



Kot Bhalwal, Jammu



Model Institute of Engineering
& Technology (Autonomous)
Dr. Arun K. Gupta Teaching-Learning Centre

Department of Computer Applications

Details of Lesson Plan

S.No.	Particulars	Details
1.	Course Name	Web Technologies
2.	Course Code	BCAMI-106
3.	Academic Year	2024-25
4.	Semester	BCA (H)-1st
5.	Number of Lesson plans	43
6.	Faculty Assigned	Ms. Deepanshi

Faculty Signature



Lesson Plan No. 1	Course Name: Web Technologies Topic: Text Formatting Tags	Course No.: BCAMI-106
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Objectives	At the end of the lesson the student shall be able to: <ul style="list-style-type: none"> • Understand the concept of text formatting tags. • Learn common text formatting tags and their uses. • Apply text formatting tags to create basic HTML documents. • Structure a basic HTML document incorporating text formatting tags for enhanced readability and styling. • Explain how text formatting impacts the presentation of web content.
Teaching Aids (if any)	a. PowerPoint Presentation b. Live HTML Code Editor or IDE (e.g., Visual Studio Code, Brackets)
Teaching Development	<ol style="list-style-type: none"> 1. Introduction (5 minutes) <ul style="list-style-type: none"> - Begin by asking students what they know about multimedia, web content, web browsers available and if they have ever seen a webpage. - Explain that web pages are created using a language called HTML. - Discuss popular web browsers (e.g., Chrome, Firefox) and show them examples of basic web pages. - Introduce HTML as the backbone of web content. - Introduce the concept of tags and how they structure content on a webpage. - Briefly mention that text formatting tags are used to style text on a webpage. - Discuss how heading tags help both users and search engines understand the content's organization and importance. 2. Development (30 minutes) <ol style="list-style-type: none"> a. Common Formatting Tags: <ul style="list-style-type: none"> - Introduce the following tags with examples- <ul style="list-style-type: none"> - <h1> to <h6> for headings - <p> for paragraphs - and for bold text - <i> and for italic text -
 for line break b. Tag Structure: <ul style="list-style-type: none"> - Explain the basic structure of HTML tags, including opening and closing tags. c. Practical Exercise: <ul style="list-style-type: none"> - Provided a simple HTML code snippet for students to practice using the learned tags.



	<ul style="list-style-type: none">- Create a short introduction page for yourself using the following formatting tags: headings, paragraphs, bold, italic, and line breaks. <p>3. Exercise (5 minutes) –</p> <ul style="list-style-type: none">- Explain the features and significance of html 5?- Provide students with a basic HTML template.- Ask them to format a simple webpage with at least one heading, a few paragraphs, bold and italicized text, and a line break.- Which tag is used to define a paragraph?- How do you make text bold in HTML?- Which tag is used to insert a line break?
Closure	<ol style="list-style-type: none">1. Summarize the Lesson and get affirmation from students on these.2. Confirm that students understand the relationship between tags and their effect on webpage presentation.3. Suggested Reading https://developer.mozilla.org/en-US/docs/Learn/HTML/Introduction_to_HTML/Advanced_text_formatting4. Suggested video lecture -Video of Formatting Tags in HTML https://youtu.be/4ZunanytE885. Homework<ul style="list-style-type: none">- Create a simple html document using different formatting tags. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<ol style="list-style-type: none">1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>



Lesson Plan No. 2	Course Name: Web Technologies Topic: Embedding objects, Paragraphs, Formatting, Links, Head, Images	Course No.: BCAMI-106
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Objectives	At the end of the lesson the student shall be able to: <ul style="list-style-type: none"> • Understand the concept of embedding objects in a document. • Learn how to format text, paragraphs, and headers effectively. • Create and insert hyperlinks within a document. • Insert and manipulate images in a document. • Create and insert hyperlinks to external websites, email addresses, and other resources.
Teaching Aids (if any)	a. Power Point Presentation. b. Live coding demonstrations using an VS Code.
Teaching Development	<ol style="list-style-type: none"> 1. Introduction (5 minutes) <ul style="list-style-type: none"> • Begin by asking students if they have ever seen a document with pictures or links. • Explain that today's lesson will focus on how to create such documents. • Briefly introduce the concepts of embedding, formatting, and linking. • Explain that embedding objects, formatting text, and adding links are essential for creating interactive and dynamic web content. • Mention how images help enhance the visual appeal of webpages. 2. Development (30 minutes) <ol style="list-style-type: none"> a. Embedding Objects: <ul style="list-style-type: none"> • Explain what embedding is and its purpose. • Demonstrate how to embed different types of Objects (e.g., spreadsheets, presentations) into a document. b. Paragraphs and Formatting: <ul style="list-style-type: none"> • Discuss the importance of proper paragraph formatting. • Demonstrate how to adjust font styles, sizes, colors, and alignment. • Explain the use of line spacing, indentation, and tabs. c. Links and Headers: <ul style="list-style-type: none"> • Introduce the concept of hyperlinks, allowing users to navigate to other pages, websites, or email addresses. • Show how to create links to websites, email addresses, and other documents. • Explain the purpose of headers and how to create them. 3. Exercise (5 minutes) – <ul style="list-style-type: none"> • What is the purpose of embedding an object in a document?



	<ul style="list-style-type: none">• How do you create a hyperlink to a website?• What are the different ways to format a paragraph?• Discuss the src (source) and alt (alternative text) attributes, which provide the image source and description for accessibility.
Closure	<ol style="list-style-type: none">1. Summarize the Lesson's Learning Outcomes and get affirmation from students on these.2. Highlight how each feature contributes to a more functional and engaging webpage.3. Suggested Reading Introduction to HTML https://developer.mozilla.org/en-US/docs/Web/HTML Video of Embedding objects, Paragraphs, Formatting, Links, Head, Images https://youtu.be/Hnhh-aM0g2s4. Homework<ul style="list-style-type: none">• Create an HTML document that includes:<ul style="list-style-type: none">-Two embedded objects (e.g., video, PDF)-Formatted text (bold, italic, paragraph formatting)-A hyperlink to an external webpage-A header and an image• How would you explain the difference between a regular hyperlink and a mail to link?• How does the alt attribute enhance the accessibility of images on your webpage? <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<ol style="list-style-type: none">1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss.2. Nearpod Quiz on Text formatting tags <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>



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Lesson Plan No. 3	Course Name: Web Technologies Topic: Tables In HTML	Course No.: MCA-302
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Objectives	At the end of the lesson the student shall be able to: a. Understand the basic structure of HTML tables. b. Learn how to create different types of tables. c. Apply table formatting to enhance table appearance. d. Understand the importance of accessibility in tables using headers and other features.
Teaching Aids (if any)	a. Power Point Presentation b. Live HTML Editor.
Teaching Development	<ol style="list-style-type: none">1. Introduction (5 minutes)<ul style="list-style-type: none">• Begin by discussing the concept of tables in real life.• Explain how HTML tables are used to structure data in a web page.• Show examples of tables on different websites, few examples of tables used in popular websites (e.g., an online store with a price comparison table or a data dashboard).2. Development (30 minutes)<ol style="list-style-type: none">a. Basic table structure<ul style="list-style-type: none">• Explain the use of <table>, <tr>, and <td> tags.• Demonstrate how to create a simple table with rows and columns.b. Table headers:<ul style="list-style-type: none">• Introduce the <th> tag for table headers.• Explain the importance of table headers for accessibility.c. Table formatting:<ul style="list-style-type: none">• Discuss table attributes like border, cell spacing, cell padding, width, and align.• Demonstrate how to apply these attributes to style the table.• Mention that tables are useful for displaying tabular data (e.g., schedules, financial data, contact lists) and can be styled to improve the user experience.• What is the purpose of the cellpadding attribute?3. Exercise (5 minutes) –<ul style="list-style-type: none">• What are the three main tags used to create an HTML table?• How do you create a table header?• What is the purpose of the cellpadding attribute?• What styling properties can be used to make a table visually appealing?
Closure	<ol style="list-style-type: none">1. Summarize the Lesson Learning Outcomes and get affirmation from students on these.2. Suggested Reading



	<p>Introduction to Tables https://developer.mozilla.org/en-US/docs/Web/HTML/Element/table Video of Tables In HTML https://youtu.be/e62D-aayveY</p> <p>3. Homework -Create a simple HTML table to display personal information (name, age, city). -Experiment with different table formatting options. -Submit the HTML code with a table and proper styling.</p> <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<p>1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. Spend 5 minutes to evaluate student assimilation of the lesson contents</p>



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Lesson Plan No. 4	Course Name: Web Technologies Topic : Lists in HTML	Course No.: BCAMI-106
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Objectives	At the end of the lesson the student shall be able to: <ul style="list-style-type: none">• Understand the concept of lists in HTML.• Learn to create ordered and unordered lists.• Learn to create nested lists.• Apply list creation in basic HTML documents.
Teaching Aids (if any)	a. Power Point Presentation b. VS code.
Teaching Development	<ol style="list-style-type: none">1. Introduction (5 minutes)<ul style="list-style-type: none">• Start by asking students about the importance of organizing information. Relate it to real-life examples like grocery lists, to-do lists, or outlines.• Introduce the concept of lists in HTML to structure data effectively on web pages.• Introduce HTML lists as a method for organizing content on a webpage, like how we organize information in everyday life.• Explain how lists help structure content, making it easier for both users and search engines to navigate and understand the information presented.2. Development (30 minutes)<ol style="list-style-type: none">a. Ordered Lists:<ul style="list-style-type: none">• Explain the use of <code></code> and <code></code> tags.• Demonstrate how to create a numbered list with different types of numbering (1, a, A, i, I).• Provide examples of ordered lists in real-world web pages.b. Unordered Lists:<ul style="list-style-type: none">• Explain the use of <code></code> and <code></code> tags.• Demonstrate how to create a bulleted list with different types of markers (disc, circle, square).• Provide examples of unordered lists in real-world web pages.• Use Case in Webpages:c. Nested Lists:<ul style="list-style-type: none">• Explain how to create lists within lists.• Demonstrate how to create hierarchical structures using nested lists.• Provide examples of nested lists in real-world web pages.• Use Case in Webpages:3. Exercise (5 minutes) –<ul style="list-style-type: none">• What are the two main types of lists in HTML?• How do you create a numbered list in HTML?• What tag is used to define a list item?• How do you create a nested list inside an unordered list?



