



### Professional Elective - I

Course Title : Advanced Java			
Course Code: P18CS551	Semester : 5	L:T:P - 2 : 2 : 0	Credits: 3
Contact Period : Lecture :52 Hr, Exam: 3Hr		Weightage :CIE:50% SEE:50%	

#### Course Content

##### Unit-1

**Event Handling and Applets : Event Handling** –Introduction, Delegation Event Model, Hierarchy of Event Classes, Types and Sources of Events, Event Listener Interfaces, class ActionEvent, class AdjustmentEvent, changeEvent and ChangeListener, class ComponentEvent, class ContainerEvent, class FocusEvent, class ItemEvent, class KeyEvent, class MouseEvent, class TextEvent, class WindowEvent, interface WindowListener

**Applets**-Introduction, Applet Architecture, Applet Class and Methods, Creating Applets, HTML Tags, Simple Applet Display Methods, Passing Parameters to Applets, Passive Applet Programs, Adding Images to Applet Windows, Managing Colours in Applet Window, Interactive Applets with AWT Graphical Components, AWT Text fields in Applets, Animation in Applet Windows

Self Study Component: Details of Event Listener Interfaces, Display of Numerical Values on Applet Windows

11 Hours

##### Unit-2

**Multithreaded Programming**-Introduction, Need for Multiple Threads, Thread Class, Main Thread, Creation of New Threads, Thread States, Thread Priority, Synchronization, Deadlock and Race Situations, Inter-thread Communication, Suspending, Resuming, and Stopping of Threads, Sample Programs, Application Programs with Threads: Producer–Consumer Problem

Self Study Component: Creation of Multiple Threads by Extending Thread Class

10 Hours

##### Unit-3

**Networking** :Introduction ,Networking Basics ,Protocols, Classes and Interfaces in java.net, class InetAddress, class URLConnection, TCP/IP Server Socket Programming, Class ServerSocket, Communication through Sockets, Users/Unreliable Datagram Protocol class DatagramPacket, DatagramSocket Class, Programs for Sending and Receiving Datagram

Self Study Component: Class URL

12 Hours

##### Unit-4

**Java 2 enterprise edition overview, database access:** Overview of J2EE and J2SE.The Concept of JDBC, JDBC Driver Types, JDBC Packages, A Brief Overview of the JDBC process, Database Connection, Associating the JDBC/ODBC Bridge with the Database, Statement Objects, ResultSet, Transaction Processing, Exceptions.

Self Study Component: Metadata, Data types

10 Hours

##### Unit-5



**Servlets:** Java Servlet and common Gateway Interface Programming, A simple Java Servlet, Anatomy of a Java Servlet, Reading Data from a Client, Reading HTTP Requests Headers, sending Data to a Client and writing HTTP Response Headers, Working with Cookies, Tracking Session.

**Java Server Pages:** JSP, JSP Tags. Tomcat, Request String, User Sessions, Cookies

**Self Study Component:** Session Objects.

10 Hours

**Text Books:**

1. Java: One Step Ahead by Anita Seth , B.L. Juneja ,OXFORD University press - First Edition 2017.
2. J2EE The Complete Reference - Jim Keogh, McGraw Hill. 2015.

**Reference Books:**

1. Herbert Schildt, Java The Complete Reference, 9<sup>th</sup> Edition, Tata McGraw Hill.
2. The J2EE Tutorial, Stephanie Bodoff et al, 2nd Edition Pearson Education, 2012.

**Course Outcomes:**

1. Demonstrate the usage of Event handling and Applets
2. Understand and develop programs using thread concepts
3. Implement client side and server side programming for two way communication
4. Develop programs using Java Database Connectivity
5. Gain the knowledge of Server Side programming by implementing Servlet and JSP.

**CO-PO Mapping**

Semester: 5		Course code : P18CS551					Title : Advanced Java									
CO	Statement	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PS O1	PS O2	
CO 1	Demonstrate the usage of Event handling and Applets	1	2	2											1	
CO 2	Understand and develop programs using thread concepts	1	2	2	2										1	
CO 3	Implement client side and server side programming for two way communication	2	2	2	2		2						1		2	
CO4	Develop programs using Java Database Connectivity	2	2	2	2										1	
CO 5	Gain the knowledge of Server Side programming by implementing Servlet and JSP	1	2	2											2	