

# Syllabus for B.Sc-IT Course

## at S.P. College

### SEMESTER -- V

**COURSE TITLE :- CORE JAVA PROGRAMMING COURSE CODE-BIT-503**

#### UNIT-I

##### JAVA EVOLUTION:

Java History; Java features (Compiled and Interpreted, Platform-Independent and Portable, Object-Oriented, Robust and Secure, Distributed, Simple and Familiar, Multithreaded and Interactive, High Performance and Dynamic and Extensible); how java differs from C & C++.

#### UNIT-II

##### OVERVIEW OF JAVA LANGUAGE:

Introduction, Simple Java Program, Class Definitions, Main method, Java Tokens (Java Character Set, Keywords, Identifiers, Literals, Operators, Separators); Java Statements; implementing a Java Program (Creating the Program, Compiling the Program, Running the Program, Java's Magic-The Bytecode); Java Virtual Machine; Command Line Arguments; Programming Style.

##### DECISION MAKING AND LOOPING:

Decision making and looping with (if statement, if-else statement, nested if-else statement), switch statement, while statement, do-while statement, for statements)

Arrays (one dimensional and two dimensional arrays), strings and vectors.

#### UNIT-III

##### CLASSES, OBJECTS AND METHODS:

Introduction, defining a class, adding variables, adding methods, creating objects, accessing class members, constructors, methods overloading, static members, nesting of methods.

Inheritance: Extending a class (defining a subclass, subclass constructor, multilevel inheritance, hierarchical inheritance).

#### UNIT-- IV

##### INTERFACES:

Introduction, defining interfaces, extending interfaces, implementing interface.

Packages: introduction, system packages, using system packages, naming conventions, creating packages, accessing a package.

Managing errors and exceptions: introduction, types of errors (compile-time and run-time error), throwing exceptions, using exceptions for debugging.

Overview of Multithreading Concepts.

##### Reference Books:

1. The Complete Reference JAVA 2, by Herbert Schildt, Tata McGraw Hill
2. Programming with Java, A Primer, Balagurusamy, McGraw Hill

##### Suggested Reading:

3. Java: How To Program, by Deitel, Pearson Education.
4. Mastering JAVA 2, by John Zulkowski, BPB Publications.