Course No: MCA-5T1
Course Title : Java Programming

Unit I

An overview to Java, Comparison with other languages (C & C++), Java and Internet, Features of Java, Introduction to Java Virtual machine, Object Oriented Programming Concepts (Abstraction, Encapsulation, Inheritance, Polymorphism).
Data types : Integers, Floating point, Character type, Boolean.
Variables: Assignment, Initialization and Conversions.
Operators: Arithmetic, Assignment, Modulus, Relational, Boolean, Bitwise., Precedence Summary ,Unicode Character Set .

Unit II

Arrays: Single and Multidimensional. Input , Output , Error Statements ,Control Statements and Looping Structures. , Typecasting , Classes & Objects: Class Fundamentals, Declaring objects, Exploring new operator , Creating methods, Constructors , types of constructors , using this keyword , Finalizers , Access specifiers , static , the final modifier , abstract , the native modifier , the transient modifier , the synchronized modifier , volatile modifier ,Command Line Arguments & Argument passing. Inheritance : Basics of Inheritance , Super class, Member Access, Creating a Multilevel Hierarchy, Method Overriding, Dynamic Method Dispatch & Abstract class.
Packages & Interfaces: Defining and importing packages , Understanding Class path,

Unit III

Defining and implementing interfaces. Exception Handling: Fundamentals of Exceptions, Exception types, Using Try and Catch, Throwing Exceptions, Built-in Exceptions in Java, User defined Exceptions. Multithreaded Programming: Java Thread Model, Creating & working with threads ,Thread priorities, Introduction to Synchronization and Dead locks. String Handling: String Constructor, String Operations, Character Extraction, String Searching & Comparison, String Buffer Class, String Buffer v/s String Class. Lang Package: Simple Type Wrappers, Runtime & Introduction to Memory Management.

Unit IV

File Handling , File Class , Streams: Stream Classes, Reading & Writing to Console ,Accessing files & Directories, File Input and Output Stream, Byte Array Input & Output Stream. Applets: Overview, Life cycle of an Applet, HTML tag, Parameter Passing, Applet vs. Applications. Introduction, Working with AWT Controls and Layout Managers , Event Handling. Introduction to Swings , JDBC

Suggested Readings:
1. Herbert Schildt, "The Complete Reference Java-2 " ,Sixth Edition 2004,
Tata Mcgraw Hill.
2. Dietel&Dietel, "Java: How to Program Java 2, Sixth Edition, 2006,
Pearson Education.
3. Horstmann& Cornell, "Java2 Vol-1 & Vol-2",Seven Indian Reprint 2006,
Pearson Education.
4**.** E. BalaGurudamy **" Programming with java A Primer" 3ʳᵈ edition**