

**III/IV B. TECH. SECOND SEMESTER
ADVANCED JAVA & WEB TECHNOLOGIES(Required)**

Course Code: CS 6T1**Credits: 3****Lecture: 3 periods/ week****Internal assessment: 30 Marks****Tutorial: 1period/week****Semester end examination: 70 Marks**

Prerequisites: Java, Database Management Systems,

Course Objectives:

1. To understand the concepts of HyperText Markup Language and Cascading Style Sheets.
2. To learn JavaScript for creating dynamic websites.
3. To learn the operations perform on data among web applications using XML
4. To acquire knowledge on creation of software components using JAVA Beans.
5. To learn Server-Side Programming using Servlets and Java Server Pages.
6. To learn the creation of pure Dynamic Web Application using JDBC.

Course Outcomes:

After completion of this course, the student shall be able to

At the end of this course student will:

CO1) Implement web based applications using features of HTML and XML

CO2) Develop reusable component for Graphical User Interface applications

CO3) Apply the concepts of server side technologies for dynamic web applications

CO4) Implement the web based applications using effective data base access with rich client interaction

Syllabus:**UNIT 1**

INTRODUCTION TO WEB TECHNOLOGIES: History of the web, Understanding Web System Architecture, Understanding 3-tier Web Architecture, Overview of HTTP, Introducing HTML document structure, Creating Headings on a web page, Working with links, Creating a Paragraph, Working with images (Hot Spots), Working with tables, working with frames, Introduction to Forms and HTML controls. Inline, External, Internal, Style class, Multiple styles.

UNIT 2

Introducing DHTML, Introducing JavaScript, Client Side benefits of using JavaScript, Embedding JavaScript in an HTML page, Using Variables, Using Operators, Working with Control Flow statements, Working with functions, Handling Events, Using Arrays, Creating objects in JavaScript.

UNIT 3

Introduction to XML, XML Basics, Advanced XML, XML Technologies(DTD),Extensible Style Sheet Transformation (XSLT).

Introducing Java Beans, Introspection Design Patterns for properties, methods, events.

UNIT 4

JDBC Architecture, JDBC Drivers, Communicating with Database using JDBC APIs, Creating a Simple Application , Describing Basic JDBC Statement, Creating tables by using JDBC, Working with Prepared Statement.

Introducing the MVC architecture, Describing Servlets, Understanding Servlets, Introducing the Servlet API, Servlet Life Cycle, Developing First Servlet Application , GenericServlet Class.

UNIT 5

Understanding Request Processing and HTTP Describing the ServletRequest Interface, Working with Initialization Parameters.

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.

Learning Resource

Text Books

1. Web Technologies, Black Book, Kogent Learning Solutions Inc, Dreamtech Press.(UNIT – I , II)
2. JDBC, Servlets, and JSP, New Edition, Santhosh Kumar K , Kogent Learning Solutions Inc, Dreamtech Press (UNIT -III, IV, V)

References

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. Java Server Pages, Pekowsky, Pearson.
4. Java Script, D. Flanagan, O'Reilly, SPD.