OPEN ELECTIVES (OE):

PET5H001   JAVA PROGRAMMING (3-1-0)

MODULE – I
1. Introduction to Java and Java programming Environment. Object Oriented Programming. Fundamental Programming Structure: Data Types, variable, Typecasting Arrays, Operators and their precedence. Control Flow: Java's Selection statements (if, switch, iteration, statement, while, do-while, for, Nested loop).Concept of Objects and Classes, Using Exiting Classes building your own classes, constructor overloading, static, final, this keyword .
2. Inheritance: Using Super to Call Super class constructor, Method overriding, Dynamic method Dispatch, Using Abstract Classes, Using final with inheritance, The Object Class.
3. Packages & Interfaces: Packages, Access Protection, Importing package, Interface, Implementing Interfaces, variables in Interfaces, Interfaces can be extended.
4. Exception Handling: Fundamentals, Types Checked , Unchecked exceptions, Using try & catch, Multiple catch, throw, throws, finally, Java's Built in exceptions, user defined exception.

Module - II
5. Multi Threading: Java Thread Model, Thread Priorities, Synchronization, Creating a thread, Creating Multiple threads, Using is Alive ( ) and join ( ), wait () & notify ( ).
6. String Handling: String constructors, String length, Character Extraction, String Comparison, Modifying a string
7. Java I/O: Classes& Interfaces, Stream classes, Byte streams, Character streams, Serialization. JDBC: Fundamentals, Type I, Type II, Type III, Type IV drivers.

Module - III
8. Applets: Basics, Architecture, Skeleton, The HTML APPLET Tag, Passing Parameters to Applets, Applet context and show documents ().
9. Event Handing: Delegation Event model, Event Classes, Event Listener Interfaces, Adapter classes.
10. AWT: AWT Classes window fundamentals, component, container, panel, Window, Frame , Canvas, Creating a frame window in an Applet , working with Graphics , Control Fundamentals , Layout managers, Handling Events by Extending AWT components.Core java API package, reflection, Remote method Invocation (RMI)

Module – IV

11. Swing: J applet, Icons & Labels, Text fields, Buttons, Combo boxes, Tabbed panes, Scroll panes, Trees, Tables. Exploring Java-Lang: Simple type wrappers, Runtime memory management, object (using clone () and the cloneable Interface), Thread, Thread Group, Runnable.

Additional Module (Terminal Examination-Internal)

12. Networking: Basics, Socket overview, networking classes, & interfaces, TCP/IP client sockets, who is, URL format, URL connection, TCP/IP Server Sockets.

Text Books

1. Introduction to Java Programming, Y Daniel Liang, Pearson Education, 7th Edition.

2. Java The complete reference, Herbert Schildt, TMH, 5th Edition.

Reference Books

1. Programming with JAVA,E Balagurusamy,TMH, 4th edition.

2. Programming with Java, Jaya MaheshBhave& SunilPatekar, Pearson Education.

3. Big Java, Cay S Horstman, Willey India, 2nd Edition.

4. Java Programming Advanced Topics, Joe Wigglesworth, Cengage Learning.

5. Java How to Program, H.M. Deitel& Paul J. Deitel, PHI, 8th Edition

6. Theory and Problems of Programming with JAVA, John Hubbard, TMH.

7. Programming in java, Sachin Malhotra &SauravChoudhary, Oxford University Press, 2nd Edition 2004.