Closure	<ol style="list-style-type: none">1. Summarize the Lesson Learning Outcomes and get affirmation from students on these.2. Suggested Reading Lists in HTML https://developer.mozilla.org/en-US/docs/Web/HTML/Element/ul3. Homework<ul style="list-style-type: none">• Create an HTML document containing an ordered list of your favorite movies, an unordered list of your hobbies, and a nested list of your favourite subjects and topics within them.• How does nesting lists enhance the structure of a webpage? <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<ol style="list-style-type: none">1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>



Lesson Plan No. 5	Course Name: Web Technologies Topic : Blocks, Layout, Colors, Color Values	Course No.: BCAMI-106
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Objectives	At the end of the lesson the student shall be able to: <ul style="list-style-type: none"> Understand the basic principles of design related to blocks, layout, colors, and color values. Learn how to use blocks to structure content. Explore different layout options for effective visual hierarchy. Understand the impact of colors and color values on design.
Teaching Aids (if any)	a. Power Point Presentation b. VS Code
Teaching Development	<ol style="list-style-type: none"> Introduction (5 minutes) <ul style="list-style-type: none"> Begin by discussing the importance of visual design in communication. Show examples of well-designed and poorly designed websites or apps. Explain how blocks, layout, colors, and color values contribute to overall design effectiveness. Development (30 minutes) <ol style="list-style-type: none"> Blocks: <ul style="list-style-type: none"> Introduce the concept of blocks as building blocks of design. Explain how blocks can be used to group related content. Demonstrate how to create different types of blocks (text, image, button, etc.). Layout: <ul style="list-style-type: none"> Discuss the principles of balance, alignment, and proximity. Explain different layout types (grid, fluid, responsive). Demonstrate how to create effective layouts using blocks. Colors and Color Values: <ul style="list-style-type: none"> Introduce the color wheel and basic color theory. Explain color schemes (analogous, complementary, monochromatic, etc.). Demonstrate how to use color values (hue, saturation, lightness) to create different effects. Exercise (5 minutes) – <ul style="list-style-type: none"> What are the three primary colors? What is the difference between a grid and a fluid layout? How can you create a sense of balance in a design?
Closure	1. Summarize the Lesson Learning Outcomes and get affirmation from students on these.



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	<p>2. Suggested Reading Lists in HTML https://developer.mozilla.org/en-US/docs/Web/HTML/Element/ul</p> <p>3. Homework</p> <ul style="list-style-type: none">• Create a simple digital design using basic shapes and colors.• Explore different color schemes for a specific design project. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<p>1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss.</p> <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>



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Lesson Plan No. 6	Course Name: Web Technologies Topic : Frames in HTML	Course No.: BCAMI-106
Objectives	At the end of the lesson the student shall be able to: <ul style="list-style-type: none"> • Understand the concept of frames in HTML. • Learn how to create basic HTML frames. • Explore the structure and attributes of frames. 	
Teaching Aids (if any)	a) PowerPoint Presentation b) Use of Nearpod tool for online quiz c) VS Code.	
Teaching Development	<ol style="list-style-type: none"> 1. Introduction (5 minutes) <ul style="list-style-type: none"> • Begin by asking students if they have ever seen a webpage divided into multiple sections. • Explain that frames are used to divide a webpage into different sections, each displaying independent content. • Provide a real-world example, such as online newspapers or email clients, to illustrate the use of frames. • Explore the various attributes of frames, including size, scrolling options, and borders. 2. Development (30 minutes) <ol style="list-style-type: none"> a. Frame Sets: <ul style="list-style-type: none"> • Explain that a frame set defines the overall structure of a webpage using <code><frameset></code> and <code></frameset></code> tags. • Demonstrate how to create a simple frame set with two frames, using the rows or cols attribute. b. Frame: <ul style="list-style-type: none"> • Introduce the <code><frame></code> tag for defining individual frames within a frame set. • Explain the name, src, no resize, scrolling, and margin width attributes. c. Inline Frames: <ul style="list-style-type: none"> • Briefly mention the <code><iframe></code> tag for embedding external content within a webpage. • Explain the basic syntax and common use cases for iframes. 3. Exercise (5 minutes) – <ul style="list-style-type: none"> • What is the purpose of the <code><frameset></code> tag? • Name two attributes of the <code><frame></code> tag. • What is the difference between a frame set and an inline frame? 	
Closure	<ol style="list-style-type: none"> 1. Summarize the Lesson Learning Outcomes and get affirmation from students on these. 2. Suggested Reading Frames in HTML 	



	<p>https://developer.mozilla.org/en-US/docs/Web/HTML/Element/frame Videos of Frames in HTML https://youtu.be/FIBocnLh2Yc</p> <p>3. Homework</p> <ul style="list-style-type: none">• Create a simple HTML page with two frames, one displaying a menu and the other displaying content.• Experiment with different frame attributes to customize the appearance and behaviour of the frames. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<p>1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss.</p> <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>



Lesson Plan No. 7	Course Name: Web Technologies Topic: Forms & Forms Controls	Course No.: BCAMI-106
Objectives	At the end of the lesson the student shall be able to: <ul style="list-style-type: none"> • Understand the purpose and structure of HTML forms. • Learn about different types of form controls and their attributes. • Create basic HTML forms with various input elements. 	
Teaching Aids (if any)	a. Power Point Presentation b. VS Code	
Teaching Development	<ol style="list-style-type: none"> 1. Introduction (5 minutes) <ul style="list-style-type: none"> • Begin by asking students about online forms they have encountered (e.g., registration, contact forms). • Explain that forms are essential for collecting user data and submitting it to a server. • Introduce the concept of form elements and their role in creating interactive forms. 2. Development (30 minutes) <ol style="list-style-type: none"> a. Form Structure: <ul style="list-style-type: none"> • Explain the <form> tag and its basic attributes (action, method). • Demonstrate how to create a simple form structure. b. Form Controls: <ul style="list-style-type: none"> • Introduce common input types: text, password, email, number, date, checkbox, radio, submit, reset. • Explain the label element for associating labels with form controls. c. Creating a Basic Form: <ul style="list-style-type: none"> • Guide students through creating a simple contact form with name, email, and message fields. • Discuss form validation (basic level) and the importance of user experience. 3. Exercise (5 minutes) – <ul style="list-style-type: none"> • What is the purpose of the <form> tag? • Name three different types of input elements. • What is the importance of the label element in a form? 	
Closure	<ol style="list-style-type: none"> 1. Summarize the Lesson Learning Outcomes and get affirmation from students on these. 2. Suggested Reading Forms in HTML https://developer.mozilla.org/en-US/docs/Web/HTML/Element/form Videos of Forms & Forms Controls in HTML https://youtu.be/oGO5NB5Cobs 3. Homework 	



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	<ul style="list-style-type: none">• Create a simple registration form with required fields for name, email, and password.• Add basic validation to ensure that required fields are filled.• Experiment with different form control types and their attributes. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<ol style="list-style-type: none">1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>



Lesson Plan No. 8	Course Name: Web Technologies Topic : XHTML, XML	Course No.: BCAMI-106
Objectives	At the end of the lesson, the student shall be able to: <ul style="list-style-type: none"> • Understand the evolution from HTML to XHTML. • Recognize the importance of well-formed documents in XML and XHTML. 	
Teaching Aids (if any)	a) PowerPoint Presentation b) Use of Nearpod tool for online quiz	
Teaching Development	<ol style="list-style-type: none"> 1. Introduction (5 minutes) <ul style="list-style-type: none"> • Begin by asking students if they are familiar with the differences between XML and HTML. • Introduce the idea that XHTML is a stricter and more standardized version of HTML that adheres to XML rules. 2. Development (30 minutes) <p>XML and XHTML Overview:</p> <ul style="list-style-type: none"> • Explain XML (Extensible Markup Language) as a language designed to store and transport data in a structured format. • Discuss the move from HTML to XHTML, emphasizing how XHTML enforces stricter syntax rules compared to HTML. • Introduce the basic syntax of XHTML and its rules (e.g., proper nesting of tags, closing all elements, case sensitivity). 3. Exercise (5 minutes) – <ul style="list-style-type: none"> • What is the difference between HTML and XHTML? • Summarize their understanding of all the topics of Unit-1 	
Closure	<ol style="list-style-type: none"> 1. Summarize the lesson learning outcomes by reinforcing the understanding of XHTML, meta tags, and character entities. 2. Suggested Reading <ul style="list-style-type: none"> • Introduction to XHTML and XML: https://developer.mozilla.org/en-US/docs/Web/Guide/HTML/Introduction_to_XHTML 3. Homework <ul style="list-style-type: none"> • Convert a simple HTML webpage to a valid XHTML webpage. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>	
Evaluation	<ol style="list-style-type: none"> 1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>	



Lesson Plan No. 9	Course Name: Web Technologies Topic: Meta Tags, Character Entities	Course No.: BCAMI-106
Objectives	At the end of the lesson, the student shall be able to: <ul style="list-style-type: none">• Recognize the importance of well-formed documents in XML and XHTML.• Learn about meta tags and their importance in web pages.• Understand character entities and their uses.	
Teaching Aids (if any)	a) PowerPoint Presentation b) VS Code	
Teaching Development	<ol style="list-style-type: none">1. Introduction (5 minutes)<ul style="list-style-type: none">• Introduce the more standardized version of HTML that adheres to XML rules.• Provide real-world examples where XHTML is used for structuring data in web technologies.2. Development (30 minutes)<ol style="list-style-type: none">a. Meta Tags in XHTML:<ul style="list-style-type: none">• Explain the purpose of meta tags in defining metadata such as character set, keywords, description, and viewport settings.• Show students the basic syntax for meta tags and demonstrate how they are placed within the <head> section of an XHTML document.• Discuss the importance of meta tags for SEO (Search Engine Optimization) and browser rendering.b. Character Entities:<ul style="list-style-type: none">• Introduce character entities as special characters in XHTML that can't be directly typed into a document.• Provide examples of commonly used entities.• Demonstrate how to use character entities to ensure well-formed XHTML documents.3. Exercise (5 minutes) –<ul style="list-style-type: none">• Name one benefit of using meta tags in a webpage.• Provide an example of a character entity and its use.	
Closure	<ol style="list-style-type: none">1. Summarize the lesson learning outcomes by reinforcing the understanding of meta tags, and character entities.2. Engage students by asking reflective questions about how they might use meta tags in their own web projects.3. Suggested Reading<ul style="list-style-type: none">• Videos on XHTML and Meta Tags: https://youtu.be/T6RnpMAL1v4	



