

BACHELORS WITH INFORMATION TECHNOLOGY AS MAJOR (CT – II)

6th SEMESTER

BIT622J2 INFORMATION TECHNOLOGY _ CORE JAVA PROGRAMMING

CREDITS: THEORY-04; PRACTICAL-02

THEORY (4 CREDITS)

UNIT I

Introduction: JAVA Evolution, Introduction to Programming Languages, The Evolution of Java, Object-Oriented Programming Concepts and Java, The Primary Characteristics of Java, The Architecture, Simple Java Program, More of Java, An Application with Two Classes Java Program structure, Java Tokens, Java Statements, Implementing a Java Program, Java Virtual Machine, Programming Style.

Branching: Constants, Variables, and Using Data Types, Operators and Expressions, Type conversion. Decision Making and Introduction, Decision Making with if Statement, Simple if Statement, if else Statement, Nesting of if ... else Statements, The else if Ladder, The Switch Statement, The?: Operator. **Decision Making and Looping:** Introduction. while Statement, do Statement, for Statement.

UNIT II

Introduction: defining a Class, Adding Variables, Adding Methods, Creating Objects, Accessing Class Members, Constructors, Methods Overloading, Static Members, Nesting of Methods.

Inheritance: Extending Class Overriding Methods, Final Variables and Methods, Finalized methods, Abstract Methods and Classes, Visibility Control, Multiple Inheritance. **Arrays Strings and Vectors:** Arrays, One – dimensional Arrays, Creating an Array, Two – dimensional Arrays, Strings, Vectors and Wrapper Classes.

UNIT III

Interfaces: Introduction, Defining Interfaces, Extending Interfaces, Implementing Interfaces, Accessing Interface Variables. **Packages:** Introduction to Java Packages, Using System Packages, Naming Conventions, Creating Packages, Accessing a Package, Using a Package, Adding a Class to a Package, Hiding Classes.

UNIT IV

Multithreading - Introduction: Creating Threads, Extending the Thread Class, Stopping and Blocking a thread, Life Cycle of a thread, Using Thread Methods, Thread Exceptions, Thread Priority, Synchronization, Implementing the 'Runnable' Interface.

PRACTICAL (2- CREDITS)

Note: The Practical Component shall be based on the Unit-I to Unit-IV

REFERENCES:

- “Introduction to Java Programming” by Daniel Liang.
- E. Balaguruswamy, Programming with JAVA, A Primer, TMH (1999)