Lab Manual
Web Site Design (P)
CSIR-12/ITIR-12

Course Content:

1. Introduction: Brief history of internet, introduction to world wide web, basic principles involved in developing a web site, rules of web designing, web standards, audience requirements, Design concept.
2. Web essentials and standards: Clients, servers, introduction to Markup languages, scripting languages, Introduction to elements of HTML, XHTML and CSS, Introduction to Document object model (DOM), working with text, list, tables, frames, hyperlinks, Images multimedia, forms and controls. CSS properties, Id and Class, Box Model, creating page Layout and Site Designs

3. Javascript Javascript as programming language, Data types, Values, Variables, Expressions and Operators. JavaScript Statements, loops, arrays, strings, methods, Defining and Invoking functions and their closure, random functions and maths library, representing dates. Pattern Matching and Regular Expressions. Javascript in web browsers, difference between server side and client side javascript, embedding javascript in HTML and frameworks, Changing CSS style, hiding HTML elements, showing hidden HTML elements. DOM and event handling, error handling, mouse, text, drag, drop and keyboard events and node operations, Node operations, Cookies, Scripted HTTP, Animation and multimedia Forms of Debugging.

4. Website Development Tools Google Web Designer, Macaw, Sketch, Firefox, YSlow, Wordpress, openElement etc.

Reference Books

1. Thomas A Powell, HTML: The Complete Reference, Tata McGraw Hill Publications.
2. Scott Guelich, Shishir Gundavaram, Gunther Birzniek; CGI Programming with Perl 2/e, O'Reilly
3. Doug Tidwell, James Snell, Pavel Kulchenko; Programming Web Services with SOAP, O' Reilly
4. Robert. W. Sebesta, "Programming the World Wide Web", Fourth Edition, Pearson Education, 2007.
5. Yong, XML Step by Step, PHI.
6. Chris Bales, "Web programming- Building Internet Application".
7. Deitel, Deitel, Goldberg, "Internet & World Wide Web How To Program", Third Edition, Pearson Education, 2006.
8. Marty Hall and Larry Brown, "Core Web Programming" Second Edition, Volume I and II, Pearson Education, 2001.

Course outcomes

1. Understand basic principles of web site design, considering the information architecture.
2. Incorporate best practices in navigation, usability in website design
3. Design of website adhering to current web standards (HTML, XML, CSS)
4. Learning various scripting languages to create interactive components in web pages.

Lab Manual

Web Designing (CSIR-12/ ITIR-12)

L:P 1:3 Internal exam: 60 External Exam: 40

Experiment 1 (Basics of HTML and CSS)

Editors: Notepad, Notepad++, sublime, Gedit
Browers: Chrome, Mozilla Firefox, opera, Internet Explorer

I. (a) Create a webpage with HTML describing your department. Use paragraph and list(Ordered, Unordered,Definition list) tags
(b) Create links on the words e.g. "Wi-Fi" and "LAN" to link them to Wikipedia pages.
(c) Insert an image and create a link such that clicking on image takes user to other page.
(d) Change the background color using (Direct, HEX, RGB) methods and text color of the page. At the bottom create a link to take the user to the top of the page.
(**e**) Basic Tags with Example:

Structural Tags/Basic Tags: <html>,< head>, <title>,< body>, <p>, <pre>, heading tags

FormattingTags:<b>,,<big>,<u>,<ins>,<i>,,<sub>,<sup>,<small>,<del>,

<mark>

How to use **style as an attribute** with max properties of CSS (background-color, color, font-size, font-family,border, padding, margin,text-align)

