

Module No.	Unit No.	Details of Topic	Hrs.
1.0	1.1	<b>Fundamentals of Object oriented Programming</b>	(02)
		Introduction, Procedural Programming Approach, Structured Programming Approach, Modular Programming Approach, OOP Approach	
	1.2	<b>Object Oriented Paradigm</b>	(03)
		Objects and classes, Function overloading, Data abstraction and Encapsulation, Inheritance and Polymorphism, Function Overriding, Exceptions, Reuse, Coupling and Cohesion, Sufficiency Completeness and Primitiveness.	
2.0	2.1	<b>Java Evolution</b>	(09)
		History, How java differs from others, Overview of Java language: Introduction, Installing and implementing Java, JVM	
		Constants, variables and data types, Operators and Expressions, Revision of Branching and looping	
		Class Object and Method: member, method, Modifier, Selector, constructor, destructor, iterator, State of an object, Method Overloading, Inheritance, Method Overriding, Final class, abstract class and method	
3.0	3.1	<b>Arrays, Stings and vectors</b>	(06)
		Arrays: Arrays : 1D , 2D , Variable Length array, for-each with Array	
		String : String Class, String Buffer Class	
		Vectors : Vector Class and its functions in java	
		Command line Arguments	
4.0	4.1	Class Diagram	(04)
	4.2	Implementing Aggregation and Association	
5.0	5.1	<b>Interfaces and Packages</b>	(07)
		Interfaces : variables in Interfaces, Extending an Interface, Difference between an Abstract class and an Interface, Packages: Creating Packages, Using Packages, Access Protection, Predefined packages : java.lang : Wrapper class, Collection	
	5.2	java.IO: Buffered Stream Reader/writer, Use of Scanner class	
	5.3	Exception handling: Exception as objects, Exception hierarchy, Try catch finally Throw, throws, File handling in Java	

<b>6.0</b>	<b>6.1</b>	<b>MultiThreading</b>	<b>(04)</b>
		Multi Threading: Thread life cycle, Multi threading advantages and issues, Simple thread program, Thread synchronization.	
<b>7.0</b>	<b>7.1</b>	<b>Applet programming</b>	<b>(04)</b>
		Applet class, Applet Structure, Applet Life cycle, paint(), repaint(), update(), GUI designing in JAVA	
<b>Total</b>			<b>39</b>

### Recommended Books

1. Sachin Malhotra, Saurabh Chaudhary “Programming in Java”, Oxford University Press, 2010
2. Grady Booch, James Rumbaugh, Ivar Jacobson, “The Unified Modeling Language User Guide”, Pearson Education
3. Herbert schildt, The Complete Reference JAVA2, 2nd ed., TMH, 2002.
4. Ralph Bravaco , Shai Simoson , “Java Programing From the Group Up” ,Tata McGraw-Hill
5. Balagurusamy, E. [Programming With Java:A Primer 3E](#) , Tata McGraw-Hill Education, 2006
6. Horstmann, Cornell, Core Java 2: Volume 1-Fundanmentals, Pearson Education, 2000.
7. Jaime Nino, Frederick A. Hosch, ‘An introduction to Programming and Object Oriented Design using Java’, Wiley Student Edition.