

3IT41: ADVANCE JAVA TECHNOLOGY
CREDITS – 4(LTP: 3,0,2)

Course Objective:

To provide the ability to design console based, GUI based and web based applications in JAVA.

Teaching and Assessment Scheme:

Teaching Scheme (Hours per Week)			Credits	Assessment Scheme				Total Marks
L	T	P		Theory Marks		Practical Marks		
			ESE	CE	ESE	CE	150	
3	0	2	4	60	40	20		30

Course Contents:

Unit No.	Topics	Teaching Hours
1	Introduction To Swing: MVC architecture, Applets, Applications and pluggable look and feel, Basic swing components: Text fields, Buttons, Toggle buttons, Checkboxes and radio buttons.	5
2	JDBC Programming: The JDBC connectivity model, Database programming: Connecting to the database, Creating a SQL query, Getting the results, Updating database data, The statement interface, PreparedStatement, CallableStatement, The ResultSet interface, Updatable result sets, JDBC types, Executing SQL queries, ResultSetMetaData, Executing SQL updates, Transaction management.	7
3	JAVA Networking: Network basics and socket overview, TCP/IP client sockets, URL, TCP/IP server sockets, Datagrams, Java.net package socket, ServerSocket, InetAddress, URL, URL connection.	5
4	Servlet: Servlet model: Overview of servlet, Servlet life cycle, HTTP methods, Structure and deployment descriptor ServletContext and ServletConfig interface, Attributes in servlet, Request Dispatcher interface, The Filter API: Filter, FilterChain, Filter Config, Cookies and Session management: Understanding state and session.	7
5	Java Server Pages: JSP overview: The problem with servlets, Life cycle of JSP page, JSP processing, JSP directives, JSP action, JSP implicit objects JSP form processing, JSP session and cookies handling, JSP session tracking, JSP standard tag libraries, JSP custom tag, JSP expression language, JSP exception handling.	7
6	Hibernate: Introduction, Architecture, Hibernate annotation, Hibernate mapping types, Hibernate O/R mapping, Hibernate query language.	5
7	Java Web Frameworks: Overview of spring, Spring architecture, Aspect oriented spring, managing database, Managing transaction.	5
8	Java Server Faces: Introduction to JSF, JSF request processing life cycle, JSF Facelets Tag,	4

Unit No.	Topics	Teaching Hours
	JSF Converter Tag, JSF Validation Tag, JSF Event handling and database access.	
	Total	45

List of References:

1. Herbert Schildt, *“Java 2 complete reference“*, Fifth Edition, Tata McGraw Hill.
2. James Keogh, *“Complete Reference J2EE”*, Tata McGraw Hill.
3. Black Book, *“Java server programming J2EE”*, First edition, Dream Tech Publishers.
4. Kathy Walrath, *“The J2EE tutorial”*, First ED., Addison Wesley Publishers
5. Jeff Linwood and Dave Minter, *“Hibernate”*, Second edition, Apress
6. Maydene Fisher, Jon Ellis, Jonathan Bruce, Addison Wesley, *“JDBC™ API Tutorial and Reference”*, Third Edition.
7. Giulio Zambon, *“Beginning JSP, JSF and Tomcat”*, Apress.

Course Outcomes (COs):

At the end of this course students will be able to ...

1. Develop sophisticated set of GUI components for JAVA application.
2. Develop program through JDBC API for relational database.
3. Design and develop JAVA application to work in network.
4. Create JAVA program to support web application using servlet and JSP.
5. Create database independent JAVA application using Hibernate query language.
6. Develop JAVA code using spring framework to provide templates for JDBC, Hibernate, JPA etc. technologies.