Java Programming

Course Duration: 6 months

Qualification: open to all individuals interested in learning Java.

Eligibility:

Basic knowledge of programming concepts is recommended but not required; open to all individuals interested in learning Java.

Medium of Instruction:

English

Duration:

Minimum 6 months and Maximum 8 months

Program Details:

The program has been divided into 6 modules Consequently, there will be examinations at every end of module. For beginners it is first important to build command over programming concepts. in this course our goal is to help you to be confident with the coding fundamentals.

Curriculum: View Specialization:

Beginner-Level Java Curriculum (Simplified)

Module 1: Introduction to Java (Beginner-Friendly)

- What is Java?
- Java Features & Real-World Uses
- Installing JDK
- Setting up IDE (IntelliJ IDEA / Eclipse)
- Java Syntax Basics
- Variables
- Data Types
- Operators
- Writing Your First Java Program (Hello World)

- **Practical Exercises:**
    - Print statements
    - Basic arithmetic programs

Module 2: Control Flow & Loops (Beginner-Friendly)

- Conditional Statements:
    - if
    - else
    - else if
    - (Switch optional – very basic only)
- Loops:
    - for loop
    - while loop
    - do-while loop
- Break, Continue
- Arrays (simple 1-D array only)
- **Practical Exercises:**
    - Patterns
    - Max/min from array
    - Simple menu programs

Module 3: Basic Object-Oriented Programming (Beginner-Friendly)
Only **basic OOP introduction**

- What are Classes and Objects?
- Methods (functions in Java)
- Constructors (basic only)
- Method Overloading (simple explanation)
- Encapsulation Basics (getters/setters only)
- **Practical Exercises:**

- o Create a class (Student, Car, Bank Account)
- o Create objects & call methods

Module 4: Exception Handling & Basic File I/O (Beginner-Friendly)

- What is an Exception?
- try, catch
- finally
- Basic Input & Output
- Reading & writing simple text files
- **Practical Exercises:**
  - o Simple calculator with exception handling
  - o Read/write simple data files