SARVAJANIK UNIVERSITY
Sarvajanik College of Engineering and Technology
Bachelor of Technology

Year: B. Tech II (Semester III)

Subject Name: Web Development **Subject Code:** BTAI13301
Type of course: Professional Core Course
Prerequisite (if any): Fundamentals of Programming

Rationale: This course covers web development for both client-side and server-side to develop web based applications for various requirements. It provides the exposure to the students to develop rich web-based Applications using various web related technologies like HTML, CSS, JavaScript and PHP.

Teaching and Examination Scheme:

Teaching Scheme				Theory Marks			Practical Marks		Total
L	T	P	C	TEE	CA1	CA2	TEP	CA3	
2	0	2	3	60	25	15	30	20	150

CA1: Continuous Assessment (assignments/projects/open book tests/closed book tests) CA2: Sincerity in attending classes/class tests/ timely submissions of assignments/self-learning attitude/solving advanced problems TEE: Term End Examination TEP: Term End Practical Exam (Performance and viva on practical skills learned in course) CA3: Regular submission of Lab work/Quality of work submitted/Active participation in lab sessions/viva on practical skills learned in course

Content:

Sr. No.	Contents	Total Hours
1.	**Fundamentals of Web Development:** Programming Languages for Web development, concept of www and HTTP protocol, Client Server model for web, Web server types and packages, installation and configuration of web server, wamp and xamp packages.	**04**
2.	**HTML:** Basic structure of HTML, Elements and attributes, heading, paragraph, Formatting Tags, comments, colours, tables, links, images, lists, HTML form tags, character entities, frames and frame sets.	**05**
3.	**Cascading Style Sheets:** CSS Basics, syntax and structure, selectors, id and classes, setting up style information using inline, internal and external style sheet, comments, colours, backgrounds, border, margin, padding lists, manipulating texts using fonts, margins, positioning using CSS, Z-index.	**05**
4.	**JavaScript**: Types of scripting languages, Client side scripting with JavaScript, JS syntax, operators and	**06**

	datatypes, variables, functions, conditions, loops and repetition, Pop up boxes, JavaScript built-in objects, the DOM, Validations using JS.	
5.	**PHP:** Difference between Client side and Server side scripting, basic syntax and structure of PHP, variables, data types, decision and looping, Arrays, Functions, String functions, Form processing, Cookies and Sessions states	**06**
6.	**Connecting PHP with MySQL:** MySQL Database, create and connect commands, Implementation of CRUD operations using PHP	**04**

Suggested Specification table with Marks (Theory): (For B. Tech only)

Distribution of Theory Marks					
R Level	U Level	A Level	N Level	E Level	C Level
10	**15**	**30**	**5**	**0**	**0**

Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create (Revised Bloom's Taxonomy)

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Reference Books:

Sr. no.	**Title of book /article**	**Author(s)**	**Publisher and details like ISBN**	**Year of publication**	**Publication Edition**
1	Developing Web Applications	Ralph Moseley and M. T. Savaliya	Wiley-India, 9788126512881, 8126512881	2007	First Edition
2	HTML and CSS: Design and Build Websites	Jon Duckett	Wiley-India, 9781118008188	2011	First Edition
3	Web Technologies	Uttam Kumar Roy	Oxford University Press, 9780198066224	2010	First Edition
4	Learning PHP, MySQL, JavaScript, CSS & HTML5: A Step-by-Step Guide to Creating Dynamic Websites	Robin Nixon	O'reilly, 9781491949450, 1491949457	2009	Third Edition

Course Outcomes:

Sr. No.	CO statement	Marks % weightage
CO-1	Apply the concepts of web development in designing static and dynamic web pages.	10%
CO-2	Explain various HTML tags and use them to develop web pages.	20%
CO-3	Describe CSS with its types and use them for website design.	20%
CO-4	Design interactive web pages using Javascript.	25%
CO-5	Use PHP to generate web pages dynamically with database connectivity.	25%

List of Open learning websites:

1. HTML:

a. https://developer.mozilla.org/en-US/docs/Web/HTML
b. https://www.w3schools.com/html/
c. https://www.tutorialspoint.com/html/index.htm

2. CSS:

a. https://developer.mozilla.org/en-US/docs/Web/CSS
b. https://www.manning.com/books/css-in-depth
c. https://www.w3schools.com/css/
d. https://www.tutorialspoint.com/css/index.htm

