of the same size	CO-1
7.	Write three different programs to show usage of default and parameterized constructor.	CO-1
8.	Write a program to find area and volume of a rectangle using constructor.	CO-1
9.	Write a program to determine the volume of a room using inheritance.	CO-1
10.	Write a program to demonstrate the use of super keyword with a variable.	CO-1
11.	Write a program to calculate the area of circle and sphere using interface.	CO-1
12.	Write a program to demonstrate the usage of Runtime Polymorphism in java.	CO-1
13.	Write a program to demonstrate applet using applet viewer in java.	CO-3
14.	Write a program to demonstrate Digital clock in Applet.	CO-3
15.	Write a program to demonstrate JTextarea using java swing.	CO-2
16.	Write a program to demonstrate JComboBox using java swing.	CO-2
17.	Write a program to demonstrate JTable using java swing.	CO-2
18.	Write a program to creating Edit menu for Notepad using java swing.	CO-2
19.	Write a program to Connect Java Application with mysql database.	CO-4
20.	Write a program to demonstrate transaction management in jdbc using Prepared Statement.	CO-4