

# Curriculum for semester VI

**DSE-1B (1)**

**Course code: CS-611 T**

**Course Title: A1: Java Web Frameworks**

Total Credit: 2

Marks: 50 (UA: 40 + IA: 10)

Periods: 3 per week (50 Minutes each)

**Prerequisites:** -Knowledge of core Java Programming& Servlet and JSP

**Learning Objectives: -**

- To understand the Advanced Java web Frameworks & MVC mapping.

**Learning Outcomes**

On completion of the course, the students will be able to:

- Implement MVC structure & its types in Java Web application.
- Understand use of Struct web frame work in web site development
- Use web application framework JSF to build user interfaces.
- Apply Model-View-Controller architecture to build complex client-server applications using hibernate and Spring boot.

**Course Outline**

**Unit – 1: Java Web Frameworks: Struts2**

Struts2 Introduction What is Struts, Struts2 Features, **MVC** Model1 vs Model2, Struts2Core Components, Interceptors Value, StackAction, ContextAction, Invocation OGNL Struts 2 Architecture

**Unit – 2: Java Server Faces 2.0**

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

**Unit – 3: Hibernate 4.0**

Overview of Hibernate, Hibernate Architecture, Hibernate Mapping Types, Hibernate O/R Mapping, Hibernate Annotation, Hibernate Query Language (HQL)

**Unit -4: Spring MVC & Spring Boot**

Overview of Spring, Spring Architecture, bean life cycle, XML Configuration on Spring, Aspect – oriented Spring, Managing Database, Managing Transaction, Introduction to Spring Boot, Spring vs Spring Boot vs Spring MVC, SB Architecture.

**Unit– 5 Test and Tutorial**

**Books Recommended:**

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. Struct 2 in Action by DONALD BROWN Chad, michael ,davis Scott stanlick, Manning Publication

5. Java Persistence with Hibernate by Christian Bauer, Gavin King
6. Spring in Action 3rd edition , Craig walls, Manning Publication
7. Java Server Faces in Action, Kito D. Mann, Manning Publication
8. JDBC™ API Tutorial and Reference, Third Edition, Maydene Fisher, Jon Ellis, Jonathan Bruce, Addison Wesley

**List of learning website references:**

1. <https://www.javatpoint.com>
2. <https://www.geeksforgeeks.org>