

## 2. OBJECT ORIENTED PROGRAMMING THROUGH JAVA

Semester	Hours / Week			Total hrs	Credit	Max Marks		
	L	T	P		C	CIE	SEE	TOTAL
II	3	0	0	48	3	40	60	100

### MODULE – 1 Basic concepts of java

9H

The History and Evolution of java: History of java, The java Buzz words, The Evolution of java, Lexical issues. Data types, variables: Data types, Variables, The Scope and Life time of variables, Operators, Expressions, Control statements, Type conversion and casting, Command Line Arguments..

### MODULE -2 Arrays and Strings

9H

Declaration, Initialization and accessing values, One-Dimensional Arrays, Multi-dimensional arrays, Alternative Array Declaration Syntax, Wrapper Classes. String, StringBuffer and StringBuilder classes.

### MODULE-3 OOPs Concepts

10H

Basic Characteristics of OOP, Class fundamentals. Declaration objects, Introducing Methods, Constructors, this keyword. Inheritance, Types of inheritance, Member access rules, Abstract Classes, Super and final keywords. Method overloading and overriding. Defining an interface, Implementing interface, Accessing interface properties.

### MODULE-4 Packages and Exception Handling

10H

Packages: Defining Package, Built in packages, accessing Packages, Creating packages, accessing Protection.

Exception Handling: Exception handling Fundamentals, exception types, Built-in Exceptions, Using try-catch-finally throw- throws keywords, creating your own Exceptions.

### MODULE-5 Multi-Threaded Programming, Files and Applets

10H

Multi-Threaded Programming: The java thread model, Thread Life Cycle, The main() thread, creating a Thread, Creating Multiple Threads, Using isalive() and join(), Thread Priorities, Synchronization.

I/O Files: Byte Oriented and Character oriented classes, RandomAccess Files.

Applets: Introduction to Applets, Applet Life Cycle methods.

**Total hours: 48 Hours**

#### Text Book(s):

1. Herbert Scheldt, "Java The complete reference", 9<sup>th</sup> edition, McGraw Hill Education
2. Ivor Horton, Beginning Java 2, JDK 5th Edition, Wiley Dreamtech.

#### Reference Book(s):

1. E Balagurusamy, Programming With Java: A Primer 5th Edition Tata McGraw Hill.
2. R A. Johson-Thomson, An introduction to java programming and object oriented application development,
3. Y Daniel liang, Introduction to java programming 6th Edition, Pearson Education.
4. C. Xavier, Java programming: A practical approach, First edition, TMH, 2011.
5. Bruce Eckel, Thinking in Java, 2nd Edition, Pearson Education
6. H.M Dietel and P.J Dietel, Java How to Program, 6th Edition, Pearson Ed.
7. Y. Daniel Liang, Introduction to Java programming-comp., 10E, Pearson ltd 2015.