

CS 1x29 INTRODUCTION TO JAVA PROGRAMMING LANGUAGE

L–T–P : 3–0–3

Credit: 5

1. **Introduction to Java** : Feature to Java, Java Virtual Machine, Differences between C++ and Java, Part of Java, API Document, Starting a Java Program. Important Classes, Formatting the Output **Lecture : 2**
2. **Naming Conventions and Data Types** : Naming Conventions in Java. Data types in Java, Literals. **Lecture : 1**
3. **Operators and Control Statements in Java** : Arithmetic Operators, Unary Operators, Relational Operators, Logical Operators, Boolean Operators, Bitwise Operators, Ternary Operators, New Operator, Cast Operator, If else statement, Switch statement, Break statement, Continue statement, Return statement, do ... while loop, while loop, for loop. **Lecture : 4**
4. **Input and Output** : Accepting Input from the keyboard, reading input in Java, Util, Scanner class, displaying output with System.out.print(), Displaying formatted output with string, Format. **Lecture : 2**
5. **Arrays and Strings** : Types of Arrays, Array name, Length, Command Line Arguments, Creating Strings, String Class Methods, String Comparison, Immutability of Strings, Creating String Buffer Objects, String Buffer Class Methods, String Builder Class, String Builder Class Methods. **Lecture : 3**
6. **Wrapper Classes** : Number class, Character class, Byte class, Short class, Integer class, Long class, Float class, Double class, Boolean class, Math class. **Lecture : 3**
7. **Introduction to OOPS** : Problems in procedure oriented approach, Features of Object Oriented Programming System, Object creation, Initializing the instance variable, Constructors. **Lecture : 2**
8. **Methods of Java** : Method Prototype, Method Body, Understanding Methods, Static Methods, Static Block, The keyword 'this', Instance Methods, Passing Primitive Data Types to Methods, Passing Objects to Methods, Passing Arrays to Methods, Recursion, Factory Methods. **Lecture : 4**
9. **Inheritance and Polymorphism** : Inheritance, The Keyword 'super', The Protected Specified, Types of Inheritance, Polymorphism with variables, Polymorphism using methods, Polymorphism with Static Methods, Polymorphism with Private Methods, Abstract Classes. **Lecture : 3**
10. **Packages** : Package, Different types of Packages, Interface in a Package, Access Specifiers in Java. **Lecture : 3**
11. **Exceptional handling** : Errors in Java Program, Exceptions throws and throw clause, Types of exceptions, Re-throwing an exception. **Lecture : 2**
12. **Threads** : Single and Multitasking, Creating and terminating the thread, Single and Multi tasking using threads, Deadlock of threads, Thread communication. **Lecture : 3**
13. **Introduction to AWT and Applets** : AWT components, Creating and closing the frame, Drawing in the frame, Displaying dots and text in the frame, Event Handling, Listeners and Listener methods, Creating and uses of Applets, An applet with swing components, Applet parameters. **Lecture : 4**

14. **Introduction on Java database connectivity** : Database servers and clients, JDBC, Connecting to a Database, Stored Procedures and Callable Statement, Storing file and Image into database, retrieving a file and images from database, Types of JDBC drivers. **Lecture : 4**

Text Books :

1. Core Java by R Nageswara & Kogent Solution Inc, Dreamtech.
2. The Complete Reference Java Tata McGraw Hill.
3. Java 6 Programming Black Book, w/CD by Kogent Solutions Inc., Dreamtech .

Reference Books:

1. Professional Java, JDK 6 Ed. by Richardson Avondolio Wrox.
2. Programming with Java by E Balagurusamy Tata McGraw Hill.