GUJARAT TECHNOLOGICAL UNIVERSITY

Bachelor of Engineering
Subject Code: 3161609
Semester – VI
Subject Name: Enterprise application development

Type of course: Elective

Prerequisite: Java Programming

Rationale: To develop server side Java application The Java platform Enterprise Edition (Java EE) is used which consists of set of application programming interface.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks				Total Marks
L	T	P	C	Theory Marks		Practical Marks		
				ESE (E)	PA (M)	ESE (V)	PA (I)	
3	0	2	4	70	30	30	20	150

Content:

Sr. No.	Content	Total Hrs	Marks Weight age (%)
1	Introduction to Java EE Java EE APIs	01	00
2	Java Server Faces Introducing JSF, Developing first JSF application, Custom Data Validation, Customizing JSF's default messages, JSF HTML5 support, JSF 2.2 Faces flows	04	20
3	Object relation mapping with Java Persistent API The customer database, The Java Persistent API	03	05
4	Enterprise JavaBeans Session beans, Asynchronous method calls, Message Driven beans, Transactions in enterprise JavaBeans, Enterprise JavaBean life cycles, EJB timer service,	05	20
5	Contexts and Dependency Injection Named beans Dependency injection Qualifiers	05	5

	Named bean scopes		
	CDI events		
6	JSONprocessing with JSON-P and JSON-B	**05**	**10**
	The JSON-P model API, The JSON – P streaming API, JSON pointer, JSON patch		
	Populating Java Objects from JSON with JSON-B		
	Generating JSON strings from Java objects with JSON-B		
7	WebSocket Developing a WebSocket server endpoint Developing WebSocket clients Java Messaging Service Message queue, Message Topics	**03**	**10**
8	Restful Web Services with JAX-RS Introduction,Developing a simple RESTful web service, Developing a RESTful web service client, Query and path parameters, Server sent events Microseervices development with Java EE Introduction to microservices, Microservices and Java EE, Developing Microservices with Java EE Web services with JAX-WS Developing web services with JAX-WS, Exposing EJBs as web services	**08**	**15**
9	Servlet Development and Deployment Introduction, Request forwarding and response redirection, persisting application data across requests, passing initialization parameter, Servlet filters, Servlet listeners, Pluggability, Configuring web applications, asynchronous processing,	**08**	**15**

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

Distribution of Theory Marks					
R Level	U Level	A Level	N Level	E Level	C Level
10	**40**	**20**	**--**	**--**	**--**

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

Course Outcomes: Students will be able to

Sr. No.	CO statement	Marks %

w.e.f. AY 2018-19

GUJARAT TECHNOLOGICAL UNIVERSITY

Bachelor of Engineering
Subject Code: 3161609

			weightage
CO-1	Write applications with JSF, Beans with context and dependency		50
CO-2	Use of WebSocket and Java Messaging Service		25
CO-3	Write server side web application using Servlet		15
CO-4	Develop Micro services and Restful Web Services		10

Books

1) Java EE 8 Application Development by David Heffelfinger, Packt
2) Java EE and HTML 5 Enterprise application development by John brock, Arun Gupta, Geertjan wpelenga McGrawhill Oracle
3) Black Book " Java server programming" J2EE, 1st ed., Dream Tech Publishers, 2008. 3. Kathy walrath "
4) Complete Reference J2EE by James Keogh mcgraw publication
5) Professional Java Server Programming by Subrahmanyam Allamaraju, Cedric Buest Wiley Publication
6) Core Java, Volume II: Advanced Features by Cay Horstmann and Gary Cornell Pearson Publication
7) Java Persistence with Hibernate by Christian Bauer, Gavin King
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

List of Open Source Software/learning website:
1. https://www.tutorialspoint.com/
2. https://www.geeksforgeeks.org/introduction-java-servlets/

List of Practical:

1. Write an application for transferring files using WebSocket.
2. Implement the shopping cart for users for the online shopping. Apply the concept of session.
3. Implement student registration form with enrollment number, first name, last name, semester, contact number. Implement with Java Beans
4. Write a Servlet program to print system date and time.
5. Design a web page that takes the Username from user and if it is a valid username prints "Welcome Username". Use JSF to implement.
6. Develop a Restful web service for user management with username and profession.