3. Java Script:

a. https://javascript.info/
b. https://github.com/getify/You-Dont-Know-JS
c. https://www.w3schools.com/js/
d. https://www.tutorialspoint.com/javascript/index.htm

4. PHP:

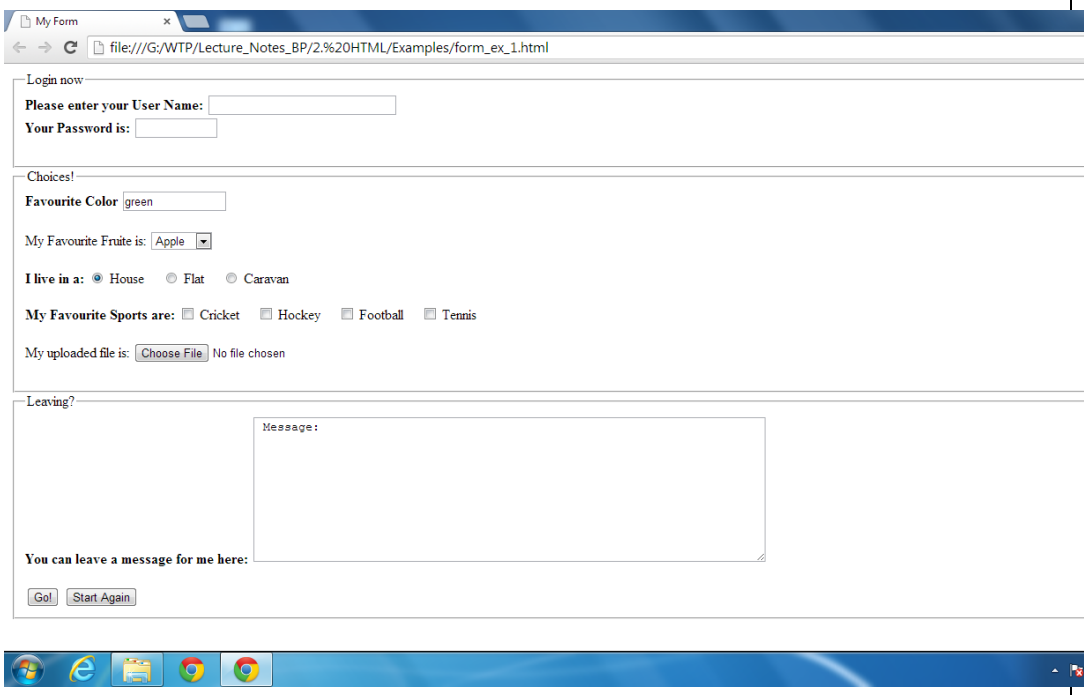
a. https://www.w3schools.com/php/
b. https://www.tutorialspoint.com/php/index.htm

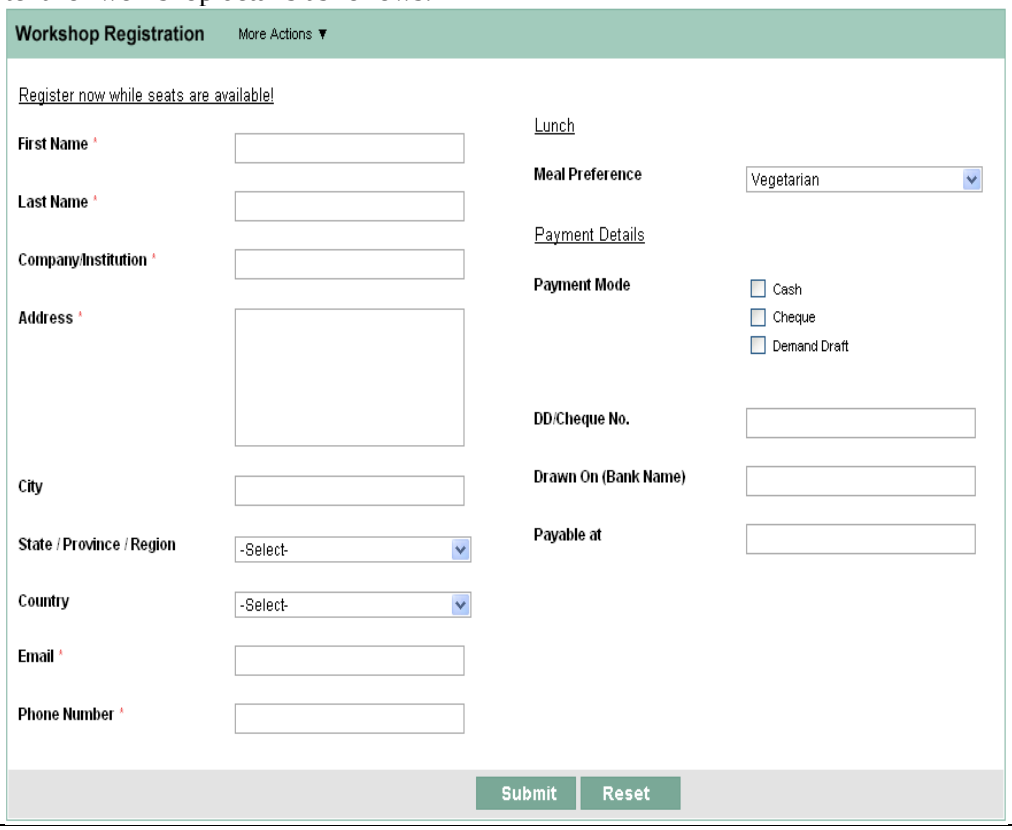
List of Open Source Software:

