

COURSE CODE	COURSE TITLE	L	T	P	C
1151CS117	JAVA PROGRAMMING	3	0	0	3

Course Category: Program Core

A. Preamble:

Most of the software needs to develop an application which runs in cross platform. Java is the one of the pioneer software tools used for cross platform development software. Java is the most dominant software to develop web applications and distributed applications. This course provides basic concepts about Object Oriented Programming, Java Packages, Exceptions, Database connectivity, Networking, AWT and Java Servlets. After successful completion of this course learners can able to develop software modules for real world problem.

B. Pre-requisites:

SI No	Course Code	Course Name
1	1150CS201	Problem Solving using C

C. Related Courses:

SI No	Course Code	Course Name
1	1151CS201	Mobile Application & Development
2	1151CS202	Internet Programming

D. Course Outcomes:

Students undergoing this course are able to:

CO Nos	Course Outcomes	Knowledge Level (Based on revised Bloom's Taxonomy)
CO1	Explain Java fundamentals and Object Oriented Programming (OOP) concepts to solve problems.	K2
CO2	Apply the concepts of java packages, inheritance and exception handling mechanisms for real world problem..	K3
CO3	Solve the problems using I/O Streams, Strings, Collections and Threads concepts.	K2
CO4	Develop simple applications using GUIs and event driven programming.	K3
CO5	Experiment with database connectivity, to familiarize the advanced java programming skills and develop java based web applications.	K3

E. Correlation of COs with POs:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO 2	PSO 3
CO1	M				L			M	L	L			L		L
CO2	M	M	L		L			H	L	L	L		L	M	L
CO3	M	H	M		L			H	M	L	M		L	M	L
CO4	M	H	M		M			H	M	L	M	M	L	M	L
CO5	M	H	H	M	H			H	H	L	H	M	L	M	M

H- High; M-Medium; L-Low

F. Course content:

UNIT I BASICS OF JAVA	9
Introduction to object-oriented programming - Features of Java - JVM- Keywords- Variables - Data types – Operators - Control statements - Classes and Methods - Objects – Access specifiers- Constructors - Method Overloading - Type Casting - this keyword- Static - Arrays.	
UNIT II PACKAGE, INHERITANCE AND EXCEPTION HANDLING	9
Package Access - Java API Packages -Basics of Inheritance - Forms of Inheritance - Sub Classes and Subclass Types -Super keyword – Final - Method Overriding - Abstract Classes - Interfaces. Exception Handling: Java Exception Hierarchy - Exception Types - Throwing and Catching exceptions -Declaring New Exception Types.	
UNIT III I/O STREAMS, STRINGS AND COLLECTIONS	9
Character Streams - Stream I/O - Serialization – Files – String Class - String handling - java. util. Collections - Collections Frameworks - Generic Classes and Methods.	
UNIT IV AWT AND THREADS	9
Applets: Basics of applets - Applet Architecture - Life cycle of an Applet – AWT: Event Handling-Delegation event Model. Threads: Thread priority - Thread operations - Thread states – Thread Synchronization - Basics of Java Networking.	
UNIT V: JDBC AND SERVLET	9
JDBC: JDBC Architecture - JDBC Drivers- Database connectivity in Java- HTML basics - JavaScript basics. Servlets: Servlet Architecture - Life cycle of a Servlet - The Servlet API- Handling HTTP Request and Response- Cookies - Session Tracking-Overview of JSP.	
TOTAL: 45	

G. Learning Resources

i. Text Books

1. Herbert Schildt, “Java the Complete Reference”, Ninth edition, Tata Mc-GrawHill ,2014.
2. Cay S. Horstman and Gary Cornell, “Java: Core Java 2 Vol. 1: Fundamentals”, Sun Microsystems Press, Seventh Edition.

ii. Reference Books

1. H.M. Deitel and P.J. Deitel,” Java How to Program”, Pearson Prentice Hall Seventh Edition.
2. E. Balaguruswamy, “Programming in java”, Fourth Edition, Tata McGraw Hill,2010
3. Jason Hunter, William Crawford,” Java Servlet Programming”, Second Edition, O’Reilly
4. Kathy Sierra, Bert Bates: “Head First Java- A Learners Guide”, Second Edition, O’Reilly
5. Kathy Sierra, Bert Bates , “SCJP- Sun certified programmer for Java 6 study Guide”, Tata Mcgraw Hill.

iii. Digital Resources

1. <http://www.w3schools.com/>
2. <https://www.javatpoint.com/>
3. <https://www.tutorialspoint.com/java/>
4. <https://www.sanfoundry.com/java-questions-answers-freshers-experienced/>
5. <http://codingbat.com/java/>