IT- 505 – Java Programming

UNIT-I **The Java Environment**: Java Development Kit (JDK) ,Java virtual machine , Java programming environment (compiler, interpreter, appletviewer, debugger), , Java Applications Programming Interface (API), Basic idea of application and applet**.**Java as an object oriented language:objects, classes, encapsulation, inheritance,and software reuse, polymorphism, abstract classes and abstract methods, : defining an interface, implementing & applying interfaces, variables in interfaces, extending interfaces, Packages,scope and lifetime; Access specifies; Constructors; Copy constructor; this pointer; finalize () method; arrays; Memory allocation and garbage collection

UNIT-II **AWT:**Containers and components,AWT classes, window fundamentals: Component, Container, Panel,Window,Frame,Canvas,AWT Controls,Layout Managers and Menus:adding and removing control,Labels, Button, Check Box, Radio Button, Choice ,menu, Text area, Scroll list, Scroll bar; Frame; Layout managers- flow layout, Grid layout, Border layout, Card layout.

Java Event Handling Model: Java's event delegation model – Ignoring the event, Self contained events, Delegating events; The event class hierarchy; The relationship between interface, methods called, parameters and event source; Adapter classes; Event classes action Event, Adjustment Event, Container Event, Focus Event, Item Event, Eye Event, Mouse Event, Text Event, Window Event.

Applets: Applet security restrictions; the class hierarchy for applets; Life cycle of applet; HTML Tags for applet

Introduction to Swing: swing library, Building applications using Swings

UNIT-III **Multithreading and Exception Handling:** Overview of simple threads, Basic idea of multithreaded programming,Thread synchronization:Locks, synchronized methods, synchronized block, Thread scheduling,Producer-consumer relationship, Daemon thread, Basic idea of exception handling,stack based execution and exception propagation,Exception types:, Exception Handling:Try,Catch,Finally,Throw statement,Assertions

UNIT-IV **Input/Output** : Exploring Java I/O., Directories, stream classes The Byte stream : Input stream, output stream, file input stream, file output stream, print stream, Random access file, the character streams, Buffered reader, buffered writer, print writer, serialization.

JDBC: JDBC-ODBC bridge; The connectivity model; The driver manager; Navigating the result set object contents; java.sql Package; The JDBC exception classes; Connecting to Remote database.

UNIT-V Java Networking : exploring java.net packageNetworking Basics : Socket, Client server, reserved sockets, proxy servers, Internet addressing, TCP sockets, UDP sockets.

RMI:Client/Server architecture, RMI registry services; Steps of creating RMI Application and an example.

REFERENCES:-

1. Naughton & Schildt "The Complete Reference Java 2", Tata McGraw Hill
2. Deitel "Java- How to Program:" Pearson Education, Asia
3. Horstmann & Cornell "Core Java 2" (Vol I & II) , Sun Microsystems
4. lvan Bayross "Java 2.0" : BPB publications
5. Ivor Horton's "Beginning Java 2, JDK 5 Ed., Wiley India.
6. Java Programming for the absolute beginners By Russell, PHI Learning