



GUJARAT TECHNOLOGICAL UNIVERSITY

Bachelor of Vocation (B.Voc), 3rd Semester

Branch: Information Technology

Subject Name: Advanced Java

Subject Code: 1130501

Type of course: Core

Prerequisite: Java programming language

Rationale: This course provides the knowledge necessary to understand java and develop dynamic web pages using java server page (JSP) and also learn JDBC for database connection. It covers the basic underlying concepts and techniques recently used in the IT industry. After going through this course students will be able to do Web Development and Desktop Application Development.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks				Total Marks
L	T	P	C	Theory Marks		Practical		
				ESE (E)	PA(M)	ESE (V)	PA (I)	
3	0	0	3	50	0	0	0	50

L- Lectures; T- Tutorial/Teacher Guided Student Activity; P- Practical; C Credit; ESE- End Semester Examination; PA- Progressive Assessment

Contents:

S r. N o.	Practical / Hands on Exercise	Hrs	Weightage %
1	UNIT-I Java Networking & Java Applet: Network Basics and Socket overview, TCP/IP client sockets, URL, TCP/IP server sockets, Datagrams, java.net package Socket, ServerSocket, InetAddress, URL, URLConnection , Applet Programming : local and remote applets, difference between applet and application, applet life cycle, developing executable applet code , Web Page Design : applet tag, adding applet to HTML file, running the applet, passing parameter to applet, various methods and component classes to develop basic applet	07	20
2	UNIT-II JDBC Programming: Describe the basics of JDBC and its connectivity: Two-Tier Database Design, ThreeTier Database Design, The JDBC API: The API components, database operations like creating tables, CRUD (Create, Read, Update, Delete) operations using SQL, explain different types of JDBC drivers and their advantages and disadvantages: JDBC-advantages and disadvantages, JDBC drivers, JDBC-ODBC bridge, develop java program using JDBC	12	20
3	UNIT-III Servlet API and Overview Servlet Model: The life cycle of a servlet, The Java Servlet Development Kit 4, The Simple Servlet: create and compile servlet source code, start a web browser and request the servlet, example of echo servlet and deployment in tomcat server, Develop program using javax.servlet package	11	30



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4	UNIT-IV Java Server Pages JSP Overview: The Problem with Servlets, Life Cycle of JSP Page, JSP Processing, JSP Application Design with MVC, Setting Up the JSP Environment, JSP Directives, JSP Action, JSP Implicit Objects JSP Form Processing, JSP Session and Cookies Handling	11	30
	Total	42	

Reference Books:

1. Black Book “Java server programming” J2EE, 1st ed., Dream Tech Publishers, 2008. 3. Kathy walrath ”
2. Complete Reference J2EE by James Keogh mcgraw publication
3. Professional Java Server Programming by Subrahmanyam Allamaraju, Cedric Buest Wiley Publication
4. SCWCD, Matthew Scarpino, Hanumant Deshmukh, Jignesh Malavie, Manning publication
5. Core Java, Volume II: Advanced Features by Cay Horstmann and Gary Cornell Pearson Publication
6. Java Persistence with Hibernate by Christian Bauer, Gavin King
7. Spring in Action 3rd edition , Craig walls, Manning Publication
8. Hibernate 2nd edition, Jeff Linwood and Dave Minter, Beginning Après publication
9. Java Server Faces in Action, Kito D. Mann, Manning Publication
10. JDBC™ API Tutorial and Reference, Third Edition, Maydene Fisher, Jon Ellis, Jonathan Bruce, Addison Wesley
11. Beginning JSP, JSF and Tomcat, Giulio Zambon, Apress
12. JSF2.0 CookBook, Anghel Leonard, PACKT publication

Suggested Specification table with Marks (Theory): (For BVOC only)

Distribution of Theory Marks					
R Level	U Level	A Level	N Level	E Level	C Level
10	30	30	0	0	0

Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create and above Levels (Revised Bloom’s Taxonomy)

Course Outcomes:

Sr. No.	CO Statement	Marks % Weightage
CO-1	Understand the concepts of java networking and JDBC programming	30
CO-2	Apply the concepts of java servlet API and java server pages	40
CO-3	Understand the concepts of java server faces 2.0	10
CO-4	Understand the concepts of Hibernate 4.0	10
CO-5	Understand the concepts of Java web frameworks	10

Laboratory work: NA

List of Open Source Software/learning website:

Students must refer to the following sites to enhance their learning ability.

- 1) www.tutorialspoint.com
- 2) NPTEL Tutorials
- 3) www.coursera.org
- 4) www.udacity.com