

BEIT505T

JAVA PROGRAMMING
(Theory Credit: 04)

Teaching Scheme:

Lecture: 3 Hours/week

Tutorial: 1 Hour/week

Examination Scheme:

Theory: T (U): 80 Marks T (I): 20 Marks

Duration of University Exam : 03 Hours

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UNIT I:

Introduction to Java, Data types, Literals: Types of Literals, Operators, Control Statements: If, switch, do-while, while, for, enhanced for loop, Nested Loop, break, continue, return statements, Classes: Fundamentals of classes, Declaring objects, Assigning objects, Reference variables, Overloading methods, Constructors, this keyword, Wrapper classes, Using object as parameter, Argument passing, Command line arguments, returning object, static modifier, final modifier, Nested classes: inner classes, Garbage collection.

UNIT II:

Arrays, Vectors and Generics, String Handling: String and StringBuffer class, String constructors, Data conversion using valueOf(), toString() methods, Methods for String Comparison, Searching string and modifying string.

UNIT III:

Object class, Inheritance, Abstract classes and methods, Interfaces, Method Overriding, Packages: Package Fundamental, Access protection, Importing packages, Exception Handling: Fundamental Exception type: Checked, Unchecked and Uncaught Exceptions, throw and throws keywords, Creating user defined exceptions, Built-in Exceptions.

UNIT IV:

Multithreading: Fundamentals, Thread Life Cycle, Ways of creating threads, Creating multiple threads, isAlive (), join (), Thread Synchronization, Thread priorities, Interthread communication, Methods for suspending, resuming and stopping threads.

UNIT V:

I/O stream, Byte stream, Character stream, Pre-defined streams, Reading console input, Writing console output, PrintWriter class, Reading and Writing files, transient and volatile modifiers, instanceof, strictfp and native methods.

UNIT VI:

Introduction to Swings, AWT as a origin of Swing, Key swing features, Components and container, Swing packages, Event handling, Creating swing applets, Controls: label and image icons, JTextField, Swing Buttons, Tabbed Panes, JScrollPane, JList, JComboBox, JTable.

Text Books:

1. The Complete Reference (Seventh Edition) by Herbert Schildt, TATA McGRAW-HILL Publications

Reference Books:

1. Sun Certified Java Programmer for Java 6 by Kathy Sierra.
2. The Java™ Programming Language (3rd Edition) by Arnold, Holmes, Gosling, Goteti
3. Core Java for Beginners by Rashmi Kanta Das (III Edition) Vikas Publication
4. Programming in Java (Second Edition) by Sachin Malhotra and Saurabh Choudhary, Oxford University Press