CS 251

OBJECT ORIENTED PROGRAMMING USING JAVA

Course objective*:*

- To introduce fundamental object oriented concepts of java programming such as classes, inheritance, packages and interfaces.
- To introduce concepts of exception handling and multi threading.
- To use various classes and interfaces in java collection framework and utility classes.
- To introduce GUI programming using AWT controls.
- To introduce Java I/O streams and serialization.

UNIT-I

Object Oriented System Development: Understanding Object Oriented Development, Understanding Object Concepts, Benefits of Object Oriented Development.

Java Programming Fundamentals: Introduction. Overview of Java, Data Type, Variables and Arrays, Operators, Control statements, Classes, Methods , Inheritance, Packages and Interfaces.

UNIT-II

Exceptions Handling, Multithreaded Programming, I/O basics, Reading Console input and output, Reading and Writing Files, Print Writer Class, String Handling.

UNIT-III

Exploring Java Language, Collections Overview, Collections Interfaces, Collections Classes, Iterators, Random Access Interface, Maps, Comparators, Arrays, Legacy classes and interfaces, Sting tokenizer, BitSet, Date, Calendar, Timer.

UNIT-IV

Introducing AWT working With Graphics: AWT Classes, Working with Graphics.

Event Handling: Two Event Handling Mechanisms, The Delegation Event Model, Event Classes, Source of Events, Event Listener Interfaces.

AWT Controls: Control Fundamentals, Labels, Using Buttons, Applying Check Boxes, CheckboxGroup, Choice Controls, Using Lists, Managing Scroll Bars, Using TextField, Using TextArea, Understanding Layout Managers, Menu bars and Menus, Dialog Boxes, FileDialog,

Handling events by Extending AWT Components, Exploring the controls, Menus and Layout Managers.

UNIT-V

Java I/O classes and interfaces, Files, Stream and Byte classes, Character Streams, Serialization.

Suggested Reading:
     1.HerbertSchildt, The Complete Reference Java, 7th Edition, Tata McGraw Hill, 2005.
     2.James M Slack, Programming and Problem solving with JAVA, Thomson Learning, 2002
     3.C Thomas Wu, An Introduction to Object Oriented programming with Java, Tata McGraw Hill, 2005.