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	<p>4. Homework:</p> <ul style="list-style-type: none">• Add meta tags to specify the character set and keywords for the webpage.• Include character entities for at least three special characters. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<p>1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss.</p> <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>



Lesson Plan No. 1	Course Name: Web Technologies Topic : CSS, Defining Styles, Elements of Style	Course No.: BCAMI-106
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Objectives	At the end of the lesson the student shall be able to: <ul style="list-style-type: none"> ● Understand the purpose of CSS and its relationship to HTML. ● Learn the basic structure of a CSS rule set. ● Identify common CSS properties and their effects.
Teaching Aids (if any)	a. Power Point Presentation
Teaching Development	<ol style="list-style-type: none"> 1. Introduction (5 minutes) <ul style="list-style-type: none"> - Begin by asking students to describe the appearance of their favorite website. - Explain that while HTML structures content, CSS controls the presentation and style. - Introduce CSS as a language for styling web pages. 2. Development (30 minutes) <ol style="list-style-type: none"> a. CSS Basics: <ul style="list-style-type: none"> - Explain the concept of a CSS rule set, consisting of a selector and a declaration block. - Demonstrate how to link a CSS file to an HTML document. b. Selectors: <ul style="list-style-type: none"> - Introduce different types of selectors: element, class, and ID selectors. - Provide examples of how to target specific elements using these selectors. c. Properties and Values: <ul style="list-style-type: none"> - Explain the concept of CSS properties and values. - Discuss common properties like color, font-size, font-family, text-align, and background-color. - Demonstrate how to apply these properties to elements using CSS rules. 3. Exercise (5 minutes) – <ul style="list-style-type: none"> - What is the purpose of CSS? - What are the two main components of a CSS rule set? - Give an example of a CSS property and its corresponding value.
Closure	<ol style="list-style-type: none"> 1. Summarize the Lesson Learning Outcomes and get affirmation from students on these. 2. Suggested Reading CSS Properties https://developer.mozilla.org/en-US/docs/Web/CSS Videos of CSS, Defining Styles, Elements of Style https://youtu.be/t8OH5eWIL9g



	<p>3. Homework</p> <ul style="list-style-type: none">- Create a simple HTML document and a corresponding CSS file.- Style the HTML elements using CSS properties to change the appearance of the page.- Experiment with different selectors and properties to explore CSS capabilities. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<p>1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss.</p> <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>



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Lesson Plan No. 2.2	Course Name: Web Technologies Topic : CSS Basic syntax, and structure	Course No.: BCAMI-106
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Objectives	<p>At the end of the lesson the student shall be able to:</p> <ul style="list-style-type: none"> • Understand the fundamental syntax and structure of CSS. • Learn how to write CSS rules to style HTML elements. • Apply CSS rules to control the layout, color, fonts, and other visual aspects of a webpage.
Teaching Aids (if any)	<ol style="list-style-type: none"> a. PowerPoint Presentation b. Visual demonstration of how CSS changes affect webpage design in a browser.
Teaching Development	<ol style="list-style-type: none"> 1. Introduction (5 minutes) <ul style="list-style-type: none"> • Begin by asking students, “How can we control the appearance of a webpage and make it visually appealing?” • Introduce CSS (Cascading Style Sheets) as the language used to style and layout HTML elements on a webpage. • Explain that CSS separates the structure (HTML) from the presentation (CSS), allowing web developers to manage the visual design independently of the HTML content. Development (30 minutes) <ol style="list-style-type: none"> a. Overview of CSS: <ul style="list-style-type: none"> • Explain that CSS is used to describe how HTML elements are to be displayed on the screen, paper, or other media. • Discuss the importance of CSS in web development to ensure consistency in design, improve user experience, and reduce the amount of repetitive code in HTML files. b. Basic CSS Syntax: <ul style="list-style-type: none"> • Introduce the basic syntax of a CSS rule: c. CSS Structure and Rules: <ul style="list-style-type: none"> • Explain how to add CSS to a webpage using three methods 2. Exercise (5 minutes) – <p>Ask students to write CSS rules that:</p> <ul style="list-style-type: none"> • Change the background color of a <div> to light grey. • Set the font color of <h1> elements to red. • Use a class to style all paragraphs with a green font and a 20px margin.



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Closure	<ol style="list-style-type: none">1. Summarize the Lesson Learning Outcomes and get affirmation from students on these.2. Homework<ul style="list-style-type: none">• Create a basic webpage with HTML content.<ul style="list-style-type: none">-Write an external CSS file that:<ul style="list-style-type: none">-Styles the background color of the page.-Changes the font size and color of headings.-Adds padding and margin to the paragraphs and sets a border around a <div> element. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<ol style="list-style-type: none">1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>



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Lesson Plan No. 2.3	Course Name: Web Technologies Topic : Linking a Style Sheet to an HTML Document In-line Styles, External Style Sheets, Internal Style Sheets	Course No.: MCA-302
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Objectives	At the end of the lesson the student shall be able to: <ul style="list-style-type: none"> • Understand different ways to apply CSS styles to HTML documents. • Learn the advantages and disadvantages of each style method. • Implement in-line, internal, and external styles effectively.
Teaching Aids (if any)	a. Power Point Presentation
Teaching Development	<ol style="list-style-type: none"> 1. Introduction (5 minutes) <ul style="list-style-type: none"> - Briefly recap the concept of CSS and its role in styling web pages. - Introduce the different methods for linking CSS to HTML documents: in-line, internal, and external styles. - Explain that the choice of method depends on the specific project requirements. 2. Development (30 minutes) <ol style="list-style-type: none"> a. In-line Styles: <ul style="list-style-type: none"> - Demonstrate how to apply styles directly to HTML elements using the style attribute. - Discuss the limitations of in-line styles for maintainability and reusability. b. Internal Style Sheets: <ul style="list-style-type: none"> - Explain how to create a style section within the <head> section of an HTML document using the <style> tag. - Discuss the advantages of internal styles for styling a single page. c. External Style Sheets: <ul style="list-style-type: none"> - Introduce the concept of linking an external CSS file to an HTML document using the <link> tag. - Emphasize the benefits of external styles for maintainability, reusability, and efficiency. 3. Exercise (5 minutes) – <ul style="list-style-type: none"> - What is the difference between in-line and internal styles? - How do you link an external CSS file to an HTML document? - Which style method is generally preferred for large-scale projects?
Closure	<ol style="list-style-type: none"> 1. Summarize the Lesson Learning Outcomes and get affirmation from students on these. 2. Suggested Reading



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	<p>Linking a Style Sheet to an HTML Document https://www.w3schools.com/css/css_howto.asp Videos of : Linking a Style Sheet to an HTML Document https://youtu.be/3Fd11f00zOs</p> <p>3. Homework</p> <ul style="list-style-type: none">- Create an HTML document and apply styles using all three methods: in-line, internal, and external.- Compare the code structure and efficiency of each method. Experiment with different CSS selectors and properties to style the content. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<p>1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss.</p> <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>



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Lesson Plan No. 2.4	Course Name: Web Technologies Topic : Using CSS: Background Images, Colors, and Properties	Course No.: BCAMI-106
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Objectives	At the end of the lesson the student shall be able to: <ul style="list-style-type: none"> • Understand how to apply background images and colors using CSS. • Learn about different CSS properties related to styling backgrounds and text. • Implement effective use of background images, colors, and CSS properties in web design.
Teaching Aids (if any)	a. PowerPoint Presentation b. Code editor (e.g., Visual Studio Code, Sublime Text)
Teaching Development	<ol style="list-style-type: none"> 1. Introduction (5 minutes) <ul style="list-style-type: none"> • Briefly recap the importance of CSS in web design. • Introduce the topic of background images and colors, explaining how they enhance the visual appeal of web pages. • Explain the significance of CSS properties related to backgrounds and colors. Development (30 minutes) <ol style="list-style-type: none"> a. Background Images: <ul style="list-style-type: none"> • Demonstrate how to set a background image using the background-image property. • Discuss the different background properties such as background-size, background-repeat, and background-position. • Show examples of using images effectively and the impact on page layout. b. Colors: <ul style="list-style-type: none"> • Explain how to set text colors and background colors using color and background-color properties. • Introduce different ways to specify colors (hex, RGB, RGBA, HSL). • Discuss the importance of color contrast for readability and accessibility. 2. Exercise (5 minutes) – <ul style="list-style-type: none"> • What properties are used to adjust background images? • How can color contrast improve user experience? • What challenges might arise when using background images?



Closure	<ol style="list-style-type: none">1. Summarize the Lesson Learning Outcomes and get affirmation from students on these.2. Get affirmation from students on their understanding of these concepts.3. Homework<ul style="list-style-type: none">• Write a short reflection on how the use of background images and colors can impact the overall design of a webpage. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<ol style="list-style-type: none">1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>



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Lesson Plan No. 2.5	Course Name: Web Technologies Topic CSS: Manipulating Texts	Course No.: BCAMI-106
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Objectives	At the end of the lesson the student shall be able to: <ul style="list-style-type: none"> • Understand various CSS properties for text manipulation. • Learn how to change text appearance, including font, size, color, and alignment. • Implement effective text styling techniques to enhance web content.
Teaching Aids (if any)	a. PowerPoint Presentation b. Code editor (e.g., Visual Studio Code, Sublime Text)
Teaching Development	<p>1. Introduction (5 minutes)</p> <ul style="list-style-type: none"> • Recap the role of CSS in styling web content. • Introduce the focus on manipulating text and its importance in web design. • Highlight how text styling can improve readability and user engagement. <p>Development (30 minutes)</p> <p>a. Font Properties:</p> <ul style="list-style-type: none"> • Demonstrate how to set fonts using the font-family property. • Discuss the importance of font choice in conveying tone and brand identity. <p>b. Text Color and Decoration:</p> <ul style="list-style-type: none"> • Explain how to change text color using the color property. • Introduce text decoration options such as text-decoration, including underline, overline, and line-through. <p>c. Text Alignment and Spacing:</p> <ul style="list-style-type: none"> • Demonstrate how to align text using the text-align property. • Discuss the importance of line height with line-height for readability. <p>2. Exercise (5 minutes) –</p> <ul style="list-style-type: none"> • How does font choice affect the perception of a webpage? • What properties can you use to enhance the readability of text? • How can text effects be used to draw attention to important information?