- Browsers like IE, Mozila, FireFox etc
- Server software XAMPP/WAMP/LAMP
- www.apachefriends.org
- www.w3.org
- www.w3schools.com
- www.php.net
- www.mysql.com
- www.phpmyadmin.net

For Lab Sessions:

List of Experiments:

Sr. No.	Practical Statements
1	Design an HTML page as follows to use all form tags. 

2	Design an HTML Page to use various HTML tags with their different attributes: HTML Tags that affects formatting of the text, Hyperlink tags, comments, HTML Lists tags.
3	Design an HTML page to display your current Semester Time Table using a table tag with its different attributes.
4	Design a Workshop Registration form as shown below. After submission of registration form, go to the Login page and enter login ID and password. After login go the home page showing simple text for workshop details as follows: 
5	Design a web page using HTML Frames to partition it into three rows. Second row must contain two columns. Third row is further divided into two columns. On first row, display a banner image. In second row, display some contents. On third row, display some footer information.
6	Demonstrate various attributes using CSS and design a home page of your college website.
7	Design an external CSS file that makes use of following attributes: Background attributes, letter-spacing, color, text attributes, border attributes, padding and position: absolute/relative. Design an HTML file and link the above CSS in it to make use of all the attributes defined above.
8	Write a JavaScript code which takes an input from the prompt dialog, save it into a variable called userID and display it on an HTML page. Later change the value of userID and again display on

	the page. Also take a string variable and assign a value 'Welcome to the world of Artificial Intelligence.' Find the index of the substring 'world'. Find the character at position 21. Find the last index of the character 'n'. Find the substring at the index (20, 16).
9	Design a page that contains one integer and one string array. Perform concatenation of these two arrays into a third array. Also perform sort, join and split operations on the defined arrays.
10	Design a page that takes a user defined object 'MultiplyObj'. It calls one method called 'MultiplyThree' that multiplies three numbers. Display the result.
11	Create a page that uses different window objects of JavaScript. Open/Close a new window. Use SetTimeout() and ClearTimeout() methods that calls a function 'CounterF' which will increment counter value by 10 after every 2 seconds and display the counter value in a textbox.
12	Design a student registration form. When the form is submitted, display the details in a new window.
13	Design a registration form that takes user name, password, email, phone number, address, pin code, country (dropdown list) as input. Apply following validations: 1. None of the field should be empty. 2. Password must be at least 8 characters long. 3. Email address should be in a proper format. (abx.xyz@site.com or abc.xyz@site.ac.in or abc.xyz@site.org etc) 4. Pincode must be in proper format. (6 digits only) 5. Phone number must be in numeric form.
14	Design an HTML form (reg.html) that asks for bank details like bank name, account number, username, email and type of account. Display all information filled up by the user on the next PHP page (reg2.php).
15	Design a PHP script that takes codes of 3 subjects as input and store it into cookies. Display the cookie information on the same page.
16	Design a PHP page that takes branch name and branch code as input and store them in a session. Display the session information on the next page.
17	Design a form to fill up Resume details and store in a database. After saving Resume details, users should able to view, insert, update and delete the information. Changes must be reflected in a database.