

# JAVA SYLLABUS

## Module 1: Java Basics

- OOP Paradigm
- Features of Java Language
- JVM and Bytecode
- Java Program Structure
- Basic Programming Constructs
- Data Types
- Variables
- Java Naming Conventions
- Operators

## Module 2: Looping Constructs and Arrays

- Control and Looping Constructs
- Arrays
  - One-Dimensional Arrays
  - Multi-Dimensional Arrays
  - Enhanced for Loop
- Strings
- Wrapper Classes

## Module 3: Classes and Objects

- Class Fundamentals
- Access and Non-Access Specifiers
- Declaring Objects and Assigning Object Reference Variables
- Array of Objects
- Constructors and Destructors
- Usage of "this" and "static" Keywords

## Module 4: Inheritance and Polymorphism

- Inheritance Types
- Use of "super"
- Final Keyword
- Polymorphism:
  - Overloading
  - Overriding
- Abstract Class
- Interfaces

## Module 5: Packages and Exception Handling

- Packages:
  - Creating and Accessing Packages
  - Sub-packages
- Exception Handling:
  - Types of Exceptions
  - Control Flow in Exceptions
  - Use of try, catch, finally, throw, throws in Exception Handling
  - User-Defined Exceptions

## Module 6: Streams and Files

- Java I/O Streams
- FileInputStream & FileOutputStream
- FileReader & FileWriter
- DataInputStream & DataOutputStream
- BufferedInputStream & BufferedOutputStream
- PrintOutputStream
- Serialization and Deserialization

## Module 7: Collection Framework

- Generic Classes and Methods
- Collection Framework:
  - List
  - Map