Closure	<ol style="list-style-type: none">1. Summarize the Lesson Learning Outcomes and get affirmation from students on these.2. Suggested Reading https://www.w3schools.com/css/css_text.asp3. Homework<ul style="list-style-type: none">● Create an HTML document that demonstrates various text manipulations using CSS.● Experiment with different properties and effects, and write a reflection on how text styling impacts user experience. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<ol style="list-style-type: none">1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss.2. Discuss for 5 minutes, evaluating their understanding and assimilation of the lesson content. <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>

Lesson Plan No. 2.4	Course Name: Web Technologies Topic : CSS: Using Fonts, Borders, Boxes, and Margins	Course No.: BCAMI-106
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Objectives	At the end of the lesson the student shall be able to: <ul style="list-style-type: none"> Recap the significance of CSS in web design. Introduce the focus on fonts, borders, boxes, and margins, explaining their roles in layout and design. Highlight the importance of the CSS box model in structuring web content.
Teaching Aids (if any)	a. PowerPoint Presentation b. Code editor (e.g., Visual Studio Code, Sublime Text)
Teaching Development	<ol style="list-style-type: none"> Introduction (5 minutes) <ul style="list-style-type: none"> Demonstrate how to apply different fonts using the font-family property. Discuss the use of web-safe fonts and the importance of fallback fonts. Explain the concept of font weight and style <p>Development (30 minutes)</p> <ol style="list-style-type: none"> Using Fonts: <ul style="list-style-type: none"> Demonstrate how to apply different fonts using the font-family property. Discuss the use of web-safe fonts and the importance of fallback fonts. Explain the concept of font weight and style Borders: <ul style="list-style-type: none"> Introduce the border property and its shorthand syntax. Explain how to customize borders with border-width, border-style, and border-color. Show examples of different border styles (solid, dashed, dotted) and their visual impact <ol style="list-style-type: none"> Exercise (5 minutes) – <ul style="list-style-type: none"> How does the box model affect the layout of a webpage? What are the differences between padding and margin? Why is it important to choose the right border style for different elements?



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Closure	<ol style="list-style-type: none">1. Summarize the Lesson Learning Outcomes and get affirmation from students on these.2. Get affirmation from students on their understanding of these concepts.3. Homework<ul style="list-style-type: none">• Create an HTML document that incorporates various fonts, borders, boxes, and margins. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<ol style="list-style-type: none">1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>



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Lesson Plan No. 5.9	Course Name: Web Technologies Topic : Listing directories.	Course No.: BCAMI-106
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Objectives	<p>At the end of the lesson the student shall be able to:</p> <ul style="list-style-type: none"> • Understand how to list files and directories using PHP. • Learn to work with PHP functions such as scandir(), opendir(), readdir(), and closedir(). • Apply directory listing functions to navigate and display the contents of directories.
Teaching Aids (if any)	<p>a. PowerPoint Presentation. b. Use of Google Form to conduct a quiz.</p>
Teaching Development	<p>1. Introduction (5 minutes)</p> <ul style="list-style-type: none"> • Start by discussing the need for navigating directories in web development. Mention how file management is crucial for building file explorers, media managers, and file upload/download systems. • Introduce the basic concept of listing files and directories using PHP and mention commonly used PHP functions for this purpose. <p>Development (30 minutes)</p> <p>a. Listing Directories Using scandir():</p> <ul style="list-style-type: none"> • Introduce the scandir() function, which returns an array of files and directories within a given directory. <p>b. Listing Directories Using opendir(), readdir()</p> <ul style="list-style-type: none"> • Introduce another approach using opendir() to open a directory handle, readdir() to read its contents, and closedir() to close the directory handle. <p>c. Recursive Directory Listing:</p> <ul style="list-style-type: none"> • Introduce the concept of recursive directory listing to handle subdirectories. Demonstrate how to list files in nested folders using a recursive function. <p>2. Exercise (5 minutes) –</p> <ul style="list-style-type: none"> • Write a PHP script that lists all files in a directory but excludes subdirectories. • Modify the directory listing script to only display .txt files. • Implement a recursive function to display nested directories and files.
Closure	<p>1. Summarize the Lesson Learning Outcomes and get affirmation from students on these.</p> <p>2. Suggested Reading: https://www.php.net/manual/en/ref.dir.php</p>



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	<p>3. Homework</p> <ul style="list-style-type: none">• Create a PHP script that lists all files in a directory and allows the user to download any file by clicking on its name.• Write a PHP program that lists all image files (.jpg, .png, .gif) in a directory. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<ol style="list-style-type: none">1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss.2. Conduct a short quiz on directory listing in PHP, focusing on functions such as scandir(), opendir(), and readdir(). <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>

Lesson Plan No. 2.4	Course Name: Web Technologies Topic : CSS: Using Fonts, Borders, Boxes, and Margins	Course No.: BCAMI-106
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Objectives	At the end of the lesson the student shall be able to: <ul style="list-style-type: none"> Recap the significance of CSS in web design. Introduce the focus on fonts, borders, boxes, and margins, explaining their roles in layout and design. Highlight the importance of the CSS box model in structuring web content.
Teaching Aids (if any)	a. PowerPoint Presentation b. Code editor (e.g., Visual Studio Code, Sublime Text)
Teaching Development	<ol style="list-style-type: none"> Introduction (5 minutes) <ul style="list-style-type: none"> Demonstrate how to apply different fonts using the font-family property. Discuss the use of web-safe fonts and the importance of fallback fonts. Explain the concept of font weight and style <p>Development (30 minutes)</p> <ol style="list-style-type: none"> Using Fonts: <ul style="list-style-type: none"> Demonstrate how to apply different fonts using the font-family property. Discuss the use of web-safe fonts and the importance of fallback fonts. Explain the concept of font weight and style Borders: <ul style="list-style-type: none"> Introduce the border property and its shorthand syntax. Explain how to customize borders with border-width, border-style, and border-color. Show examples of different border styles (solid, dashed, dotted) and their visual impact <ol style="list-style-type: none"> Exercise (5 minutes) – <ul style="list-style-type: none"> How does the box model affect the layout of a webpage? What are the differences between padding and margin? Why is it important to choose the right border style for different elements?



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Closure	<ol style="list-style-type: none">1. Summarize the Lesson Learning Outcomes and get affirmation from students on these.2. Get affirmation from students on their understanding of these concepts.3. Homework<ul style="list-style-type: none">• Create an HTML document that incorporates various fonts, borders, boxes, and margins. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<ol style="list-style-type: none">1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>

Lesson Plan No. 2.7	Course Name: Web Technologies Topic : CSS: Margins, Padding, and Lists	Course No.: BCAMI-106
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Objectives	At the end of the lesson the student shall be able to: <ul style="list-style-type: none"> Recap the significance of CSS in web design. Introduce the focus on fonts, borders, boxes, and margins, explaining their roles in layout and design. Highlight the importance of the CSS box model in structuring web content.
Teaching Aids (if any)	a. PowerPoint Presentation b. Code editor (e.g., Visual Studio Code, Sublime Text)
Teaching Development	<p>1. Introduction (5 minutes)</p> <ul style="list-style-type: none"> Recap the importance of spacing in web design. Introduce the concepts of margins and padding, highlighting their roles in layout and design. Explain the relevance of styling lists in web content. <p>Development (30 minutes)</p> <p>a. Margins:</p> <ul style="list-style-type: none"> Define what margins are and demonstrate how to set them using the margin property. Explain the difference between margin-top, margin-bottom, margin-left, and margin-right. Discuss margin collapse and its implications in layout. <p>b. Padding:</p> <ul style="list-style-type: none"> Define padding and demonstrate how to apply it using the padding property. Explain the difference between padding-top, padding-bottom, padding-left, and padding-right. Discuss how padding affects the space within an element, impacting its size and appearance. <p>2. Exercise (5 minutes) –</p> <ul style="list-style-type: none"> How do margins and padding influence the layout of a webpage? What are some common list styles, and how can you customize them? Why is it important to consider spacing when designing web pages?



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Model Institute of Engineering & Technology (Autonomous) Lesson Plan

Closure	<ol style="list-style-type: none">1. Summarize the Lesson Learning Outcomes and get affirmation from students on these.2. Homework<ul style="list-style-type: none">• Allow students to answer and discuss for 5 minutes, evaluating their understanding and assimilation of the lesson content. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<ol style="list-style-type: none">1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>



Lesson Plan No. 2.8	Course Name: Web Technologies Topic : CSS: Positioning and CSS2	Course No.: BCAMI-106
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Objectives	At the end of the lesson the student shall be able to: <ul style="list-style-type: none"> • Understand different CSS positioning methods (static, relative, absolute, fixed, sticky). • Learn how to apply positioning to control the layout of elements on a webpage. • Familiarize with the features and advancements introduced in CSS2.
Teaching Aids (if any)	a. PowerPoint Presentation b. Code editor (e.g., Visual Studio Code, Sublime Text)
Teaching Development	<p>1. Introduction (5 minutes)</p> <ul style="list-style-type: none"> • Recap the importance of CSS in web design. • Introduce the topic of positioning, explaining its role in controlling element layout. • Briefly mention CSS2 and its significance in web development. <p>Development (30 minutes)</p> <p>a. Positioning Methods:</p> <ul style="list-style-type: none"> • Static Positioning: Explain that this is the default positioning method where elements are positioned according to the normal document flow. • Relative Positioning: Demonstrate how to use the position: relative; property to move an element relative to its original position. <p>b. Sticky Positioning:</p> <ul style="list-style-type: none"> • Explain position: sticky; and demonstrate how it combines relative and fixed positioning. • Introduce position: fixed; and explain how it keeps an element fixed in the viewport, regardless of scrolling. <p>c. CSS2 Features:</p> <ul style="list-style-type: none"> • Briefly introduce CSS2 and its improvements over CSS1. • Highlight features like media queries, improved selectors, and positioning capabilities. • Discuss the significance of CSS2 in responsive web design.