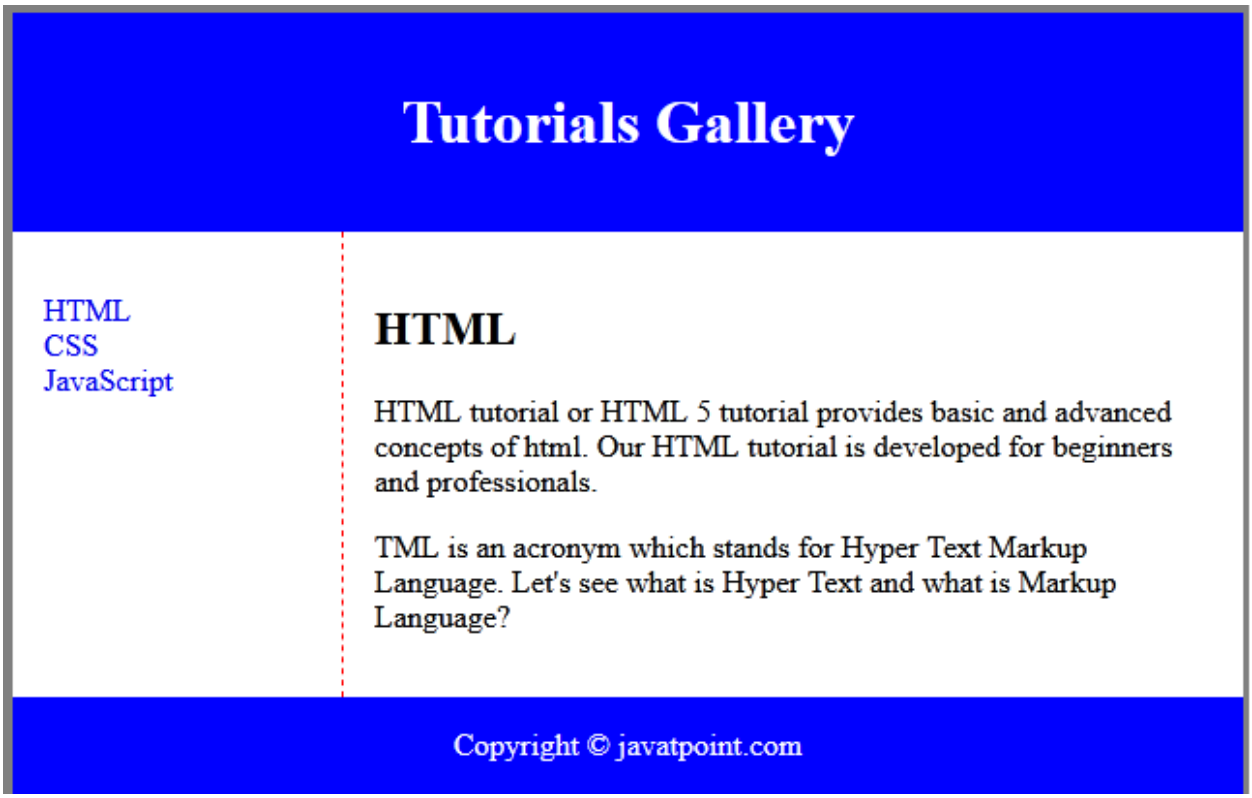
Quotation Tags: <q>, <blockquote>,<abbr>,<address >,<cite>, <bdo>

(f) How to add comments in HTML

Experiment 2 (Table, Frames , HTML5)

2. (a) How to create your class time-table using table tags(<table>, <tr>, <th>, <td>, <caption>, <tbody>, <thead>, <tfooter>) and use of attributes which are associated with table tag.
(b) Use tables to provide layout to your HTML page describing your Institute infrastructure.
(c) Use and tags to provide a layout to the above page instead of a table layout.
(d) Use frames such that page is divided into 3 frames 20% on left to show contents of pages, 60% in center to show body of page, remaining on right to show remarks.
(e) Embed Audio and Video into your HTML web page.

(f) Layout Tags: <header>, <footer>, <figure>, <figurecaption>, <nav>, <marquee>, <meter>, <progress>, <meta>, <section> and create a web page given below using layout tags and apply CSS accordingly.



Experiment 3 (CSS)

3. (a) Apply CSS to change colors of certain text portion, bold, underline and italics certain words in your HTML web page. Also change background color of each paragraph.

