Name of the Course: Web Design & Development Practical

Sr. No.	Heading	Particulars
1	**Description the course:**	**Introduction:**
		The lab course in Web Design and Development is an application-focused complement to the theory course. It encourages students to convert knowledge into action through programming and designing websites. The lab sessions are structured to move progressively from basic page design to complete dynamic websites with database integration.
		Relevance:
		This course is essential for learners of all disciplines who want to create a personal or professional online presence. The skills acquired are relevant in the modern digital age where almost every business, organization, or portfolio requires a functional website.
		Usefulness:
		Students will gain tangible web development skills that allow them to create, customize, and maintain websites. This includes building user interfaces, validating user input, handling data, and implementing interactive features.
		Application:
		The course allows students to build working websites and applications — from online forms to mini CMS-like systems. These projects can be applied directly to NGOs, student portfolios, event pages, or small business websites.
		Interest:
		Students typically enjoy this practical paper as it yields immediate visual results. The excitement of seeing one's own website or login page function properly boosts confidence and sparks curiosity for further learning.
		Connection with Other Courses:
		This practical paper complements theoretical courses such as Introduction to Programming, Digital Marketing, E-Commerce, and Content Management Systems. It serves as a foundation for further web and app development studies.

		Demand in the Industry:
		There is a strong demand for professionals who can create and maintain websites. Even basic knowledge of HTML, CSS, JavaScript, and PHP is valuable in roles related to digital marketing, tech support, and content management.
		Job Prospects:
		Students completing this practical course may pursue freelance web development, intern as junior web developers, or take up roles such as content editors and technical assistants in IT or media industries. These practical skills also lay the groundwork for further upskilling into full-stack development roles.
2	**Vertical:**	Minor
3	**Type:**	Practical
4	**Credits:**	2 credits (1 credit = 30 Hours of Practical work in a semester)
5	**Hours Allotted:**	60 hours
6	**Marks Allotted:**	50 Marks
7	**Course Objectives (CO):** **CO 1.** To equip students with hands-on skills in designing and developing basic websites using HTML, CSS, and JavaScript. **CO 2.** To enable students to create dynamic, interactive web applications using PHP and MySQL. **CO 3.** To familiarize students with real-world scenarios such as form handling, validation, and database connectivity. **CO 4.** To promote experiential learning through guided lab work that reinforces theoretical concepts. **CO 5.** To introduce best practices in web development through structured and creative lab assignments.	
8	**Course Outcomes (OC):** After successful completion of this course, students would be able to - **OC 1.** Design user-friendly web pages using HTML and CSS with professional layout and styling. **OC 2.** Add interactivity to web pages using JavaScript functions and events. **OC 3.** Perform data collection and validation through web forms. **OC 4.** Develop and test basic server-side programs using PHP. **OC 5.** Connect websites to MySQL databases for storing and retrieving data dynamically. **OC 6.** Deploy a simple web application combining front-end and back-end technologies.	

9	**Modules:**
	Module 1:

Creating a Simple Web Page with HTML

- Use basic tags: headings, paragraphs, bold, italic, lists.

Formatting and Organizing Content

- Use tables, hyperlinks, images, and lists on a single webpage.

Designing a Contact Form in HTML

- Include input fields, text areas, checkboxes, radio buttons, and a submit button.

Embedding Audio and Video in a Web Page

- Add <audio> and <video> elements with controls and source formats.

Working with CSS for Styling

- Apply inline, internal, and external CSS. Style text, backgrounds, and borders.

Building a Web Page Layout Using CSS

- Use positioning techniques (relative, absolute, fixed), and the box model.

Designing a Multi-page Website

- Use navigation links between pages (e.g., Home, About, Contact).

Introduction to JavaScript Programming

- Basic arithmetic operations, alerts, and console logging.

Form Validation using JavaScript

- Validate required fields, check for email format, and password length.

JavaScript Events and Interactivity

- Implement onClick, onMouseOver, and onChange events with buttons and inputs.

Module 2:

Basic PHP Script

- Create a script to display dynamic content using variables and control structures.

Working with PHP Forms

- Retrieve and display form data using $_POST and $_GET methods.

PHP Arrays and Looping

- Store and loop through data using indexed and associative arrays.

File Handling in PHP

	• Read from and write to a text file using PHP functions.
	Introduction to MySQL and phpMyAdmin
	• Create a database and tables, insert sample data using phpMyAdmin.
	Connecting PHP to a MySQL Database
	• Establish database connection using mysqli_connect() or PDO.
	Displaying Data from Database using PHP
	• Fetch records using SELECT and display results in an HTML table.
	Insert Form Data into MySQL Database
	• Capture form input and save it into a database using INSERT INTO.
	Updating and Deleting Database Records
	• Implement update and delete operations using UPDATE and DELETE queries.
	Building a Simple Login System
	• Use sessions, cookies, and basic user authentication using PHP and MySQL.
10	**Text Books** 1. HTML 5 Black Book, Covers CSS 3, JavaScript, XML, XHTML, AJAX, PHP and jQuery, 2ed, Dreamtech Press, 2016 2. Web Programming and Interactive Technologies, scriptDemics, StarEdu Solutions India, 2018
11	**Reference Books** 1. HTML, XHTML, and CSS Bible Fifth Edition, Steven M. Schafer, WILEY, 2011 2. Learning PHP, MySQL, JavaScript, CSS & HTML5, Robin Nixon, O'Reilly, 2018
12	**Internal Continuous Assessment: 40%** **Semester End Examination: 60%**