	<p>2. Exercise (5 minutes) –</p> <ul style="list-style-type: none">• How do different positioning methods affect the layout of a webpage?• What are some scenarios where absolute positioning is preferred?• How does CSS2 enhance web design capabilities?
Closure	<ol style="list-style-type: none">1. Summarize the Lesson Learning Outcomes and get affirmation from students on these.2. Get affirmation from students on their understanding of these concepts.3. Homework<ul style="list-style-type: none">• Create an HTML document that demonstrates various positioning methods. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<ol style="list-style-type: none">1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>

Lesson Plan No. 2.9	Course Name: Web Technologies Topic : CSS3	Course No.: BCAMI-106
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Objectives	<p>At the end of the lesson the student shall be able to:</p> <ul style="list-style-type: none"> • Understand the new features and enhancements introduced in CSS3. • Learn how to use CSS3 properties for advanced styling and animations. • Implement responsive design techniques using CSS3.
Teaching Aids (if any)	<p>a. PowerPoint Presentation b. Code editor (e.g., Visual Studio Code, Sublime Text)</p>
Teaching Development	<p>1. Introduction (5 minutes)</p> <ul style="list-style-type: none"> • Recap the evolution of CSS from CSS1 to CSS2, leading into CSS3. • Introduce the topic of CSS3, highlighting its importance in modern web design. • Discuss the goal of CSS3 in enhancing user experience through improved styling capabilities. <p>Development (30 minutes)</p> <p>a. New Selectors and Properties:</p> <ul style="list-style-type: none"> • Introduce new selectors available in CSS3 (e.g., attribute selectors, pseudo-classes). • Demonstrate properties like border-radius, box-shadow, and text-shadow for creating rounded corners and shadows. <p>b. Flexbox and Grid Layouts:</p> <ul style="list-style-type: none"> • Explain the Flexbox model for creating flexible and responsive layouts. • Introduce CSS Grid as a powerful tool for two-dimensional layouts. • Provide practical examples of both Flexbox and Grid to showcase their use cases. <p>c. Transitions and Animations:</p> <ul style="list-style-type: none"> • Explain how to create smooth transitions using the transition property. • Demonstrate keyframe animations using the @keyframes rule. • Show examples of hover effects and animated elements to engage users.



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	<p>2. Exercise (5 minutes) –</p> <ul style="list-style-type: none">• What advantages does CSS3 offer over previous versions?• How can Flexbox and Grid be used together in a layout?• Why is responsive design important in today's web development?
Closure	<p>1. Summarize the Lesson Learning Outcomes and get affirmation from students on these.</p> <p>2. Homework Create an HTML document that showcases various CSS3 features, including animations and responsive design.</p> <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<p>1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss.</p> <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>

Lesson Plan No. 2.10	Course Name: Web Technologies Topic : Tailwind CSS	Course No.: BCAMI-106
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Objectives	At the end of the lesson the student shall be able to: <ul style="list-style-type: none"> • Understand the utility-first approach of Tailwind CSS. • Learn how to configure and use Tailwind CSS in web projects. • Implement responsive design and custom styles using Tailwind CSS.
Teaching Aids (if any)	a. PowerPoint Presentation
Teaching Development	<p>1. Introduction (5 minutes)</p> <ul style="list-style-type: none"> • Introduce Tailwind CSS and its utility-first approach to styling. • Discuss the benefits of using Tailwind CSS over traditional CSS frameworks. • Highlight the importance of Tailwind in building responsive and customizable designs. <p>Development (30 minutes)</p> <p>a. Setting Up Tailwind CSS:</p> <ul style="list-style-type: none"> • Demonstrate how to install Tailwind CSS using npm or a CDN. • Show how to configure Tailwind using the tailwind.config.js file.. <p>b. Using Utility Classes:</p> <ul style="list-style-type: none"> • Explain the concept of utility classes and how they simplify styling. • Provide examples of common utility classes for margins, padding, colors, and typography. • Demonstrate how to combine multiple utility classes to create complex designs. <p>c. Responsive Design with Tailwind CSS:</p> <ul style="list-style-type: none"> • Introduce responsive design principles in Tailwind CSS. • Show how to use responsive utility classes to adjust styles for different screen sizes. <p>2. Exercise (5 minutes) –</p> <ul style="list-style-type: none"> • What are the advantages of using Tailwind CSS compared to other frameworks? • How does Tailwind's approach to responsiveness differ from traditional methods?



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	<ul style="list-style-type: none">• What challenges might arise when using utility-first CSS?
Closure	<ol style="list-style-type: none">1. Summarize the Lesson Learning Outcomes and get affirmation from students on these.2. Get affirmation from students on their understanding of these concepts.3. Homework<ul style="list-style-type: none">• Write a reflection on the benefits and challenges of using Tailwind CSS in web development. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<ol style="list-style-type: none">1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>



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Lesson Plan No. 1	Course Name: Web Technologies Topic : Introduction to JavaScript	Course No.: BCAMI-106
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Objectives	At the end of the lesson the student shall be able to: <ul style="list-style-type: none"> • Understand the role of JavaScript in web development. • Learn basic JavaScript syntax and structure. • Write simple JavaScript code to manipulate the Document Object Model (DOM).
Teaching Aids (if any)	a. PowerPoint Presentation b. Videos of : Introduction to JavaScript https://youtu.be/VIPiVmYuoqw c. Use of Nearpod tool for online quiz
Teaching Development	<ol style="list-style-type: none"> 1. Introduction (5 minutes) <ul style="list-style-type: none"> • Ask students about their experiences with interactive web pages (e.g., games, animations, dynamic content). • Explain that JavaScript is the programming language that brings these elements to life. • Briefly highlight the importance of JavaScript in modern web development. 2. Development (30 minutes) <ol style="list-style-type: none"> a. What is JavaScript: <ul style="list-style-type: none"> • Define JavaScript as a scripting language for creating interactive web pages. • Explain its relationship to HTML and CSS. b. Basic Syntax: <ul style="list-style-type: none"> • Introduce JavaScript's syntax, including variables, data types (numbers, strings, booleans), operators. • Write simple JavaScript code examples to demonstrate these concepts. c. DOM Manipulation: <ul style="list-style-type: none"> • Explain the Document Object Model (DOM) as a tree-like representation of an HTML document. • Demonstrate how to access and modify HTML elements using JavaScript. • Provide a basic example of changing the content of an element. 3. Exercise (5 minutes) – <ul style="list-style-type: none"> • What is JavaScript used for in web development? • What is a variable in JavaScript? • How can you display a message in the browser's console using JavaScript?
Closure	1. Summarize the Lesson Learning Outcomes and get affirmation from students on these.



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	<p>2. Suggested Reading Introduction to JavaScript https://developer.mozilla.org/en-US/docs/Web/JavaScript</p> <p>3. Homework</p> <ul style="list-style-type: none">• Create a simple HTML file with a few elements.• Write a JavaScript file to manipulate those elements using DOM manipulation• Try changing the text content, background color, or other properties of the elements. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<p>1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss.</p> <p>2. Nearpod Quiz on Text formatting tags</p> <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>



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Lesson Plan No. 2	Course Name: Web Technologies Topic : Variables in JavaScript	Course No.: BCAMI-106
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Objectives	At the end of the lesson the student shall be able to: <ul style="list-style-type: none"> • Understand the concept of variables in JavaScript. • Learn how to declare and initialize variables. • Differentiate between different data types in JavaScript.
Teaching Aids (if any)	a. Videos of :Variables in JavaScript https://youtu.be/VIPiVmYuoqw b. Use of Nearpod tool for online quiz
Teaching Development	<ol style="list-style-type: none"> 1. Introduction (5 minutes) <ul style="list-style-type: none"> • Begin by asking students about the concept of storage containers in real life (e.g., boxes, jars). • Explain that variables in programming serve a similar purpose: storing data for later use. • Introduce JavaScript as a programming language where variables are essential. 2. Development (30 minutes) <ol style="list-style-type: none"> a. Variable Declaration: <ul style="list-style-type: none"> • Explain the use of the var, let, and const keywords to declare variables. • Discuss the differences between these keywords in terms of scope and reassignment. b. Data Types: <ul style="list-style-type: none"> • Introduce basic JavaScript data types: numbers, strings, booleans, null, and undefined. • Provide examples of each data type and how to assign them to variables. c. Variable Assignment: <ul style="list-style-type: none"> • Demonstrate how to assign values to variables using the assignment operator (=). • Explain the concept of dynamic typing in JavaScript. 3. Exercise (5 minutes) – <ul style="list-style-type: none"> • What is a variable in JavaScript? • Name three different ways to declare a variable in JavaScript? • What is the data type of the value "Hello, World!"?
Closure	<ol style="list-style-type: none"> 1. Summarize the Lesson Learning Outcomes and get affirmation from students on these. 2. Suggested Reading Variables in JavaScript



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	<p>https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Statements/var</p> <p>3. Homework</p> <ul style="list-style-type: none">• Create a JavaScript program that declares variables of different data types and assigns values to them.• Display the values of the variables in the console using the console.log() method.• Experiment with different variable names and data types. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<ol style="list-style-type: none">1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss.2. Nearpod Quiz on Text formatting tags <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>



Lesson Plan No. 3	Course Name: Web Technologies Topic : Operators in JavaScript	Course No.: BCAMI-106
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Objectives	At the end of the lesson the student shall be able to: <ul style="list-style-type: none"> Understand the concept of operators in JavaScript. Learn different types of operators: arithmetic, assignment, comparison, logical. Apply operators to perform calculations, assignments, and comparisons in JavaScript code.
Teaching Aids (if any)	a. PowerPoint Presentation b. Video of :Operators in JavaScript https://youtu.be/VIPiVmYuoqw
Teaching Development	<ol style="list-style-type: none"> Introduction (5 minutes) <ul style="list-style-type: none"> Start with a simple math problem and ask students how they would solve it using a calculator. Introduce the concept of operators as symbols that perform operations on values. Explain that JavaScript uses operators to manipulate data. Development (30 minutes) <ol style="list-style-type: none"> Arithmetic Operators: <ul style="list-style-type: none"> Introduce the basic arithmetic operators: +, -, *, /, %. Provide examples of how to use them to perform calculations. Assignment Operators: <ul style="list-style-type: none"> Explain the assignment operator (=) and its use in assigning values to variables. Introduce shorthand assignment operators like +=, -=, *=, /=, %=. Comparison Operators: <ul style="list-style-type: none"> Explain the comparison operators: ==, !=, >, <, >=, <=. Demonstrate how to use them to compare values and make decisions. Exercise (5 minutes) – <ul style="list-style-type: none"> What is the result of 5 % 2? How do you assign the value 10 to a variable named x? What is the difference between == and ===?
Closure	<ol style="list-style-type: none"> Summarize the Lesson Learning Outcomes and get affirmation from students on these. Suggested Reading



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	<p>Operators in JavaScript https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Operators</p> <p>3. Homework</p> <ul style="list-style-type: none">• Write a JavaScript program to calculate the area and perimeter of a rectangle using arithmetic operators.• Create a program that checks if a number is even or odd using comparison operators.• Experiment with different operators and practice writing expressions. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<ol style="list-style-type: none">1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss.2. Nearpod Quiz on Text formatting tags <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>



