



Swarnandhra College of Engineering & Technology

Autonomous and recognized under 2(F) and 12(B) by UGC

Recognized by AICTE, permanently affiliated to JNTUK Kakinada

Accredited by NAAC with 'A' Grade (2nd Cycle)

Seetharamapuram, Narsapur – 530280 (Andhra Pradesh)

DEPARTMENT OF INFORMATION TECHNOLOGY

TEACHING PLAN

Course Code	Course Title	Semester	Branch	Contact Periods /Week	Academic Year	Date of commencement
23IT5T02	Advanced Java	V	IT	6	2025-26	09-07-2025

COURSE OUTCOMES

1	Understand JDBC architecture, drivers, and perform CRUD operations using database connectivity. (K2)
2	Explain J2EE architecture, components, and web container models. (K2)
3	Apply Servlet concepts including life cycle, configuration, and session tracking to develop web applications. (K3)
4	Develop JSP-based web applications using scripting elements, JSTL, and EL. (K4)
5	Implement MVC architecture using Spring Framework with DAO and transaction management. (K4)

UNIT	Out Comes / Bloom's Level	Topics No.	Topics/ Activity	Text Book/ Ref	Contact Hour	Delivery Method
I	CO – 1		Unit-1: JDBC Programming			
		1.1	Introduction to JDBC Architecture	T1	1	Chalk & Board
		1.2	Types of JDBC Drivers	T1	1	
		1.3	JDBC Classes and Interfaces	T1	1	
		1.4	Creating Simple JDBC Applications	T1	2	
		1.5	Statement, Prepared Statement, Callable Statement	T1	1	Power point presentations
		1.6	Result Set Operations	T1	2	
		1.7	Batch Updates	T1	2	Assignment Test
		1.8	CRUD Application	T1	1	
		1.9	RowSet Objects			
		1.10	Database Transaction Management			
Content beyond syllabus		1.11	Mini Project using JDBC and MySQL	R1	1	Video Lecture
Total					12	
II	CO – 2		Unit-2: J2EE and Web Development			



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		2.1	J2EE Architecture and Containers	T1,T2	2	Chalk & Board Power point presentations Assignment Test
		2.2	Types of Servers in J2EE Application	T1,T2	2	
		2.3	HTTP Protocols and APIs	T1	1	
		2.4	Request Processing in Web Application	T1,T2	2	
		2.5	Web Application Structure	T1,T2	1	
		2.6	Web Containers and Web Architecture Models	T1	2	
Content beyond syllabus		2.7	Exploring Jakarta EE updates	R2	1	NPTEL Video
Total					11	
III	CO – 3		Unit-3: Servlet API and Overview			
		3.1	Servlet Introduction	T1,T2	1	Chalk & Board Power point presentations Assignment Test
		3.2	Servlet Life Cycle	T1,T2	1	
		3.3	Servlet Configuration and Deployment Descriptor	T1,T2	2	
		3.4	Working with ServletContext	T1,T2	1	
		3.5	Working with ServletConfig		1	Power point presentations Assignment Test
		3.6	Response and Redirection using RequestDispatcher		1	
		3.7	Session Tracking using Cookies and HttpSession		1	
		3.8	Filter API and Event Handling		2	
Content beyond syllabus		3.9	Hands-on Servlet CRUD Example	R1	2	Experimental Learning
Total					12	
IV	CO – 4		Unit-4: Java Server Pages (JSP)			
		4.1	JSP Introduction and Comparison with Servlet	T1,T2	1	Chalk & Board Power point presentations Assignment Test
		4.2	JSP Architecture	T1,T2	1	
		4.3	JSP Life Cycle	T1,T2	1	
		4.4	Scripting Elements	T1,T2	1	
		4.5	JSP Directives	T1,T2	2	
		4.6	Action Tags and Implicit Objects	T1,T2	1	
		4.7	Expression Language (EL) and JSTL	T1,T2	2	
		4.8	Custom Tags and Exception Handling	T1,T2	2	
		4.9	CRUD Application using JSP	T1,T2	1	
Content beyond syllabus		4.10	JSP with MVC Integration	T2	1	NPTEL Video
Total					13	
V	CO – 5		Unit-5: Java Web Frameworks (Spring MVC)			



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		5.1	Introduction to Spring Framework and Architecture	T2,R3	2	Chalk & Board Power point presentations Assignment Test
		5.2	Spring MVC Module	T2,R3	2	
		5.3	Bean Factory Life Cycle	T2,R3	2	
		5.4	Dependency Injection and Bean Scopes	T2,R3	2	
		5.5	Spring Annotations and AOP Module	T1,T2	1	
		5.6	Spring DAO and Transaction Management	T1,T2	1	
		5.7	CRUD Operation using DAO and Spring API	T1,T2	1	
Content beyond syllabus		5.8	Introduction to Spring Boot Framework	T2, R1	1	Experimental Learning
Total					12	
Cumulative Proposed Periods					60	

Text Books:

S.No.	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION
1	Craig Walls, Spring in Action, 6th Edition, Manning Publications, 2022.
2	Subrahmanyam Allamaraju, Cedric Buest, Professional Java Server Programming, 1st Edition Wiley Publication, 2007.

Reference Books:

S.No.	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION
1	Luciano Manelli & Giulio Zambon, Beginning Jakarta EE Web Development: Using JSP, JSF, MySQL, and Apache Tomcat for Building Java Web Applications, 3rd Edition, Apress, 2020.
2	Maydene Fisher, Jon Ellis, Jonathan Bruce, JDBC API Tutorial and Reference, 3rd Edition, Addison Wesley, 2003.

Web Details:

1	https://www.geeksforgeeks.org/introduction-to-jdbc
2	https://docs.oracle.com/javase/8/docs/technotes/guides/jdbc/

	Name	Signature with Date
i	Faculty	Mrs. R. Uma Aruna Devi
ii	Module Coordinator	Mr. K Raja
iii	Programme Coordinator	Dr. RVSV Prasad


Principal