BCA-13
Programming in JAVA

Unit - 1   Introduction to JAVA

An overview of JAVA, Object-oriented programming features, JAVA   Applets and Applications. Difference between Java Script and JAVA.
.

Unit - 2   Programming Basic

Java Token & Keywords, Constants, Data types; The JAVA class libraries, Declaring a variable, The scope and lifetime of variable, Various Operators, Decision Making and Control Statements : if statement, If-else, else-if, switch statement; the for, while, do-while statements

Unit - 3   OOP in Java

Class fundamentals : Defining class, Accessing class members, Declaring objects, Passing Arguments to Methods, Returning Multiple Values from methods, Modifiers, Constructors, copy constructor; Recursive class; Inheritance : the super class, Multilevel Inheritance, Final and abstract keyword , Static Members

Unit - 4   Arrays, Strings and Vectors

Declaring Arrays, Creating Arrays, Initializing Arrays, System Arraycopy(), Multi-Dimensional Arrays, Strings: string arrays, string methods, stringbuffer class, Vectors

Unit - 5   Packages and Interfaces

Packages: Defining a package, Understanding classpath, Importing Packages.
Interfaces: Defining an Interface, Implementing interfaces, Applying Interfaces, Variable in interfaces.

Unit - 6   Exception Handling

Exception handling fundamentals, Exception types, Uncaught exceptions. Using *try* and *catch* JAVA's build-in exceptions, User defined exception subclasses

Unit - 7   File Handling

I/O Basics: Streams, The stream classes, The predefined streams, Reading console input, Writing console output, Reading and writing files

Unit – 8   Introduction to Applets

Applets and the World Wide Web, The Applet Class, Applets and HTML , The Life Cycle of an Applet, Responding to Events, Using Window Components, Adding Audio and Animation

Unit – 9   AWT and Swings

AWT Basics, AWT Components, Containers, Event Handling, Application and Menus; *Swings:* Introduction, Swing Components, Event Handling, Display text and image in a window, Layout manager.

Unit – 10   Introduction to JDBC

JDBC: Basic steps to JDBC, API, JDBC Drivers, Connection Management, JDBC Design considerations, Two Tier and Three Tier client server model, ResultSet, Prepared statement and callable statement. Creating and executing SQL statements (SELECT, INSERT, UPDATE, DELETE) and ResultSet MetaData Object.

Suggested Readings:

1. Margaret Levine Young, "The Complete Reference Internet", TMH

2. Naughton, Schildt, "The Complete Reference JAVA2", TMH

3. Balagurusamy E, "Programming in JAVA", TMH

4. Dustin R. Callway, "Inside Servlets", Addison Wesley

5. Mark Wutica, "Java Enterprise Edition", QUE
6. Steven Holzner, "Java2 Black book", dreamtech