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Lesson Plan No. 4	Course Name: Web Technologies Topic : Event Handlers (onClick, onSubmit, etc.)	Course No.: BCAMI-106
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Objectives	At the end of the lesson the student shall be able to: <ul style="list-style-type: none"> Understand the concept of event handlers in JavaScript. Learn how to use event handlers like onClick, onSubmit, etc., to add interactivity to web pages. Apply event handlers to handle user input and control the behavior of elements.
Teaching Aids (if any)	a. PowerPoint Presentation
Teaching Development	<p>Introduction (5 minutes)</p> <ul style="list-style-type: none"> Ask students if they have interacted with websites where clicking a button triggers an action, or submitting a form processes data. Introduce JavaScript as a language that can make web pages interactive by responding to user actions like clicks, form submissions, key presses, etc. Explain that these interactions are managed through event handlers. <p>Development (30 minutes)</p> <p>a. Event Handling Basics:</p> <ul style="list-style-type: none"> Explain the concept of events in JavaScript (e.g., click events, form submit events). Introduce the idea of event handlers and how they respond to specific events triggered by users. <p>b. onClick Event Handler:</p> <ul style="list-style-type: none"> Explain that onClick is an event handler that executes a function when a user clicks on an element. Show an example of using onClick in a button: <p>c. onSubmit Event Handler:</p> <ul style="list-style-type: none"> Explain that onSubmit is an event handler used for form submission. It can be used to validate form data before submitting. <p>Exercise (5 minutes) –</p> <ul style="list-style-type: none"> What happens when you use an onClick event handler in a button? How do you attach an onSubmit handler to a form in JavaScript? What event handler would you use to trigger an action when a user presses a key?
Closure	<ol style="list-style-type: none"> Summarize the Lesson Learning Outcomes and get affirmation from students on these. Suggested Reading



	<p>https://developer.mozilla.org/en-US/docs/Web/Events</p> <p>3. Homework</p> <ul style="list-style-type: none">• Write a JavaScript program that uses onSubmit to validate a form (e.g., check if a name field is empty).• Explore and apply at least two more event handlers (like onMouseOver or onKeyPress) in a small webpage project. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<p>1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss.</p> <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>



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Lesson Plan No. 5	Course Name: Web Technologies Topic Declaring Variables, Scope of Variables, and Functions.	Course No.: BCAMI-106
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Objectives	At the end of the lesson the student shall be able to: <ul style="list-style-type: none"> Understand how to declare variables using var, let, and const in JavaScript. Differentiate between the scope of variables (global, local, block-level). Learn how to define and invoke functions. Apply the concept of functions to organize and reuse code.
Teaching Aids (if any)	a. PowerPoint Presentation b. Use of an interactive platform like CodePen for live code demonstrations and exercises.
Teaching Development	<p>1. Introduction (5 minutes)</p> <ul style="list-style-type: none"> Start by asking students about the importance of variables in storing data and organizing code in any programming language. Introduce the concept of variables as containers for storing data and how they are declared in JavaScript. Mention that understanding variable scope and using functions are key to writing efficient and manageable code. <p>Development (30 minutes)</p> <p>a. Declaring Variables:</p> <ul style="list-style-type: none"> Explain the three ways to declare variables in JavaScript: var, let, and const. var: Used in earlier versions, has function-scoped or globally scoped. let: Block-scoped, introduced in ES6, provides better control over scope. const: Block-scoped and cannot be reassigned after initial declaration. <p>b. Scope of Variables:</p> <ul style="list-style-type: none"> Define scope as the context in which a variable is accessible. Explain the three types of scope: <ul style="list-style-type: none"> Global Scope: Variables declared outside of functions and accessible anywhere. Local/Function Scope: Variables declared within a function and accessible only within that function. Block Scope: Variables declared with let or const inside a block (e.g., within { } in loops or conditionals) are only accessible within that block. <p>c. Functions in JavaScript:</p>



	<ul style="list-style-type: none">• Define a function as a block of reusable code designed to perform a specific task.• Explain how to declare a function using the function keyword: <p>2. Exercise (5 minutes) –</p> <ul style="list-style-type: none">• Declare a variable using const. What happens if you try to change its value?• Write a function that takes two numbers as input and returns their product.• What is the scope of a variable declared with let inside a for loop.
Closure	<ol style="list-style-type: none">1. Summarize the Lesson Learning Outcomes and get affirmation from students on these.2. Suggested Reading https://developer.mozilla.org/enUS/docs/Web/JavaScript/Guide/Functions3. Homework<ul style="list-style-type: none">• Write a JavaScript program that declares three variables (using var, let, and const) and prints their values.• Create a function that takes a person's name as a parameter and returns a greeting message.• Experiment with different scopes by declaring variables inside loops, functions, and blocks, and print their values. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<ol style="list-style-type: none">1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss.2. Conduct a quick quiz on CodePen or Nearpod with questions on variable scope and function declarations. <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>



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Lesson Plan No. 6	Course Name: Web Technologies Topic Form validations.	Course No.: BCAMI-106
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Objectives	At the end of the lesson the student shall be able to: <ul style="list-style-type: none"> • Understand the importance of form validation in web development. • Learn how to implement both client-side and server-side form validation using HTML5 and JavaScript. • Apply validation techniques to ensure user inputs meet specified criteria before submission.
Teaching Aids (if any)	a. PowerPoint Presentation b. Use of online tools like JSFiddle or CodePen for live coding exercises.
Teaching Development	<p>1. Introduction (5 minutes)</p> <ul style="list-style-type: none"> • Ask students about their experiences filling out forms online and if they've ever received error messages when submitting incorrect or incomplete data. • Introduce form validation as a method of ensuring that users submit the correct information. • Explain the importance of validating user input to prevent errors, ensure data integrity, and protect against malicious input. <p>Development (30 minutes)</p> <p>a. Basic HTML5 Form Validation:</p> <ul style="list-style-type: none"> • Introduce HTML5 built-in form validation attributes like required, pattern, minlength, maxlength, type, etc. • Provide examples of how to use these attributes in form fields: <p>b. Scope of Variables:</p> <ul style="list-style-type: none"> • JavaScript Form Validation: • Explain that while HTML5 provides basic validation, JavaScript allows for more custom and complex validation. • Show how to use JavaScript to validate form inputs: <p>c. Validation Techniques:</p> <ul style="list-style-type: none"> • Explain the following validation techniques: • Required Field Validation: Ensure all mandatory fields are filled. • Email Validation: Check that email inputs match the correct pattern using regex. • Password Validation: Validate password strength (e.g., length, special characters) <p>2. Exercise (5 minutes) –</p>



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	<ul style="list-style-type: none">• Create an HTML form with fields for name, email, age, and password. Add validation for each field (using both HTML5 and JavaScript).• What is the purpose of using the required attribute in form fields?• Write a JavaScript function that validates if the entered phone number is exactly 10 digits.
Closure	<ol style="list-style-type: none">1. Summarize the Lesson Learning Outcomes and get affirmation from students on these.2. Suggested Reading https://developer.mozilla.org/enUS/docs/Web/JavaScript/Guide/Functions3. Homework<ul style="list-style-type: none">• Build a registration form with fields for username, email, password, and confirm password. Implement validation to ensure:<ul style="list-style-type: none">• Username is not empty.• Email is valid.• Password is at least 8 characters long and matches the confirm password field. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<ol style="list-style-type: none">1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>



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Lesson Plan No. 7	Course Name: Web Technologies Topic : Simple AJAX applications.	Course No.: BCAMI-106
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Objectives	<p>At the end of the lesson the student shall be able to:</p> <ul style="list-style-type: none"> • Understand the basic concept of Asynchronous JavaScript and XML (AJAX). • Learn how to make asynchronous requests to a server without reloading the web page. • Implement simple AJAX functionality using JavaScript to fetch and display data dynamically. • Apply AJAX to build interactive web applications.
Teaching Aids (if any)	<p>a. PowerPoint Presentation b. Nearpod Tool</p>
Teaching Development	<p>Introduction (5 minutes)</p> <ul style="list-style-type: none"> • Start by asking students if they've encountered websites where data is updated dynamically without reloading the page (e.g., live search, auto-refreshing feeds). • Introduce AJAX (Asynchronous JavaScript and XML) as the technique that enables web pages to update content without a full page reload, providing a smoother and faster user experience. • Explain that AJAX allows data to be fetched from a server asynchronously, meaning the browser can continue to load and respond to user input while waiting for the server's response. <p>Development (30 minutes)</p> <p>a. Basic Concept of AJAX:</p> <ul style="list-style-type: none"> • Define AJAX as a set of technologies (XMLHttpRequest, JavaScript, HTML, CSS) that allows for asynchronous communication with the server. • Explain that although it's called AJAX, data is often transferred in JSON format rather than XML. <p>b. How AJAX Works:</p> <ul style="list-style-type: none"> • Walk through the key steps of how AJAX works: • Create an instance of XMLHttpRequest • Define a callback function to handle the response. • Send an asynchronous request to the server. • Update the web page dynamically based on the server's response. <p>c. Simple AJAX Example:</p> <ul style="list-style-type: none"> • Show a simple example of how to send an HTTP request using AJAX: <p>Exercise (5 minutes) –</p>



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	<ul style="list-style-type: none">• Write a simple AJAX request that fetches data from a file and displays it in a div element.• How does AJAX improve the user experience of a web page?• What function is used to parse JSON data in an AJAX request?
Closure	<ol style="list-style-type: none">1. Summarize the Lesson Learning Outcomes and get affirmation from students on these.2. Suggested Reading https://developer.mozilla.org/en-US/docs/Learn/JavaScript/Client-side_web_APIs/Fetching_data3. Homework<ul style="list-style-type: none">• Build a simple web application that allows users to click a button and load random facts from a server asynchronously using AJAX.• Write a JavaScript program that uses AJAX to fetch JSON data from an API (like a list of posts or users) and display it in an HTML table.• Experiment with sending different types of HTTP requests (GET, POST) using AJAX. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<ol style="list-style-type: none">1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss.2. Conduct a quiz on AJAX basics, focusing on how to initiate AJAX requests and handle responses <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>



