I Year II Semester

T	P
4	0

OOPS THROUGH JAVA

UNIT–I:

Basics of Object Oriented Programming(OOP): Need for OO paradigm , A way of viewing world- Agents, responsibility, messages, methods, classes and instances, class hierarchies(Inheritance), method binding, overriding and exceptions, summary of oop concepts, coping with complexity, abstraction mechanisms

Java Basics: Data types, variables, scope and life time of variables, arrays, operators, expressions, control statements, type conversion and costing, simple java program, classes and objects- concepts of classes, objects, constructors methods, access control, this keyword, garbage collection, overloading methods and constructors, parameter passing, recursion, string handling.

UNIT–II:

Inheritance: Hierarchical abstractions, Base class object, subclass, subtype, substitutability, forms of inheritance- specialization, specification, construction, extension, limitation, sombination, benefits of inheritance costs of inheritance. Member access rules, super uses, using final with inheritance, polymorphism, abstract classes.

Packages and Interfaces: Defining, Creating and Accessing a package, Understanding CLASSPATH, Importing packages, differences between classes and interfaces, defining an interface, Implementing interface, applying interfaces variables in interface and extending interfaces.

UNIT–III:

Exception handling and Multithreading: Concepts of exception handling, benefits of exception handling, Termination or presumptive models, exception hierarchy, usage of try, catch, throws and finally, built in exceptions, creating own exception sub classes. Differences between multi threading and multitasking, thread life cycle, creating threads, synchronizing threads, daemon threads, thread groups.

UNIT–IV:

Event Handling: Events, Event sources, Event classes, Event Listeners, Delegation event model, handling mouse and keyboard events, Adapter classes, inner classes. The AWT class hierarchy , user-interface components- labels, button, canvas, scrollbars, text components, check box, check box groups, choices, list panes- scroll pane, dialogs, menu bar, graphics, layout manager- layout manager types- boarder, grid, flow, card and grid bag.

UNIT-V:

Applets: Concepts of Applets, differences between applets and applications, lifecycle of an applet, types of applets, creating applets, passing parameters to applets.

Swings: Introduction, limitations of AWT, MVC architecture, components, containers, exploring swing- JApplet, JFrame and JComponent, Icons and Labels, text fields, buttons-The JButton class, Check boxes, Radio Buttons, Combo boxes, Tabbed panes, Scroll panes, Trees and Tables.

TEXTBOOKS:

1. Java-The complete reference,7/e, Herbert schildt, TMH.
2. 1. JAVA: How to program, 8/e, Dietal , Dietal,PHI.
3. 2. Introduction of programming with JAVA,S.Dean,TMH.
4. 3. Introduction to Java programming, 6/e, Y.Daniel Liang, Pearson.

REFERENCES:

1. Core Java 2, Vol 1(Vol 2) Fundamentals(Advanced), 7/e, Cay.S.Horstmann,Gary Cornell, Pearson.
2. Big Java2,3/e, Cay.S. Horstmann,Wiley.
3. Object Oriented Programming through Java, P.Radha Krishna, University Press.
4. JAVA& Object Orientation an Introduction, 2/e, John Hunt, Springer.
5. Introduction to JAVA Programming, 7/e, Y. Daniel Liang, Pearson. , TMH.