



GUJARAT TECHNOLOGICAL UNIVERSITY

Bachelor of Vocation (B.Voc)

Semester: III

Branch: Software Development

Subject Name: Advanced Java

Subject Code: 21130204

Type of course: Core

Prerequisite: Java programming language

Rationale: NA

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks				Total Marks
L	T	P		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:

Sr. No.	Practical / Hands on Exercise	Hrs	Weightage
1	UNIT-I Java Networking: Network Basics and Socket overview, TCP/IP client sockets, URL, TCP/IP server sockets, Datagrams, java.net package Socket, ServerSocket, InetAddress, URL, URLConnection	04	05
2	UNIT-II JDBC Programming: The JDBC Connectivity Model, Database Programming: Connecting to the Database, Creating a SQL Query, Getting the Results, Updating Database Data, Error Checking and the SQLException Class, The SQLWarning Class, The Statement Interface, PreparedStatement, CallableStatement The ResultSet Interface, Updatable Result Sets, JDBC Types, Executing SQL Queries, ResultSetMetaData, Executing SQL Updates, Transaction Management.	08	10
3	UNIT-III Servlet API and Overview 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, Understanding Session Timeout and Session Tracking, URL Rewriting	08	25
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, JSP Session Tracking JSP Database Access, JSP Standard Tag Libraries, JSP Custom Tag, JSP Expression Language, JSP Exception Handling, JSP XML Processing.	08	25
5	UNIT-V Java Server Faces2.0: Introduction to JSF, JSF request processing Life cycle, JSF Expression Language, JSF Standard Component, JSF Facelets Tag, JSF Converter Tag, JSF Validation Tag, JSF Event Handling and Database Access, JSF Libraries: PrimeFaces	04	10



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6	UNIT-VI Hibernate 4.0: Overview of Hibernate, Hibernate Architecture, Hibernate Mapping Types, Hibernate O/R Mapping, Hibernate Annotation, Hibernate Query Language	05	15
7	UNIT-VII Java Web Frameworks: Spring MVC Overview of Spring, Spring Architecture, bean life cycle, XML Configuration on Spring, Aspect – oriented Spring, Managing Database, Managing Transaction	05	10
	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



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List of Open Source Software/learning website:

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

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