

STEP GNDEC Syllabus Java

Java Programming – Beginner Course Syllabus

Module 1: Introduction to Java

- Features of Java
- JVM, JRE, JDK
- Writing and running Java programs

Module 2: Data Types and Variables

- Primitive data types
- Type conversion and casting
- Input/Output using `Scanner` and `System.out.println`

Module 3: Operators and Expressions

- Arithmetic, logical, relational, bitwise operators
- Operator precedence

Module 4: Control Flow Statements

- `if`, `else`, `switch`

- `for`, `while`, `do-while` loops
- `break` and `continue`

Module 5: Arrays and Strings

- 1D and 2D arrays
- String class and its methods
- `StringBuilder` and `StringBuffer`

Module 6: Object-Oriented Programming

- Classes and objects
- Methods and constructors
- `this` keyword
- Inheritance and method overriding
- `super` keyword

Module 7: Encapsulation and Polymorphism

- `private`, `public`, `protected`
- Getters and setters

- Overloading and overriding

Module 8: Exception Handling

- `try`, `catch`, `finally`, `throw`, `throws`
- Built-in exceptions

Module 9: File I/O

- Using `File`, `Scanner`, and `FileWriter` classes

Optional for Beginners:

- Introduction to Interfaces
- Introduction to Collections (`ArrayList`, `HashMap`)