Course Title:	**Principles of Web Programming**	Semester	I /II
COURSE CODE	**BPLCK105A /205A**	CIE Marks	50
Course Type (Theory/Practical/Integrated)	Integrated	SEE Marks	50
		Total Marks	100
Teaching Hours/Week (L:T:P: S)	2:0:2:0	Exam Hours	03
Total Hours of Pedagogy	40 hours	Credits	03

Course Learning Objectives

CLO 1: To recall syntax and semantics of HTML and XHTML
CLO 2: To understand HTML5 & develop different parts of a web page
CLO 3: To recognize how CSS can enhance the design of a webpage.
CLO 4: To apply CSS styling to a webpage design
CLO 5: To familiar with the JavaScript language and understand Document Object Model handling of Java Script

Teaching-Learning Process

These are sample Strategies, which teachers can use to accelerate the attainment of the various course outcomes.

1. Lecturer method (L) need not to be only traditional lecture method, but alternative effective teaching methods could be adopted to attain the outcomes.
2. Use of Video/Animation to explain functioning of various concepts.
3. Encourage collaborative (Group Learning) Learning in the class.
4. AskatleastthreeHOT(HigherorderThinking)questionsintheclass,whichpromotescriticalthinking.
5. Adopt Problem Based Learning(PBL),which fosters students' Analytical skills, develop design thinking skills such as the ability to design, evaluate, generalize, and analyze information rather than simply recall it.
6. Introduce Topics in manifold representations.
7. Showthedifferentwaystosolvethesameproblemandencouragethestudentstocome up with their own creative ways to solve them.
8. Discusshoweveryconceptcanbeappliedtotherealworld-andwhenthat'spossible,ithelps to improve the students' understanding.
9. Use https://pythontutor.com/visualize.html#mode=edit in order to visualize theoperations of C Programs

Module-1: (8 hours)

Module-1:Traditional HTML and XHTML:

First Look at HTML and XHTML, Hello HTML and XHTML World, HTML and XHTML: Version History, HTML and XHTML DTDs: The Specifications Up Close, (X)HTML Document Structure, Browsers and (X)HTML, The Rules of (X)HTML, Major Themes of (X)HTML, The Future of Markup—Two Paths?

TextBook1: Chapter 1

Applications: Elementary for developing web pages

(RBT Levels: L1, L2 and L3)

Module-2: (8 hours)

Module-2: HTML5:

Hello HTML5, Loose Syntax Returns, XHTML5, HTML5: Embracing the Reality of Web Markup, Presentational Markup Removed and Redefined, HTML5 Document Structure Changes, Adding Semantics, HTML5's Open Media Effort, Client-Side Graphics with <canvas>, HTML5 Form Changes, Emerging Elements and Attributes to Support Web Applications

TextBook1: Chapter 2

Applications: Writing programs in HTML5

(RBT Levels: L1, L2 and L3)

Module-3 : (8 hours)

Module-3: Cascading Style Sheets (CSS)

Introduction, CSS Overview , CSS Rules, Example with Type Selectors and the Universal Selector, CSS Syntax and Style, Class Selectors, ID Selectors, span and div Elements, Cascading, style Attribute, style Container, External CSS Files, CSS Properties, Color Properties, RGB Values for Color, Opacity Values for Color, HSL and HSLA Values for Color, Font Properties, line-height, Property, Text Properties, Border Properties, Element Box, padding Property, margin Property , Case Study: Description of a Small City's Core Area.

TextBook2-: Chapter 3

Applications: Use of CSS in HTML

(RBT Levels: L1, L2 and L3)

Module-4: (8 hours)

Module-4: Tables and CSS, Links and Images

Table Elements, Formatting a Data Table: Borders, Alignment, and Padding, CSS Structural Pseudo- Class Selectors, thead and tbody Elements, Cell Spanning, Web Accessibility, CSS display Property with Table Values, a Element, Relative URLs, Navigation Within a Web Page, CSS for Links, Bitmap Image Formats: GIF, JPEG, PNG, img Element, Responsive Images, Positioning Images, Shortcut Icon, iframe Element .

TextBook2: 5.2 to 5.8, 6.2, 6.3, 6.6., 6.7, 6.9, 6.10, 6.12, 7.2 to 7.4

Applications: How to use Table and Links in HTML

(RBT Levels: L1, L2 and L3)

Module-5: (8 hours)

Module-5: Introduction to JavaScript: Functions, DOM, Forms, and Event Handlers

History of JavaScript, Hello World Web Page, Buttons, Functions, Variables, Identifiers, Assignment Statements and Objects, Document Object Model, Forms and How They're Processed: Client-Side Versus Server-Side, form Element, Controls, Text Control, Accessing a Form's Control Values, reset and focus Methods

TextBook2: 8.2 to 8,13, 8.15, 8.16

Applications: How to write Java Scripts and handle events
(RBT Levels: L1, L2 and L3)

Course outcome

At the end of the course the student will be able to:

CO1 Will be able to explain the historical context and justification for HTML over XHTML

CO2 Develop web pages by adding various semantic markup tags of HTML5

CO3 Analyze and Design Web Pages Using CSS

CO4 Implement core constructs and event handling mechanisms of JavaScript.

