

**II B.Com CA – IV Semester  
4E: Object Oriented Programming With Java**

**Course Objectives:**

The course aims to introduce the fundamental concepts of Object-Oriented programming, design & Implement object oriented programming concepts in Java.

**Course Learning Outcomes:**

Upon successful completion of the course, a student will be able to:

1. Understand the basic concepts of Object Oriented Programming.
2. Write Java programs involving control statements, arrays, String and String Methods.
3. Develop reusable programs using the concepts of class, object, inheritance, polymorphism.
4. Understands the concept of Packages, Creating a File ,Read/Write the Files.
5. Apply the concepts of Multithreading and Exception handling to develop efficient codes.

**SYLLABUS:**

**Unit I:**

Introduction to OOPs: Problems in Procedure Oriented Approach, Features of Object Oriented Programming,

**Introduction to Java:** Features of Java, The Java Virtual Machine (JVM), Parts of Java program, Naming Conventions in Java, Data Types in Java, Operators in Java, Reading Input using scanner Class, Displaying Output using System. out.println(), Command Line Arguments.

**Unit II:** Control Statements in Java: if... else, do... while Loop, while Loop, For loop, Switch Statement, break Statement, continue Statement,

**Arrays:** Types of Arrays, array name, length,

**Strings:** Creating Strings, String Class Methods, String Comparison, Immutability of Strings.

**Unit III:** Classes and Objects: Object Creation, Initializing the Instance Variables, Access Specifiers, Constructors,

**Inheritance:** Inheritance, Types of Inheritance **Polymorphism:** Method overloading, **Abstract Classes:** Abstract Method and Abstract Class.

**Common for B.Com(CA), B.Sc (CA), B.A(CA) Syllabus  
Rayalaseema University, Kurnool with effect from 2022-2023**

**Unit IV:**

Packages: Package, Different Types of Packages, Creating Package and Accessing a Package.  
Streams: Stream classes, Creating a File using File Output Stream, Reading Data from a File using File Input Stream, Creating a File using File Writer, Reading a File using File Reader.

**Unit V:**

Exception Handling: Errors in Java Program, Exceptions, throws Clause, throw Clause, Types of Exceptions, **Threads:** Single Tasking, Multi-Tasking, Uses of Threads, Creating a Thread and Running it, terminating the Thread, Thread Class Methods.

References:

1. The Complete Reference JAVA Seventh Edition Herbert Schildt. Tata McGraw Hill Edition.
2. Core Java: An Integrated Approach, Dr. R. Nageswara Rao & Kogent Learning Solutions Inc.
3. E. Balaguruswamy, Programming with JAVA, A primer, 3e, TATA McGrawHill Company

**RECOMMENDED CO-CURRICULAR ACTIVITIES:**

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

**A. Measurable**

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
4. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity))

**B. General**

1. Group Discussion
2. Try to solve MCQ's available online.
3. Match the following tests
4. Fill in the blank test
5. Others