

3/4 B.Tech - FIRST SEMESTER

IT5T4**WEB TECHNOLOGIES****Credits: 3****Lecture: 3 Periods/week****Internal assessment: 30 marks****Practice/Interaction: 1Period/week****Semester end examination: 70 marks****Objectives:**

- To study the basic concepts of Hypertext Markup Language, Cascading Style Sheets and java script for creating dynamic websites
- To perform operations on data among web applications using XML.
- To create software components using Java Beans.
- To Develop Server-Side Programming using JDBC, Servlets, Java Server Pages and AJAX.

Outcomes:

Students will be able to

- Develop advanced HTML pages with the help of tags, CSS and scripting language.
- Develop user defined tags to exchange the data and object communication using Java beans.
- Understand the concepts of 3 Tier architecture using JDBC and servlets.
- Get acquaintance on client server communication using cookies and session Management.
- Understand the dynamic content by using JSP architecture and its application model.

Prerequisite:

Java.

Syllabus:**UNIT – I**

INTRODUCTION TO WEB TECHNOLOGIES: History of the web, Overview of HTTP, HTML Introducing HTML document structure, Creating Headings, links, paragraph, images, tables, frames, forms and html controls on a web page.

INTRODUCING CASCADING STYLE SHEETS: Inline, External, Internal, Style class, Multiple styles, Introducing JavaScript , Using Variables, Using Operators, Working with Control Flow statements, Working with functions, Handling Events, Using Arrays, Creating objects in Java Script.

UNIT – II

WORKING WITH XML: Introduction to XML, XML Basics, XML Technologies, Extensible HTML (XHTML), Java API for XML Processing, Document Object Model (DOM), Extensible Style Sheet Language Transformation (XSLT).

WORKING WITH JAVA BEANS: Introducing Java Beans, Introspection Design Patterns for properties, methods, events, creating of a Simple Bean using JDK (optional), bean API.

UNIT –III

WORKING WITH DATABASE: Getting started with JDBC, Defining ODBC, Introduction to JDBC, Components of JDBC, JDBC Architecture, Types of Drivers, Working with JDBC APIs, Creating a Simple Application, Working with Prepared Statement, Using Callable Statement.

WORKING WITH SERVLETS: Introducing the MVC architecture, Describing Servlets, Understanding Servlets, What are servlets, Introducing the Servlet API, Servlet Life Cycle, Developing First Servlet Application, Generic Servlet Class.

UNIT –IV

WORKING WITH REQUESTS & RESPONSES: Understanding Request Processing and HTTP Describing the Servlet Request Interface, Working with Initialization Parameters, Describing Request Attributes, request dispatcher interface, Describing HTTP basics, Problem with Servlets.

UNIT –V

WORKING WITH JSP: Introduction to JSP, Understanding JSP, Describing the JSP Life Cycle, Creating a Simple JSP pages, working with JSP basic tags and implicit objects, working with Java Beans and Action tags in JSP, Working with JSP standard Tag Library (JSTL), Introduction to AJAX.

Text Books:

1. Web Technologies, Black Book, Kogent Learning Solutions Inc, Dreamtech Press.
2. JDBC, Servlets, and JSP, New Edition, Santhosh Kumar K, Kogent Learning Solutions Inc, Dreamtech Press

Reference Books:

1. Web Technologies ,Uttam K. Roy, Volume 2 , Oxford University
2. Core Servlets and Java Server Pages Volume 1 CORE TECHNOLOGIES , Marty Hall and Larry Brown Pearson
3. Internet and World Wide Web – How to program ,Dietel and Nieto
4. An Introduction to Web Design and Programming –Wang-Thomson
5. Professional Java Server Programming S.AllamRaju and othersApres(dreamtech)
6. Java Server Programming ,IvanBayross and others,The X Team,SPD
7. Beginning Web Programming-Jon Duckett WROX.
8. Java Server Pages, Pekowsky, Pearson.
9. Java Script,D.Flanagan,O'Reilly,SPD.

e-Learning Resources:

1. <http://nptel.ac.in/courses/106105084/13>
2. <http://www.w3schools.com/>