WEB TECHNOLOGIES

Course Code: 13IT2105

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Pre requisites: Java.

Course Educational Objectives:

The main objective of the course is to expose the students to different web technologies and prepare them to design, develop and maintain a web site .Upon completion of this course, the student should be able to:

1. Describe and explain the relationship among HTML, XHTML, CSS, JavaScript, XML and other web technologies.
2. Create and publish advanced HTML pages with the help of frames, scripting languages, and CSS.
3. Understand and use JavaScript variables, control structures, functions, arrays, and objects.
4. Understand and develop XML Technologies such as XML Schemas, XSLT.
5. Understand and develop Server-Side Programming using Servlets and JSP's.

Course Outcomes:

At the end of the course the student should be able to:

1. Describe and explain the relationship among HTML, XHTML, CSS, JavaScript, XML and other web technologies.
2. Create and publish advanced HTML pages with the help of frames, scripting languages, and CSS.
3. Understand and use JavaScript variables, control structures, functions, arrays, and objects.
4. Understand and develop XML Technologies such as XML Schemas, XSLT.

UNIT-I

HTML Common tags: List, Tables, images, forms, Frames; Cascading Style sheets.

Java Scripts: Introduction to Java Scripts, Objects in Java Script, Dynamic HTML with Java Script.

UNIT-II

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

Java Beans: Introduction to Java Beans, Advantages of Java Beans, BDK

Introspection, Using Bound properties, Bean Info Interface, Constrained properties

Persistence, Customizes, Java Beans API, Introduction to EJB's

UNIT-III

Web Servers: 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-IV

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

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 Date between Pages – Sharing Session and Application Data – Memory Usage Considerations.

UNIT-V

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, Introduction to struts framework.

Text Books:

1. Chris Bates, *Web Programming, building internet applications*, 3rd Edition, WILEY
   Dreamtech, 2007.
2. Patrick Naughton, Herbert Schildt, *The complete Reference Java 2*, 7th Edition, TMH, 2006.
3. Hans Bergsten, *Java Server Pages*, 3rd Edition, SPD O'Reilly, 2003.

References:

1. Hans Bergsten, *Java Server Pages*, 3rd Edition, O'Reilly publication, 2008.
2. Raj Kamal, *Internet & web technologies*, 8th Edition, Tata McGraw-Hill, 2007.
3. Chris Bates, *Web Programming, building internet applications*, 2nd Edition, WILEY
   Dreamtech, 2008.
4. Xavier. C, *web technology and design*, 1st Edition, New Age International, 2011.
5. Marty Hall and larry Brown, *Core servlets and java Server pages,* volume 1, core technologies, 2nd Edition, Pearson Education, 2007.

Web references:

1. www.microsoft.com
2. http://developer.netscape.com/tech/javascript/ssjs/ssjs.html