

# J2EE

**Introduction:** Java and Java applications; Java Development Kit (JDK); Java is interpreted, Byte Code, JVM; Object-oriented programming; Simple Java programs. Data types and other tokens: Boolean variables, int, long, char, operators, arrays, white spaces, literals, assigning values; Creating and destroying objects; Access specifiers. Operators and Expressions: Arithmetic Operators, Bitwise operators, Relational operators, The Assignment Operator, The? Operator; Operator Precedence; Logical expression; Type casting; Strings; .Control Statements: Selection statements, iteration statements, Jump Statements.

**Classes, Inheritance, Exceptions, Applets:** Classes: Classes in Java; Declaring a class; Class name; Super classes; Constructors; Creating instances of class; Inner classes .Inheritance: Simple, multiple, and multilevel inheritance; Overriding, overloading. Exception handling: Exception handling in Java. The Applet Class: Two types of Applets; Applet basics; Applet Architecture; An Applet skeleton; Simple Applet display methods; Requesting repainting; Using the Status Window; The HTML APPLETTAG; Passing parameters to Applets; getDocumentbase( ) and getCodebase( ); ApletContext and showDocument( ); The AudioClip Interface; The AppletStub Interface; Output to the Console.

**Multi Threaded Programming, Event Handling:** Multi Threaded Programming: What are threads? How to make the classes threadable; Extending threads; Implementing runnable; Synchronization; Changing state of the thread; Bounded buffer problems, read-write problem, producer-consumer problems. Event Handling: Two event handling mechanisms; The delegation event model; Event classes; Sources of events; Event listener interfaces; Using the delegation event model; Adapter classes; Inner classes.

**Swings:** Swings: The origins of Swing; Two key Swing features; Components and Containers; The Swing Packages; A simple Swing Application; Create a Swing Applet; JLabel and ImageIcon; JTextField; The Swing Buttons; JTabbedPane; JScrollPane; JList; JComboBox; JTable.

### TEXT BOOKS:

1. Herbert Schildt: Java The Complete Reference, 7<sup>th</sup> Edition, Tata McGraw Hill, 2007.
2. Robert W. Sebesta: Programming the World Wide Web, 4<sup>th</sup> Edition, Pearson Education, 2008.