

<b>Branch: BCA</b>	<b>Semester-V</b>
<b>Subject Code: 5102</b>	<b>Lecture: 04</b> <b>Credit: 04</b>
<b>Subject Title</b>	<b>JAVA PROGRAMMING</b>

Modules	Sr. No.	Topic and Details	No of Lectures Assigned	Marks Weight age %
UNIT-I	1	<b>Introduction and programming with Java:</b> Introduction to java: Creation of Java , Difference between Java & C++. Java's Magic: Byte Code , JVM , Run time Environment, Just-in-time , Compiler, JDK, Buzzwords/Features, OOP Principles, Data Types & Operators, Simple Data types, Variables, Declaring Variables, Dynamic Initialization, Scope & Life time, Type conversion & Casting, Java Automatic Conversions, Casting Incompatible Types Arrays: One , Multi dimensional, Arithmetic ,Modulus, Assignment, Increment & Decrement, Relational, Boolean - Logical operators. Control Statement-All Control Statements, Jump Statement Classes & Objects: Class Fundamentals- General form, Simple class, Declaring Objects, Assigning Object reference Variables	5	10
	2	<b>Constructor &amp; Methods:</b> Introduction to Methods, Constructor, Types of Constructors, This Keyword, Garbage Collection, Finalize() method, A Stack Class	4	8
UNIT-II	3	<b>Method Overloading :</b> Overloading Methods, Using Objects as Parameters, Argument Passing, Returning Objects, Recursion, Understanding Static , Introducing to Final, Inner & Nested Classes, Inheritance & Method Overriding: Basics, Using Super, Multilevel, Introduction to Overriding, Dynamic Method dispatch, Abstract Classes, Final With Inheritance	6	12
	4	<b>Special Features of Java:</b> Interface & Packages, Packages Access Protection, Importing Package, Interfaces.	3	6
	5	<b>Exception Handling:</b> Fundamentals, Exception Types, Uncaught Exception, Using try catch, Multiple Catch, Nested try, throw, throws, finally, Java's Built-in-Exception, Creating own Exception Subclasses, Chained Exception, Using Exception	4	8
UNIT-III	6	<b>Threading:</b> Thread Model, Thread priorities, Synchronization, Messaging, The thread class and runnable class, The main Thread, Creating a Thread, Implementing Runnable , Multi thread, Using isAlive() & join()	5	10
	7	<b>I/O, Applets :</b> The I/O classes, I/O Basics, Streams, Byte Streams and character streams, Byte Stream , classes and character stream classes, Byte Stream class,	5	10

		Buffered InputStream, BufferedOutputStream, ByteArrayInputStream, ByteArrayoutput, DataInput, DataOutput, printStream, Character Stream classm, BufferedReader, BufferedWriter, InputStreamReader, OutputStreamWriter, PrintWriter, Reading Console Input, Writing console Output		
	8	Applet: Fundamentals/Basics, Applet Initialization and Termination, Init(), Start(), Paint(), Stop(), Destroy(), Overriding update(), Simple Applet Display Methods(), Repainting, Using Status window, The HTML Applet tag, Passing parameters to Applets	6	12
UNIT-IV	9	<b>The Java Library:</b> String Handling- length( ), equals( ), charAt( ), toString( ), getChar(), compareTo(), indexOf( ).lastIndexOf( ), concat( ), valueOf(), substring( ), replace( ), trim( ), toUpperCase( ), toLowerCase( ). Networking- Networking Basics, Socket Overview, Client/server, Reserved Socket, Internet Addressing, DNS, Java & The Net, Networking classes and Interfaces- InetAddress, Factory Methods, Instance Methods, TCP/IP client sockets, Whois, URL, Format URL connection , TCP/IP Server sockets, Datagrams, DatagramPacket, Datagram server and client, The Collections Framework , Collections Overview, Collections Interfaces, The collection Interface, The list Interface, Set Interface, Sorted Set Interface	6	12
	10	TheAWTandLayoutManagers: Control fundamentals, Adding and Removing controls, Responding to controls, Using Buttons, ActionListener, actionPerformed(), getActioncommand(), ItemListener, itemStateChanged(), Choice Control, Handling choice Lists, Using Lists, Handling Lists, Managing Scroll bar, Textfield, Using TextArea LayOut Manager-Flow ,Border, Grid,Card, Using Insets, Event Handling- Events, Event Sources, Event Listeners, Event Classes(In details)-	6	12
		Total	50	100

**Text Book:**

1. Herb Schildt "Java 2 the Complete Reference J2se", 5TH Edition , 2003

**Reference Books:**

1. "Java Enterprise in a Nutshell: A Desktop Quick Reference": (Nutshell Handbook), O'Reilly, 2002

2. Elliot B. Koffman, "Problem Solving with Java", Temple University Ursula Wolz, College of New Jersey, Copyright 1999, 848 pp. ISBN 0201357437.
3. Jan Skansholm, "Java from the Beginning", Chalmers University of Technology, Sweden, Copyright 2000, 540 pp. ISBN 0201398125.