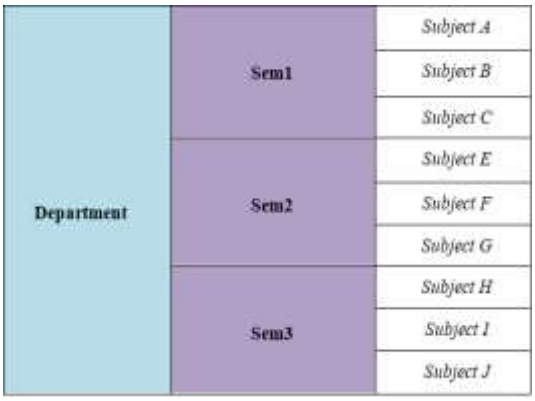
| Semester: I/II | | | |
|---|---|---|---|
| **Course Title** | Introduction to Web Programming | **CIE Marks** | 50 |
| **Course Code** | BCSPLC105/205B | **SEE Marks** | 50 |
| **Course Type** | Integrated | **Total Marks** | 100 |
| **Course Category** | PLC | **SEE Duration** | 03 hrs |
| **Hours Per Week** | 2L:0T:2P | **SEE Type** | Written |
| **Total Hours** | 40 hrs | **Credits** | 03 |

| **Course Learning Objectives:** |
|---|
| This course will enable the students to |
| • Use the syntax and semantics of HTML and XHTML |
| • Develop different parts of a web page |
| • Understand how CSS can enhance the design of a web page. |
| • Create and apply CSS styling to a web page |
| • Get familiarity with the JavaScript language and understand Document Object Model handling of Java-Script |

| **Module-1** | **(8 hrs)** |
|---|---|
| **Traditional HTML and XHTML:** Introduction to WEB Programming: Internet, WWW, Web Browsers, and Web Servers, URLs, MIME, HTTP, Security, The Web Programmers Toolbox. HTML Syntax, Structure of HTML Documents, Quick Tour of HTML Elements HTML and XHTML: Origins of HTML and XHTML, Basic syntax, Standard XHTML document structure, Basic text markup, Images, Hypertext Links, Lists, Tables. Forms, Syntactic differences between HTML and XHTML.<br>**Text Book 1: Chapter 1 (1.1 to 1.9), Chapter 2(2.1 to 2.9, 2.14)** | |
| **Module-2** | **(8 hrs)** |
| **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<br>**Text Book 2: Chapter 2** | |
| **Module-3** | **(8 hrs)** |
| **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.<br>**Text Book 3: Chapter 3** | |
| **Module-4** | **(8 hrs)** |
| **Tables and CSS, Links and Images:** Table Elements, Formatting a Data Table: Borders, Alignment, and Padding, CSS Structural Pseudo- Class Selectors, thread and body 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 .<br>**Text Book 3: 5.2 to 5.8, 6.2, 6.3, 6.6., 6.7, 6.9, 6.10, 6.12, 7.2 to 7.4** | |

| Module-5 | (8 hrs) |
|---|---|
| **Introduction to JavaScript: Functions, Forms, and Event Handlers:** History of JavaScript, Hello World Web Page, Buttons, Functions, Variables, Identifiers, Assignment Statements and Objects, 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<br>**Text Book 3: 8.2 to 8.13, 8.15, 8.16** | |

**Practical Components**

| Sl. No. | Programs for Implementation: |
|---|---|
| 1. | Create an XHTML page using tags to accomplish the following:<br>(i) A paragraph containing text "All that glitters is not gold". Boldface and italicize this text<br>(ii) Create equation: $x = 1/3(y_1^2 + z_1^2)$<br>(iii) Put a background image to a page and demonstrate all attributes of background image<br>Create unordered list of 5 fruits and ordered list of 3 flowers |
| 2. | Create the following table using XHTML tags. Properly align cells, give suitable cell padding and cell spacing, and apply background color, bold and emphasis necessary.<br> |
| 3. | Use HTML5 for performing following tasks:<br>a) Draw a square using HTML5 SVG, fill the square with green color and make 6px brown stroke width<br>b) Write the following mathematical expression by using HTML5 MathML. $d=x^2-y^2$<br>c) 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 web page 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.<br>Throughout the document, any text that mentions income, expenses, or profit, attach the appropr class to that piece of text. Further create following line of text in the same document. |
| 6. | Change the tag **li** to have the following properties:<br>● A display status of inline<br>● A medium, double-lined, black border<br>● No list style type<br>Add the following properties to the style for **li**:<br>● Margin of 5px<br>● 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<br> |
| 8. | Create following calculator interface with HTML and CSS<br> |
| 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. |

| **Text Books:** | |
|---|---|
| 1. | Programming the World Wide Web, Robert W Sebesta, Pearson Education, 8th Edition, 2011. |
| 2. | HTML & CSS: The Complete Reference, Thomas A. Powell, Tata McGraw Hill, 5th Edition, 2010. |
| 3. | WEB PROGRAMMING with HTML5, CSS and JavaScript, John Dean, Jones & Bartlett Learning, 1st Edition, 2018 |
| **Reference Books:** | |
| 1. | Randy Connolly, Ricardo Hoar, "Fundamentals of Web Development", Pearson Education India, 4th Edition, 2016. |

| **Course Outcome Statements:** After the successful completion of the course, the student will be able to: | |
|---|---|
| **CO1** | Apply the fundamental concepts of HTML and XHTML to construct web pages. |
| **CO2** | Develop HTML5 documents by adding various semantic markup tags. |
| **CO3** | Analyze various Properties, values and types of CSS. |
| **CO4** | Implement core constructs and event handling mechanisms of JavaScript |
| **CO5** | Develop dynamic web pages by using HTML, CSS and JavaScript. |

**Course Articulation Matrix**

| CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CO1** | 2 | 1 | 2 | 1 | 2 | - | - | - | 2 | - | 1 | 2 |
| **CO2** | 2 | 1 | 2 | 1 | 2 | - | - | - | 2 | - | 1 | 2 |
| **CO3** | 2 | 1 | 2 | 1 | 2 | - | - | - | 2 | - | 1 | 2 |
| **CO4** | 2 | 1 | 2 | 2 | 2 | - | - | - | 2 | - | 2 | 2 |
| **CO5** | 2 | 1 | 2 | 2 | 2 | - | - | - | 2 | - | 3 | 2 |
| **Avg.** | 2 | 1 | 2 | 1.4 | 2 | - | - | - | 2 | - | 1.6 | 2 |

**3: High, 2: Medium, 1: Low**