

BOS	Computer Science
Class	F.Y.B.C.A
Semester	II
Course Name	Web Programming
Course Code	PUSCA202
Type of course	Core
Level of the Subject	Medium
Credit Points	3 Theory+1 Practical

Course Objectives:

- Identify basic HTML tags to write HTML programs and use concepts such as Table, Forms, Navigation etc..
- To design and implement dynamic web pages with validation using JavaScript objects.

Unit No.	Name of Unit	Topic No.	Contents	Hours
Unit-1	HTML 5,CSS	1.1	HTML5: Fundamental Elements of HTML, HTML Elements and Tags ,Organizing Text in HTML, Links and URLs in HTML, using lists and backgrounds, Tables in HTML,Creating navigational aids: planning site organization, creating text based navigation bar, creating graphics based navigation bar.	15
		1.2	Images on a Web Page, Image Formats,Colors, FORMs in HTML, Interactive Elements, Working with Multimedia - Audio and Video File Formats, HTML elements for inserting Audio / Video on a web page.	
		1.3	CSS: Understanding the Syntax of CSS, Types of CSS, CSS Selectors, Inserting CSS in an HTML Document, CSS properties to work with the background of a Page, CSS properties to work with Fonts and Text Styles, CSS properties for positioning an element.	
Unit-2	Guide to JavaScript and JSON	2.1	JavaScript: Using JavaScript in an HTML Document, Programming Fundamentals of JavaScript – Variables, Operators, Control Flow Statements, Jumping Statements , Functions : Defining and Invoking a Function,Defining	15

			Function arguments, defining a Return Statement, Calling Functions,	
		2.2	Form Validation using JavaScript . Types of Form Validation Required Fields,Email Validation,Number Validation,Password Validation,Date Validation,Customizing Error Messages, Error Handling and Debugging, document object.	
		2.3	Events and Event Handlers : What Are Events,What Are Event Handlers? Defining Event Handlers, event : onClick, onDoubleClick, onBlur, onFocus, onSubmit.Popup Boxes : Alert, Confirm, Prompt. Introduction to JSON & Its Importance, JSON.stringify(), JSON.parse(), Reading & Writing JSON Data,Fetching JSON Data from APIs (fetch() with JSON) Handling JSON Objects & Arrays jQuery: Selectors, DOM Manipulation, Events, Effects (hide/show), Simple Form Validation	
Unit-3	Mastering PHP: Variables, Forms, Database Integration, and AI-Enhanced Web Development	3.1	PHP: Variables , comment type, Program Flow, working with arrays, functions: with argument and return statement, String functions: (strlen(), strrev(), strpos(), str_replace(), substr(), strtoupper(), strtolower(), trim(), ltrim(), rtrim(), str_repeat(), strcmp()) Forms Handling: HTML forms and PHP, GET and POST methods, PHP Cookies and Sessions	15
		3.2	Connecting to MYSQL database, performing CRUD operation with PHP, using prepared statements and parameterized queries. Utilize AI tools to refine and improve existing code by uploading it to platforms like ChatGPT. Employ AI-driven solutions, such as Microsoft Copilot and ChatGPT, to create a fully functional end-to-end webpage.	
		3.3	Version Control with Git & GitHub: Basic Git Commands, Pushing Projects, Collaboration, Managing Code Versions	
Total Hours				45

Course outcomes:

1. Understand HTML Fundamentals and Navigation Techniques
2. Demonstrate the use of multimedia and interactive elements in HTML, such as images, audio, video, forms, and interactive elements, to create engaging web pages.

3. Apply CSS syntax, selectors, and properties to enhance the visual appeal of web pages.
4. Develop dynamic web page interactions using JavaScript by implementing control flow, event handling, and form validation techniques.
5. Analyze user input validation needs and construct effective JavaScript-based validation mechanisms with error handling and debugging.
6. Utilize PHP to build server-side logic, including form handling, data processing, and state management through cookies and sessions.

References:

1. Duckett, J. (2014). HTML & CSS: Design and Build Websites. Wiley.
2. McFarland, D. (2018). JavaScript & jQuery: The Missing Manual. O'Reilly Media.
3. Flanagan, D. (2011). JavaScript: The Definitive Guide (6th ed.). O'Reilly Media.
4. <https://www.geeksforgeeks.org/>
5. Robbins, J., & Robbins, A. (2016). Learning PHP, MySQL & JavaScript: With jQuery, CSS & HTML5 (4th ed.). O'Reilly Media.
6. <https://www.w3schools.com>

Case Study

1	Mr. X has developed a Food Delivery Application where the Home page has all the details of the Application where the user first has to register, for which one registration link has to be there which will redirect to the registration page. Where users can get access to the application after validating the data and give the solution what all validation can come up with to explain them in detail . After filling the form, the user will get a welcome message through the popup window. At the other side of the home page Navigation Bar will be provided which has four links (Home, Menu, Orders, Contact-Us, About Us).
2	Shopping Application has a Home page with all the details of the Application including Navigation Bar which has four links (Home, Product, Orders, Contact-Us, About Us) Give the solution where Product, Orders, Contact-Us has to be redirected to the next page. About Us has to jump on different sections of the same page. What will be the solution when a user will register for an application clicking a button? The system will give a message 'Welcome!!!' through a popup window.

PRACTICALS

Practical No.	Details
1	Design a Web Page in HTML That Makes a Use of Following Concepts: i) Text Formatting Tags ii) List Elements iii) Image Tag iv) Image Mapping
2	Design a Web Page in HTML That Makes a Use of Table Tag: i) Simple Table ii) Rowspan iii) Colspan iv) Form
3	Design a Web Page in HTML to perform i) Hyperlink ii) Navigation. iii) Multimedia
4	Design a Web Page to Perform CSS Properties: i) Inline CSS ii) Internal CSS iii) External CSS
5	Write a Javascript Code to perform i) Operators, ii) Control Flow Statements and iii) Functions.
6	Write a Javascript Code to perform Popup Boxes : i) Alert ii) Confirm iii) Prompt
7	Write a Javascript Code to perform Events : i) OnBlur ii) OnFocus iii) OnSelect iv) OnSubmit v) OnClick vi) OnDblClick
8	write a program Converts a JavaScript object into a JSON string. write a program to convert a JSON string into a JavaScript object
9	Write a PHP Code to perform Following Programs : i) If-else ii) Array iii) Functions iv) String Functions

10	Write a PHP Code to perform Following Programs : i) Cookies ii) Get and Post
11	Write a Javascript Code to perform Form Validation i)required fields, Validate email, phone number, and password formats using regular expressions. ii)Create error messages for invalid form input and display them dynamically.
12	Write a PHP Code to perform Following Programs i) Connect PHP to a MySQL database and perform basic CRUD operations (Create, Read, Update, Delete). ii)Use prepared statements and parameterized queries in PHP to prevent SQL injection. iii)Write PHP scripts to interact with MySQL databases, performing queries and displaying results on a webpage
Total Hours:30	