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Lesson Plan No. 28	Course Name: Web Technologies Topic : Introduction to XML	Course No.: BCAMI-106
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Objectives	At the end of the lesson the student shall be able to: <ul style="list-style-type: none"> ● Understand the basic concept of XML and its purpose. ● Learn the fundamental structure of an XML document. ● Identify the key components of an XML document.
Teaching Aids (if any)	a. PowerPoint Presentation
Teaching Development	<ol style="list-style-type: none"> 1. Introduction (5 minutes) <ul style="list-style-type: none"> - Begin by asking students about the different formats of data they encounter daily (e.g., text, images, spreadsheets). - Introduce XML as a language for storing and transporting data. - Explain that XML is platform-independent and human-readable. 2. Development (30 minutes) <ol style="list-style-type: none"> a. What is XML: <ul style="list-style-type: none"> - Define XML as a markup language for encoding data. - Explain the difference between XML and HTML. - Discuss the advantages of using XML for data exchange. b. XML Structure: <ul style="list-style-type: none"> - Introduce the basic structure of an XML document, including the declaration, root element, elements, attributes, and text content. - Provide simple examples to illustrate the structure. c. Well-Formed XML: <ul style="list-style-type: none"> - Explain the concept of a well-formed XML document. - Discuss the essential rules for creating valid XML documents. 3. Exercise (5 minutes) – <ul style="list-style-type: none"> - What does XML stand for? - What is the root element in an XML document? - What is the difference between an element and an attribute in XML?
Closure	<ol style="list-style-type: none"> 1. Summarize the Lesson Learning Outcomes and get affirmation from students on these. 2. Suggested Reading Introduction to XML https://developer.mozilla.org/en-US/docs/Web/XML Videos of : Introduction to XML https://youtu.be/QmASajj0cu8 3. Homework <ul style="list-style-type: none"> - Create a simple XML document to represent a list of books with title, author, and publication year.



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	<ul style="list-style-type: none">- Validate the XML document using an online XML validator. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<ol style="list-style-type: none">1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>



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Lesson Plan No. 29	Course Name: Web Technologies Topic : Uses of XML, Simple XML, XML Key Components	Course No.: MCA-302
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Objectives	At the end of the lesson the student shall be able to: <ul style="list-style-type: none"> • Understand the uses of XML in web development and data exchange. • Learn the key components of XML including elements, attributes, and structure. • Work with Simple XML to parse and manipulate XML data in PHP.
Teaching Aids (if any)	a. PowerPoint Presentation
Teaching Development	<ol style="list-style-type: none"> 1. Introduction (5 minutes) <ul style="list-style-type: none"> • Begin by asking students how they think data is exchanged between different applications and platforms. • Discuss real-world scenarios where different systems need to communicate, such as APIs, web services, or mobile apps. • Introduce XML (eXtensible Markup Language) as a flexible, widely-used format for data representation and sharing across platforms. • Explain that XML is used to structure, store, and transport data, and highlight its significance in web development, configuration files, and document processing. 2. Development (30 minutes) <ol style="list-style-type: none"> a. Uses of XML in Web Development: <ul style="list-style-type: none"> • Discuss the various uses of XML: • Data Exchange: XML is commonly used for data exchange between systems, including APIs, web services (SOAP, REST), and databases. • Configuration Files: XML is used in configuration files (e.g., web.config in .NET) for storing application settings. b. Key Components of XML: <ul style="list-style-type: none"> • Introduce the key components of XML c. Simple XML in PHP: <ul style="list-style-type: none"> • Introduce Simple XML as a PHP extension that makes it easy to work with XML data. Explain that Simple XML allows PHP developers to parse, read, and manipulate XML files effortlessly. 3. Exercise (5 minutes) – <ul style="list-style-type: none"> • Write a PHP script that reads an XML file containing a list of students, and outputs the names and grades.





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	<ul style="list-style-type: none">• Modify the script to display only students with grades above a certain threshold.• Write a PHP program that adds a new book to an XML file using Simple XML.
Closure	<ol style="list-style-type: none">1. Summarize the Lesson Learning Outcomes and get affirmation from students on these.2. Homework<ul style="list-style-type: none">• Write an XML file representing a library of books, including title, author, and year. Create a PHP script that reads and displays this data.• Write a PHP program that takes user input through a form and stores the data in an XML file. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<ol style="list-style-type: none">1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>



Lesson Plan No. 30	Course Name: Web Technologies Topic : DTD and XML Schemas	Course No.: BCAMI-106
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Objectives	At the end of the lesson the student shall be able to: <ul style="list-style-type: none"> Understand the purpose and structure of Document Type Definition (DTD) in XML. Learn how to validate XML documents using DTD. Explore XML Schemas and how they offer a more powerful method of validating XML documents compared to DTD.
Teaching Aids (if any)	a. PowerPoint Presentation b. Video tutorial on XML Validation https://www.youtube.com/watch?v=32GI5DHggh8
Teaching Development	<ol style="list-style-type: none"> Introduction (5 minutes) <ul style="list-style-type: none"> Begin with a question: “How do we ensure the data being exchanged between applications is accurate and follows a specific structure?” Introduce the concept of XML validation, explaining that it ensures XML documents conform to a defined structure and rules. This is crucial in applications that depend on structured data, like web services or databases. Explain that two primary methods of validating XML documents are: <ul style="list-style-type: none"> Document Type Definition (DTD) XML Schema Development (30 minutes) <ol style="list-style-type: none"> Document Type Definition (DTD): <ul style="list-style-type: none"> Define DTD Explain internal and external DTDs: <ul style="list-style-type: none"> -Internal DTD -External DTD Validating XML with DTD: <ul style="list-style-type: none"> Explain how DTD ensures that an XML document follows the correct structure, including elements and attributes. Introduction to XML Schemas: <ul style="list-style-type: none"> Explain that XML Schemas are an alternative to DTD and are more powerful and flexible. XML Schemas define the structure of XML documents with richer data types and validation rules. Differences between DTD and XML Schema: Exercise (5 minutes) – <ul style="list-style-type: none"> Write an XML document and define a DTD for it.



	<ul style="list-style-type: none"> Create an XML document and write an XML Schema to validate it.
Closure	<ol style="list-style-type: none"> Summarize the Lesson Learning Outcomes and get affirmation from students on these. Suggested Reading https://www.w3schools.com/xml/xml_dtd.asp Homework <ul style="list-style-type: none"> Create a DTD for an XML document representing a course catalog. Write an XML Schema to validate a document representing a student record, including elements like name, age, and enrollment date. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<ol style="list-style-type: none"> Reflective Questions (What, Why, Who?). Allow students to answer and discuss. Conduct a short class quiz on the differences between DTD and XML Schema and how each is used. <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>



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Lesson Plan No. 31	Course Name: Web Technologies Topic : Well-formed XML, Using XML with Applications	Course No.: BCAMI-106
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Objectives	At the end of the lesson the student shall be able to: <ul style="list-style-type: none"> Understand the rules for creating well-formed XML documents. Learn how XML can be integrated with various applications, such as web services, APIs, and data storage.
Teaching Aids (if any)	a. PowerPoint Presentation
Teaching Development	<ol style="list-style-type: none"> Introduction (5 minutes) <ul style="list-style-type: none"> Ask students, “What makes an XML document readable and processable by a machine?” Introduce the concept of well-formed XML: XML that follows a specific set of rules to ensure that it can be processed by an XML parser. <p>Development (30 minutes)</p> <ol style="list-style-type: none"> Well-formed XML: <ul style="list-style-type: none"> Define well-formed XML as XML that conforms to syntax rules, making it readable by an XML parser. Rules for well-formed XML: Using XML with Applications: <ul style="list-style-type: none"> Explain how XML is used in real-world applications to store, structure, and transport data. <ol style="list-style-type: none"> Exercise (5 minutes) – <ul style="list-style-type: none"> Write a well-formed XML document representing a list of products. Write a PHP script that reads XML data from a file and displays it in a table.
Closure	<ol style="list-style-type: none"> Summarize the Lesson Learning Outcomes and get affirmation from students on these. Suggested Reading https://www.w3schools.com/xml/xml_syntax.asp Homework <ul style="list-style-type: none"> Write a well-formed XML document to represent a library catalog. Develop a simple web service in PHP that uses XML as the format for exchanging data. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<ol style="list-style-type: none"> Reflective Questions (What, Why, Who?). Allow students to answer and discuss.



	<p>2. Conduct a short class quiz on the topic XML, DTD schemas.</p> <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>
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Lesson Plan No. 4.5	Course Name: Web Technologies Topic : Introduction to XSL (Extensible Stylesheet Language).	Course No.: BCAMI-106
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Objectives	At the end of the lesson the student shall be able to: <ul style="list-style-type: none">• Understand the purpose and structure of XSL.• Learn how XSL is used to transform XML documents into other formats like HTML or plain text.• Explore the different components of XSL, including XSLT, XPath, and XSL-FO.
Teaching Aids (if any)	a. PowerPoint Presentation b. Example XML and XSL files.
Teaching Development	<ol style="list-style-type: none">1. Introduction (5 minutes)<ul style="list-style-type: none">• Start by asking the students how they would display or format raw XML data on a webpage.• Introduce XSL (Extensible Stylesheet Language) as a language designed for transforming and formatting XML documents. Explain that XML stores data, but XSL helps to display or transform that data into formats like HTML, PDF, or plain text.• Provide a brief overview of the XSL. <p>Development (30 minutes)</p> <ol style="list-style-type: none">a. Introduction to XSLT (XSL Transformations):<ul style="list-style-type: none">• Explain that XSLT as the most commonly used component of XSL, allowing the transformation of XML documents into different formats.• Demonstrate how XSLT can transform XML into HTML to make XML data displayable in a web browser.b. How XSLT Works:<ul style="list-style-type: none">• Explain how XSLT transforms an XML document using templates. The XSLT processor matches elements in the XML file to the templates defined in the XSL file and generates the output accordingly.• Discuss common XSLT elementsc. XPath Overview:<ul style="list-style-type: none">• Introduce XPath as a language used within XSLT to navigate XML documents.• Explain that XPath allows selecting nodes, elements, and attributes within an XML document. <ol style="list-style-type: none">2. Exercise (5 minutes) –<ul style="list-style-type: none">• Write an XML document representing a list of movies (title, director, release year, genre). Create an XSL file to transform this XML into an HTML table.



