

2/3 MCA Second Semester

CA4T5

WEB TECHNOLOGIES

Credits : 4

Lecture Hours : 4 periods / week

Internal assessment : 30 Marks
Semester and Examination: 70 Marks

Course Description:

This course builds on the material covered in Web Technologies to focus on the development of web-based information systems in HTML, Services through XML design, Enterprise systems using service-oriented architecture, and Client Oriented Programming through Java Script & CSS. Server Oriented Programming through Servlets & JSP. Data Base Connectivity through JDBC and ODBC.

Course Objective:

This course focuses on the phenomenon known as the World Wide Web.

- Hyper Text Markup Language (HTML) and Cascading Style Sheets (CSS) for laying out (formatting) pages that contain text, graphics, audio and video components.
- Client-side Programming using JavaScript.
- Extensible Markup Languages (XML), a mechanism for defining new tag sets and interchanging data.
- Web servers, their configuration and performance properties.
- Server-Side Programming using Servlets and Java Server Pages.

UNIT I:

Review of HTML 4 ; Common tags, HTML Tables and formatting, internal linking, Complex HTML forms. Introduction to Scripting Languages: Java Scripts, Control structures, functions, arrays & objects, DHTML, CSS, event model, filters & transitions.

UNIT -II:

XML: Document type definition, XML Schemas, Document Object model, Presenting XML, Using XML Processors: DOM and SAX.

UNIT III:

Review of core Java :Review of Applets, Class, Event Handling, AWT Programming: Introduction to Swing: JApplet, Handling Swing Controls like Icons, Buttons, Text Boxes, Combo Boxes, Tabbed Pains, Scroll Pains, Trees, Tables, Differences between AWT Controls & Swing Controls, Developing a Home page using Applets & Swing.

UNIT IV:

Java Beans: Introduction to Java Beans, Advantages of Java Beans, JDK, Introspection, Using Bound properties, Bean Info Interface, Constrained properties, Persistence, Customizers, Java Beans API.

UNIT V:

Introduction to Servlets: Lifecycle of a Servlet, JSDK, The Servlet API, The javax.servlet Package, Reading Servlet parameters, Reading Initialization Parameters, The javax.servlet.HTTP package, Handling, Http Request & responses, Using Cookies, Session Tracking, Security Issues.

UNIT VI :

Introduction to JSP: The Problem with Servlets, The Anatomy of a JSP Page, JSP Processing, JSP Application Design with MVC. Setting Up the JSP Environment: Installing the Java Software Development Kit, Tomcat Server & Testing Tomcat.

UNIT VII:

JSP Application Development: Generating Dynamic Content, Using Scripting Elements, Implicit JSP Objects, Conditional Processing – Displaying Values, Using an Expression to Set an Attribute, Declaring Variables and Methods, Error Handling and Debugging, Sharing Data Between JSP Pages, Requests, and Users, Passing Control and Data Between Pages – Sharing Session and Application Data Memory Usage Considerations.

UNIT VIII:

Database Access: Database Programming using JDBC, Studying Javax.sql.* package. Accessing a Database from a JSP Page, Application – Specific Database Actions Deploying JAVA Beans in a JSP Page.

Learning Resources**Text Books:**

1. Internet and World Wide Web: How to program, Dietel, Dietel , Pearson, 6/e, 1999.
2. The Complete Reference Java2, Patrick Naughton, Herbert Schildt, TMH, 3/e.
3. Java Server Faces, Hans Bergstan, O'reilly. 2009
4. Ivan Bayross, "HTML, DHTML, JavaScript, Perl CGI", BPB Publications, 3/e.
5. Jackson, "Web Technologies", Pearson Education, 2008.

Reference Books:

1. Web Programming, building internet applications, 2/e, Chris Bates, Wiley Dreamtech. 2008
2. Programming world wide web, Sebesta, PEA, 4/e, 2009.
3. Web Tehnologies, Godbole, kahate, TMH, 2/e, 2006.
4. An Introduction to web Design , Programming ,Wang,Thomson.2003