Elective Paper - 13. Internet and Java Programming
(Theory and Practical)

UNIT – I

Internet – Overview –Internet Protocols – Internet address – Internet access – Applications – Future of Internet and intranet related Applications. – Basic concepts of OOP – benefits of OOP – Object Oriented applications of OOP – Data types, variables and arrays – Programs with input, numeric input – type conversion and casting.

UNIT – II

Operators – Arithmetic operators – Bitwise operators – Relational operators – Relational operators – Boolean operators – Logical operators – Assignment operators? Operators.

Control statement – Selection statements – if, switch, iteration statements – while, do while, for, nested loops – jump statements, break, continue, return statements.

UNIT – III

Class fundamentals – Declaring Objects – Assigning Object Reference Variables – Introducing methods – Constructors – The this keyword – Garbage collection – The finalize () method.

Overloading Methods – Objects as Parameters – Arguments Passing – Returning Objects – Recursion – Access Control – Static – Final – Arrays – Nested and Inner Classes – String Class – Command Line Arguments.

UNIT – IV

Inheritance Basics – Using Super – Creating a Multilevel Hierarchy – When Constructors are called – Method Overriding – Dynamic Method Dispatch – Using Abstract Classes – Using final with Inheritance – The Object Class.

Packages – Access Protection – Importing Packages – Interfaces.

UNIT – V

AWT classes – Windows fundamentals – Working with Frame windows – Working with graphics – Paint Mode – Fonts – Text and Graphics – AWT Controls – Labels – Buttons – Menus – Handling Events by Extending AWT Components.

Applet fundamentals – Applet Class – Understanding HTML Applet Tag.

Text :

Internet and Intranet Engineering – Daniel Minoli – Tata McGraw Hill, 1999
Chapters 1.1,1.2, 1.3, 1.4,1.7,1.8,1.9.
Java – The complete Reference, Patrick Naughton & Herbert Schildt, Tata McGraw Hill.

Reference: Programming with Java – John R Hubbard – Schuam's Outline Series.

Lab Exercise:
1. Simple Programs using for, while, do-while, ternary and switch.
2. Programs using Objects and Classes.
3. Programs using Inheritance.
4. Method Overloading and Method Overriding.
5. Interfaces.
6. Packages.
7. String handling methods.
8. Design of simple calculator.
9. Simple Graphics Programs like drawing line, circle, rectangle using AWT.
10. Web page design using HTML.