(b) Apply CSS properties using inline, Internal and External methods of CSS

(c) Write all the above styling in CSS in different file (.css) and link it to your webpage such that changes made in CSS file are immediately reflected on the page. Group paragraphs into single class and add styling information to the class in CSS.

(d) CSS properties: CSS Background(background-color, background-image, background-position, background-repeat, background-attachment), CSS border, CSS display, CSS opacity, CSS font, CSS padding.

Note: Cover Maximum Properties of CSS

(e) Create a simple form to submit user input like his name, age, address and favorite subject, movie and singer.
(f) Add few form elements such as radio buttons, check boxes and password field. Add a submit button at last.

(g) How to add comments using CSS

Experiment 4 (CSS)

1.(a). How to show the Photo gallary of an Institute using an Image Map.

(b). Create a table to show your class time-table and use the following properties: height, width, border, border-collapse, padding, background-color, color etc as per the requirement.

Experiment 5 (JavaScript-I)

I. (a) Create a form similar to the one in previous experiment. Put validation checks on values entered by the user using JavaScript (such as age should be a value between 1 and 150).
(b) Write a JavaScript program to display information box as soon as page loads.
(c) Write a JavaScript program to change background color after 5 seconds of page load.
(d) Write a JavaScript program to dynamically bold, italic and underline words and phrases based on user actions.
(e) Write a JavaScript program to display a hidden div (e.g. showing stats of a player when user clicks on his name).

(f) Embedding javascript in HTML pages.
(g) WAP to create popup boxes in javascript.

(h) Program to create a class calculator that contains an overloaded method called "add" to calculate the sum of two integers, two float numbers and, one integer and one float

Experiment 6 (JavaScript-II)

1.(a) Write a script that accomplish each of the following tasks:

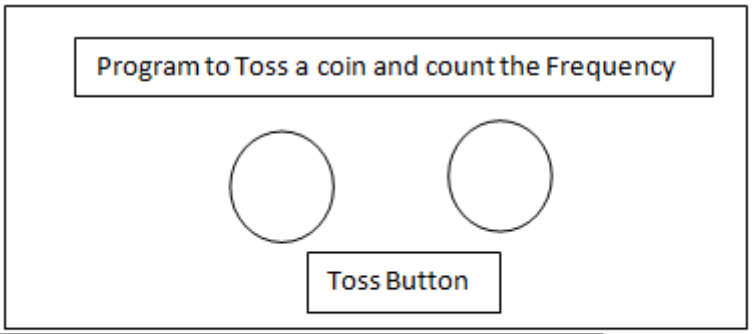
(i) Calculate the integer part of the quotient and integer remainder when integer a is divided by integer b.

(ii) Use the part (a) and write a function displayDigits that receives an integer between 1 and 99999 and prints it as a series of digits, each pair of which is separated by two spaces. For example, the integer 4562 should be printed as 4 5 6 2

(b) Create a college registration form to obtain a users first name, last name, mobile number, e-mail address, submit and cancel button. Now validate the mobile number and email using java script.

(c) To design the scientific calculator and make event for each button using javascript.

(d) Write a script that simulates coin tossing. Let the program toss the coin each time the user clicks the Toss button. Count the frequency and corresponding percentage of each side of the coin appears. Display the results in the form of a table given below



Face	Frequency	Percentage
H	.....	.....
T	.....	.....

Experiment 7 (Validator)

I. (a) Write a simple HTML code incorporating simple tags(paragraph, heading, preforrmatted tags etc) and list tags. Try validating it on validator.w3.org
(b) Add suitable header tags and format according to the validator. Validate it successfully.
(c) Add CSS file to style your document. Revalidate it using validator.

(d) Add links, images and tables. Revalidate it using validator.

Experiment 8 (Web Site)

(a) Using ideas from the above experiments, try to create a website for NIT Kurukshetra.
(b) What features do you think are still missing? Find a list of additional technologies you need to learn to implement these features.