

## WEB TECHNOLOGY (EIT-202)

**Teacher Name:**

**Mr. Indresh Gupta**

**Course Structure**

**Prerequisite:**

**Course Content:**

### **Unit-1:**

History of the web, Protocols governing the web, Growth of the Web, Web 2.0 and its features. Introduction to Cyber Laws in India, Introduction to International Cyber laws, Web project, Web Team, Team dynamics, Communication Issues, the Client, Multi departmental & large scale Websites, Quality Assurance and testing, Technological advances and Impact on Web Teams.

### **Unit-2:**

HTML: Formatting Tags, Links, List, Tables, Frames, forms, Comments in HTML, DHTML, and Introduction to HTML 5, JavaScript: Introduction, Documents, forms, Statements, functions, objects in JavaScript, Events and Event Handling, Arrays, FORMS, Buttons, Checkboxes, Text fields and Text areas, Introduction to j-Query.

### **Unit-3:**

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

### **Unit-4:**

Web Servers and Servlets: Tomcat web server, Introduction to Servlets: Lifecycle of a Servlet, JSDK, The Servlet API, The javax.servelet Package, Reading Servlet parameters, Reading Initialization parameters, The javax.servelet HTTP package, Handling Http Request & Responses,

Using Cookies-Session Tracking, Security Issues. Introduction to JSP: The Anatomy of a JSP Page. JSP Application Design with MVC, JSP Application Development: Generating Dynamic Content, Using Scripting Elements Implicit JSP Objects, Conditional Processing Sharing Session and Application Data Memory Usage Considerations

#### **Unit-5:**

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. Semantic Web: Introduction, growth and evolution, goals and vision, need, problems, Architecture, applications.

#### **Lab Work:**

1. Design a HTML page to display your CV.
2. Design a HTML form to reserve a railway ticket.
3. Write a Java Script program that finds the greatest common divisor of two numbers.
4. In the form mentioned in problem 2 to reserve a railway ticket add the following validations using java Script.
  - From city and to city are two different cities.
  - Age of passengers should not be greater than 150.
  - Name of the passenger should be a string of a maximum length
5. Write a program for illustrating client/server side scripting with help of ASP.
6. Write a piece of code in XML for creating DTD, which specifies set of rules.
7. Create style sheet in CSS/XSL and display the document in Internet Explorer.

#### **Text and References Books:**

1. Burdman, “Collaborative Web Development”, Addison Wesley.
2. Ivan Bayross, “Web Technologies Part II”, BPB Publications.
3. Deitel & Deitel, “Internet and World Wide Web – How to Program”, Goldberg, Pearson Education.
4. Eric Ladd, Jim O’ Donnel, Using HTML 4, XML and JAVA”, Prentice Hall of India
5. Hans Bergsten, Java Server Pages, SPD O’Reilly
6. Patrick Naughton and Herbert Schildt, The complete Reference Java 2 Fifth Edition by TMH
7. Michael C Daconta, Leo, Kelvin Smith, “The Semantic Web: A guide to the future of XML, Web services, and knowledge management”, Wiley.

## Course Outcomes:

1. Understand the basics of web and apply the web concepts for web application development. (Understand, Apply)
2. Understand, apply and analyze mark-up languages like HTML, DHTML, and XML for development of different web applications. (Understand, Apply, Analyze)
3. Develop interactive web applications using client-side scripting languages. (Apply)
4. Develop three-tier applications using PHP, JSP and servlets. (Apply)
5. Construct interoperable web applications using XML and related technologies. (Apply)
6. Develop and deploy web services to build the server side components in web applications. (Apply)

