

## Syllabus: Java Programming

- Chapter 1: Introduction to Java programming
- The Java Virtual Machine
- Variables and data types
- Conditional and looping constructs
- Arrays

### Chapter 2: Object-oriented programming with Java Classes and Objects

- Fields and Methods
- Constructors
- Overloading methods
- Garbage collection
- Nested classes

### Chapter 3: Inheritance

- Overriding methods
- Polymorphism
- Making methods and classes final
- Abstract classes and methods
- Interfaces

### Chapter 4: Exception handling with try-throw-catch-finally constructs

- The Exception class

### Chapter 5: The Object class

- Cloning objects
- The JDK LinkedList class
- Strings
- String conversions

#### Chapter 6: Working with types: Wrapper classes

- Enumeration interface

#### Chapter 7: Packages

- Package access
- Documentation comments

#### Chapter 8: Applets

- Configuring applets
- Applet capabilities and restrictions

#### Chapter 9: Basics of AWT and Swing

- Layout Managers
- Event Handling
- The Action Listener interface
- Panels
- Classes for various controls, such as label, choice, list, checkbox, etc.
- Dialogs and frames
- Using menus

- Using the adapter classes
- Graphics

#### Chapter 10: Threads

- Synchronization

#### Chapter 11: The I/O Package

- InputStream and OutputStream classes
- Reader and Writer classes

#### Chapter 12: Basic concepts of networking

- Working with URLs
- Concepts of URLs
- Sockets

#### Chapter 13: Database connectivity with JDBC

- Java security.

#### Module 14- Array & String

##### Defining an Array

##### Single-Dimensional Array

##### Initializing & Accessing Array

##### Multi -Dimensional Array

##### Jagged Array

Arrays class

Methods in Arrays class

Sorting the elements of Array

Searching, insert, delete

dynamically.

Matrix multiplication, addition,

transpose, upper triangular,

lower triangular, sparse matrix.

String – what and why

Operation on String

Immutable String

String comparison and

concatenation

Method of String class

StringBuffer class and its

methods.

StringBuilder class in java.

Creating Immutable class like

String.

Using Collection Bases Loop for

String

Tokenizing a String

Object comparisons using

Comparator and comparable

interface.