

II YEAR SEM-1 B.Tech CSE	CORE	L	T	P	C
CODE:CS2101	OBJECT ORIENTED PROGRAMMING THROUGH JAVA	2	2	0	4

### UNIT-I

**Introduction:** OO Programming, Introduction to java, Key features, Fundamentals of Objects and Classes, AccessSpecifiers, data types, dynamic initialization, scope and life time, operators, Conditional Statements, control structures, arrays, typeconversion and casting. Strings: Exploring the String class, String buffer class, Command-line arguments. Library: String-Tokenizer,Random class, Wrapper classes

### UNIT-II

**Classes and Objects :** Concepts, methods, constructors, usage of static, access control, this key word, garbage collection,overloading, parameter passing mechanisms, nested classes and inner classes.

### UNIT-III

**OOPS Concepts:** Basic concepts, Inheritance, usageof super key word, method overriding, final methods and classes, abstract classes, Polymorphism: dynamic method dispatch, Staticmethod dispatch. Interfaces: Differences between classes and interfaces, defining an interface, implementing interface, variables ininterface and extending interfaces. Encapsulation; Abstraction. Creating User defined Data Structures: ArrayofObjects,UserdefinedLinkedList

### UNIT IV

**FileHandling:** Streams, File class, File streams. FileReader, FileWriter, BufferedReader, BufferedWriter, StringTokenizer.

**Exception Handling:** Concepts of Exception handling, types of exceptions, usage of try, catch, throw, throws and finally keywords,Built-in exceptions, creating own exception sub classes.

### UNIT V

**Packages:** Creating a Package, setting CLASSPATH, Access control protection, importing packages.

**Multithreading :**Concepts of Multithreading, differences between process and thread, thread life cycle, Thread class, Runnable interface, creatingmultiple threads, Synchronization, thread priorities, inter thread communication, daemon threads, deadlocks, thread groups.

### UNIT VI

**Event Handling:** Events, Event sources, Event classes, Event Listeners, Delegation event model, handling events. AWT:AWT Components, windows, canvas, panel, File Dialog boxes, Layout Managers, Event handling model of AWT, Adapter classes,Menu, Menu bar. Swing-I – swings introduction, JFrame,

JPanel and JComponent, Icons and Labels, text fields, buttons – TheJButton class, Check boxes, Radio buttons. Combo boxes, Tabbed Panes, Scroll Panes, Trees, and Tables

**Text Books:**

1. Allen B. Downey, Think Java; How to Think Like a Computer Scientist,
2. David J. Eck, Hobart and William Smith Colleges, Introduction to Programming Using Java
3. Herbert Schildt, Java The Complete Reference, 9th Edition.