## Lecture Plan

S.No.	Name of Topic	No. of lectures taken
1.	History of the web, Protocols governing the web, Growth of the Web.	2
2.	Web 2.0 and its features. Introduction to Cyber Laws in India, Introduction to International Cyber laws,.	1
3.	Web project, Web Team, Team dynamics	1
4.	Communication Issues, the Client, Multi departmental & large scale Websites, Quality Assurance and testing, Technological advances and Impact on Web Teams	2
5.	HTML: Formatting Tags, Links, List, Tables, Frames, forms, Comments in HTML	2
6.	DHTML, and Introduction to HTML 5, JavaScript: Introduction, Documents,	2
7.	Forms, Statements functions, objects in JavaScript, Events and Event Handling, Arrays, FORMS, Buttons, Checkbox.	2
8.	Text fields and Text areas, Introduction to j-query	2
9.	XML: Document type definition, XML Schemas	1
10.	Document Object model, Presenting XML, Using XML Processors: DOM and SAX parsers	2
11.	Java Beans: Introduction to Java Beans, Advantages of Java Beans, BDK	1
12.	Introspection, Using Bound properties, Bean Info Interface, Constrained properties	1
13.	Persistence, Customizes, Java Beans API, Introduction to EJBs.	1
14.	Web Servers and Servlets: Tomcat web server, Introduction to Servlets: Lifecycle of a Servlet, JSDK	2
15.	The Servlet API, The javax.servelet Package, Reading Servlet parameters, Reading Initialization parameters, The javax.servelet HTTP package	2
16.	Handling Http Request & Responses, Using Cookies-Session Tracking, Security Issues.	1
17.	Introduction to JSP: The Anatomy of a JSP Page. JSP Application Design with MVC	2
18.	JSP Application Development: Generating Dynamic Content, Using Scripting Elements Implicit JSP Objects	2
19.	Conditional Processing Sharing Session and Application Data Memory Usage Considerations	1
20.	Database Access: Database Programming using JDBC, Studying Javax.sql.* package,	2
21.	Accessing a Database from a JSP Page, Application – Specific Database Actions,	1
22.	Deploying JAVA Beans in a JSP Page, Introduction to struts framework.	1
23.	Semantic Web: Introduction, growth and evolution, goals and vision, need, problems, Architecture, applications	2

**ASSIGNMENT -1**

**WEB TECHNOLOGY (IIT-202)**

**Last Date of Submission: 25-01-2019**

Q.1 What do you mean by protocol? Give the name of those protocols which help in web and explain working of those protocols.

Q.2 What do you mean by Web Page and Website? What are the differences between developing a site for corporate word and developing a site for individuals?

Q.3 What are the cyber laws? Who is responsible for the generation and hosting of these laws? Name some Indian and International Cyber laws.

Q.4 What are the web projects? What are the different techniques handled to write down a web project?

Q.5 What do you mean by Team Dynamics? How does a client build the communication to a website? What is the impact of communication breakdowns on a website? How can this be preserved?

**ASSIGNMENT -2**

**WEB TECHNOLOGY (IIT-202)**

**Last Date of Submission: 16-02-2019**

Q.1 What is HTML? What types of pages are created with help of HTML? How are these pages are different from dynamic pages? How do you make the page dynamic?

Q.2 Write a program in HTML for adding graphics in a page.

Q.3 Write a program in HTML for displaying sample form using check boxes and radio buttons.

Q.4 What are the main differences between SAX and DOM?

Q.5 What is Document Type Definition (DTD) and where do I get one?

### **ASSIGNMENT -3**

#### **WEB TECHNOLOGY (IIT-202)**

**Last Date of Submission: 28-03-2019**

Q.1 What do you mean by Servlet and briefly explain the need of Servlet?

Q.2 Briefly explain the Servlet API and Servlet packages. Explain the lifecycle of Servlet.

Q.3 Differentiate between Applet and Servlets. How will you deploy Servlet?

Q.4 Briefly explain some important features of JSP. What do you mean by JSP processing?

Q.5 How will you handle JSP page? Which approach is better for JSP either page- centric approach or dispatcher approach and why?

### **ASSIGNMENT -4**

#### **WEB TECHNOLOGY (IIT-202)**

**Last Date of Submission: 25-04-2019**

Q.1 What is the difference between objects and Java Beans? What are the development phases of Java Beans?

Q.2 What are the elements of a Java Beans? What are the various types of Java Beans?

Q.3. Explain the “Bean Development Kit” in detail?

Q.4 Explain the EJB container, Remote interface, Home interface, Bean class, Deployment Descriptors.

Q.5 Write short note on:

- a) Customization
- b) Communication
- c) Persistence
- d) Introspection