Course Assessment and Evaluation Details (both CIE and SEE)

Continuous Internal Evaluation: 50 marks		
Theory Assessment Tool	**Marks**	**Reduced marks**
IAT-1	25	25
IAT-2	25	
Assessment -1(activity based)	25	25
Assessment-2(activity based)	25	
Semester End Examination (SEE) : 50 marks		
SEE	**Marks**	**Reduced marks**
Course end examination (Answer any one question from each unit – Internal choice)	100	50

Activity Based Learning / Practical Based learning

- Assign small tasks to Develop and demonstrate using HTML/CSS/JavaScripts/etc…

Programming Tasks:

1. Create an XHTML page using tags to accomplish the following:

   (i) A paragraph containing text ―All that glitters is not gold‖. Bold face and italicize this text

   (ii) Create equation:

   $$x = 1/3(y_1^2 + z_1^2)$$

   (iii) Put a background image to a page and demonstrate all attributes of background image

   (iv) Create unordered list of 5 fruits and ordered list of 3 flowers

2. Create following table using XHTML tags. Properly align cells, give suitable cell padding and cell spacing, and apply background color, bold and emphasis necessary

		SubjectA

<table>
<tr><td rowspan="9">Department</td><td rowspan="3">Sem1</td><td>SubjectB</td></tr>
<tr><td>SubjectC</td></tr>
<tr><td rowspan="3">Sem2</td><td>SubjectE</td></tr>
<tr><td>SubjectF</td></tr>
<tr><td>SubjectG</td></tr>
<tr><td rowspan="3">Sem3</td><td>SubjectH</td></tr>
<tr><td>SubjectI</td></tr>
<tr><td>SubjectJ</td></tr>
</table>

3. Use HTML5 for performing following tasks:
(i) Draw a square using HTML5 SVG , fill the square with green color and make 6px brown stroke width
(ii) Write the following mathematical expression by using HTML5 MathML. d=x2-y2
(iii) Redirecting current page to another page after 5 seconds using HTML5 meta tag

4. Demonstrate the following HTML5 Semantic tags- <article>, <aside>, <details>, <figcaption>,
<figure>, <footer>, <header>, <main>, <mark>, <section> for a webpage that gives information about travel experience.

5. Create a class called income, and make it a background color of #0ff. Create a class called expenses, and make it a background color of #f0f. Create a class called profit, and make it a background color of #f00.

Throughout the document, any text that mentions income, expenses, or profit, attach the appropriate class to that piece of text. Further create following line of text in the same document:

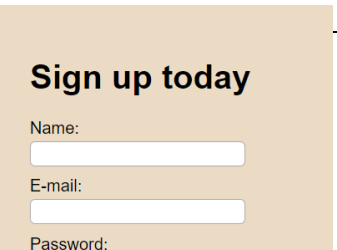
~~The current price is 50₹~~ and new price is 40₹

6. Change the tag li to have the following properties:
- A display status of inline
- A medium, double-lined, black border
- No list style type

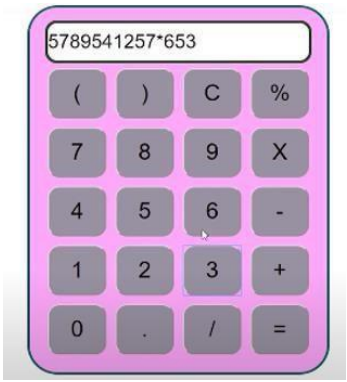
Add the following properties to the style for li:
- Margin of 5px
- Padding of 10px to the top, 20px to the right, 10px to the bottom, and 20px to the left

Also demonstrate list style type with user defined image logos

7. Create following web page using HTML and CSS with tabular layout



8. Create following calculator interface with HTML and CSS



9. Write a Java Script program that on clicking a button, displays scrolling text which moves from left to right with a small delay

10. Create a webpage containing 3 overlapping images using HTML, CSS and JS. Further when the mouse is over any image, it should be on the top and fully displayed.

Suggested Learning Resources:

TextBook-1: HTML & CSS: The Complete Reference Thomas A. Powell, , Fifth Edition, TataMcGraw Hill,

TextBook-2: WEB PROGRAMMING with HTML5, CSS and JavaScript, John Dean, Jones &Bartlett Learning, First Edition

Web links and Video Lectures (e-Resources):

https://onlinecourses.swayam2.ac.in/aic20_sp11/preview

COs and POs Mapping (CO-PO mappings are only Indicative)

COs	POs											
	1	2	3	4	5	6	7	8	9	10	11	12

CO1	3	2	3	1	2						1	1
CO2	3		3	1	2						1	1
CO3	3	2	3	1								1
CO4	**3**		3	1	2							**1**
CO5	3	2	3	1	2							1

Level 3- Highly Mapped, Level 2-Moderately Mapped, Level 1-Low Mapped, Level 0- Not Mapped