	<ul style="list-style-type: none">• Use XPath to select and display only movies from a specific genre in the HTML table.
Closure	<ol style="list-style-type: none">1. Summarize the Lesson Learning Outcomes and get affirmation from students on these.2. Homework<ul style="list-style-type: none">• Create an XML document representing a music playlist (song title, artist, album, duration). Write an XSL file that transforms the XML data into an HTML table for display in a web browser. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<ol style="list-style-type: none">1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>



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Lesson Plan No. 33	Course Name: Web Technologies Topic : XML Transformation with Simple Example	Course No.: BCAMI-106
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Objectives	<p>At the end of the lesson the student shall be able to:</p> <ul style="list-style-type: none"> • Understand the basic concept of XML transformation. • Learn how to transform XML data using XSLT. • Apply XSLT to convert XML data into a simple HTML table for display on a webpage.
Teaching Aids (if any)	<ol style="list-style-type: none"> a. PowerPoint Presentation b. Sample code snippets to illustrate the transformation process.
Teaching Development	<ol style="list-style-type: none"> 1. Introduction (5 minutes) <ul style="list-style-type: none"> • Begin by asking students, "How can we display raw XML data in a user-friendly format like a table on a website?" • Introduce XML Transformation, explaining that XML stores data, and XSLT (Extensible Stylesheet Language Transformations) is used to transform and format that data for display, commonly into HTML. • Explain that XSLT is a language designed to transform XML into different formats, and it's frequently used to display XML data in web pages. • Development (30 minutes) <ol style="list-style-type: none"> a. Overview of XML Transformation: <ul style="list-style-type: none"> • Explain that XML itself is primarily for data storage and transfer, but it is often not directly readable or visually appealing for users. • Introduce XSLT as the tool for transforming XML documents into other formats like HTML, plain text, or other XML documents. b. Basic XML Document Example: <ul style="list-style-type: none"> • Present a simple XML document containing information about books (books.xml): c. Simple XSLT Example: <ul style="list-style-type: none"> • Introduce a basic XSLT file (books.xsl) that transforms the above XML into an HTML table: 2. Exercise (5 minutes) – <ul style="list-style-type: none"> • Create an XML document representing a list of students (name, grade, and course). • Write an XSLT file that transforms the XML into an HTML table that displays the students' data in an organized manner.



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Closure	<ol style="list-style-type: none">1. Summarize the Lesson Learning Outcomes and get affirmation from students on these.2. Suggested Reading https://www.w3schools.com/xml/xsl_intro.asp3. Homework<ul style="list-style-type: none">• Create an XML document that lists products (name, price, and description). Write an XSLT file that transforms the XML into an HTML page with a table displaying the product details.• Use XSLT to format the output with additional HTML elements such as headers or footers. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<ol style="list-style-type: none">1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>



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Lesson Plan No. 4.7	Course Name: Web Technologies Topic : XSL Elements and Transforming with XSLT.	Course No.: BCAMI-106
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Objectives	At the end of the lesson the student shall be able to: <ul style="list-style-type: none"> • Understand the key elements of XSLT. • Learn how to use XSL elements to transform XML data into other formats. • Apply XSLT templates to structure and format XML data for display in HTML or other formats.
Teaching Aids (if any)	a. PowerPoint Presentation
Teaching Development	<p>Introduction (5 minutes)</p> <ul style="list-style-type: none"> • Ask the students, “What would you do if you needed to format and display structured XML data as an HTML page?” • Introduce XSLT (Extensible Stylesheet Language Transformations) as the language used to transform XML documents into different formats like HTML, text, or another XML document. • Explain that XSLT uses XSL elements to define how to structure and present XML data. <p>Development (30 minutes)</p> <p>a. Overview of XSL Elements:</p> <ul style="list-style-type: none"> • Explain that XSLT relies on specific elements to perform transformations. These elements instruct the processor on how to handle XML data. • Introduce the main XSL elements used in transformations <p>b. How AJAX Works:</p> <ul style="list-style-type: none"> • Example XML and XSLT Transformation: • Present an XML document (books.xml) that contains book data: <p>c. Practical Demonstration:</p> <ul style="list-style-type: none"> • Show the process of transforming books.xml into an HTML page using books.xsl in a web browser. <p>Exercise (5 minutes) –</p> <ul style="list-style-type: none"> • Create an XML document listing students (name, grade, course). Write an XSLT file that transforms the XML into an HTML table, showing the students' names and grades. • Use <xsl:if> to highlight students with grades above 90 by displaying their names in bold.



Closure	<ol style="list-style-type: none">1. Summarize the Lesson Learning Outcomes and get affirmation from students on these.2. Homework<ul style="list-style-type: none">• Create an XML file representing a product catalog. Write an XSLT file that transforms the XML into an HTML page that displays the products in a formatted table.• Add conditional formatting using <code><xsl:if></code> or <code><xsl:choose></code> to display products that are "On Sale" in a different color. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<ol style="list-style-type: none">1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>



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Lesson Plan No. 5.1	Course Name: Web Technologies Topic : Introduction to PHP: Declaring variables, data types,	Course No.: MCA-302
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Objectives	At the end of the lesson the student shall be able to: Understand how to declare variables in PHP. Learn about different data types in PHP. Use variables and data types effectively to store and manipulate data in scripts.
Teaching Aids (if any)	a. PowerPoint Presentation
Teaching Development	<p>1. Introduction (5 minutes)</p> <ul style="list-style-type: none"> Ask students if they are familiar with how variables work in other programming languages like JavaScript. Introduce PHP as a server-side scripting language that allows for dynamic web content creation. Explain that variables in PHP are containers for storing data values, and PHP supports various data types to handle different kinds of data. <p>Development (30 minutes)</p> <p>a. Declaring Variables in PHP:</p> <ul style="list-style-type: none"> Explain the syntax of declaring variables in PHP: Variables in PHP start with the \$ symbol. Variables are case-sensitive. <p>b. Data Types:</p> <ul style="list-style-type: none"> PHP Data Types: Introduce the different data types in PHP: <p>c. Variable Assignment:</p> <ul style="list-style-type: none"> PHP Variable Scope: Explain the three types of variable scope in PHP <p>2. Exercise (5 minutes) –</p> <ul style="list-style-type: none"> Declare variables for your name, age, and height, and output them in a formatted sentence using PHP. What are the primary data types in PHP? What is the purpose of the . operator in PHP?
Closure	<p>1. Summarize the Lesson Learning Outcomes and get affirmation from students on these.</p> <p>2. Suggested Reading https://www.php.net/manual/en/language.variables.php</p> <p>3. Homework</p>



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	<ul style="list-style-type: none">• Write a PHP script that declares a variable for a product's name, price, and availability (boolean). Output a sentence describing the product, using string concatenation.• Create an array in PHP that stores the names of three cities and output the second city using an index. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<ol style="list-style-type: none">1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss.2. Nearpod Quiz on Text formatting tags <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>



Lesson Plan No. 5.2	Course Name: Web Technologies Topic : PHP Arrays, Strings, Operations, Expressions, Control Structures	Course No.: MCA-302
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Objectives	At the end of the lesson the student shall be able to: <ul style="list-style-type: none"> • Understand how to work with arrays and strings in PHP. • Learn how to perform basic operations and use expressions in PHP. • Apply control structures like if-else, switch, and loops to control the flow of PHP programs. • Solve simple problems using PHP arrays, strings, and control structures.
Teaching Aids (if any)	a. PowerPoint Presentation b. Nearpod Tool
Teaching Development	<ol style="list-style-type: none"> 1. Introduction (5 minutes) <ul style="list-style-type: none"> • Start by asking students how they've stored and manipulated collections of data (e.g., lists of items) in other programming languages. • Introduce arrays as a way to store multiple values in PHP, and strings as a way to manipulate text. • Briefly mention that control structures like if-else, switch, and loops allow for decision-making and repeating actions based on certain conditions. <p>Development (30 minutes)</p> <ol style="list-style-type: none"> a. PHP Arrays: <ul style="list-style-type: none"> • Introduce the concept of arrays in PH b. PHP Strings: <ul style="list-style-type: none"> • Explain how to work with strings in PHP: • Common string operations like concatenation (.), length (strlen()), and searching (strpos()). c. Control Structures: <ul style="list-style-type: none"> • Explain how control structures work in PHP: • If-Else Statements: Making decisions based on conditions php • Switch Case: Handling multiple possible values for a variable <ol style="list-style-type: none"> 2. Exercise (5 minutes) – <ul style="list-style-type: none"> • Write a PHP script that stores the prices of three products in an associative array and outputs the total cost. • How do you use a switch statement in PHP to handle multiple conditions?



	<ul style="list-style-type: none">• What is the output of strlen("Hello World!")?
Closure	<ol style="list-style-type: none">1. Summarize the Lesson Learning Outcomes and get affirmation from students on these.2. Homework<ul style="list-style-type: none">• Write a PHP program that uses an associative array to store product names and prices, and outputs the most expensive product.• Create a PHP program that checks whether a given number is even or odd using an if-else statement.• Experiment with loops in PHP by creating a script that outputs the multiplication table of a given number. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<ol style="list-style-type: none">1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss.2. Conduct a quiz on PHP arrays, strings, and control structures, focusing on practical coding questions. <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>



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Lesson Plan No. 5.3	Course Name: Web Technologies Topic : PHP Functions,	Course No.: BCAMI-106
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Objectives	At the end of the lesson the student shall be able to: <ul style="list-style-type: none"> • Understand the concept and importance of functions in PHP. • Learn how to define and invoke functions in PHP. • Use parameters and return values in functions. • Apply built-in and user-defined functions to solve practical problems
Teaching Aids (if any)	a. PowerPoint Presentation b. Use of Nearpod Tool
Teaching Development	<p>1. Introduction (5 minutes)</p> <ul style="list-style-type: none"> • Ask students if they've ever repeated code while building programs in PHP or other languages. • Introduce functions as reusable blocks of code that make programs more modular, organized, and easier to maintain. • Explain that PHP provides many built-in functions, and developers can create their own user-defined functions. <p>Development (30 minutes)</p> <p>a. Understanding Functions in PHP:</p> <ul style="list-style-type: none"> • Define a function as a block of code designed to perform a specific task. • Explain the advantages of using functions <p>b. Declaring and Defining Functions:</p> <ul style="list-style-type: none"> • Illustrate the syntax of a user-defined function <p>c. Function Parameters and Return Values:</p> <ul style="list-style-type: none"> • Discuss how to pass information to functions using parameters. • Explain the concept of default parameter values. • Emphasize the significance of the return statement in outputting function results. <p>2. Exercise (5 minutes) –</p> <ul style="list-style-type: none"> • Define a function multiply that takes two numbers as parameters and returns their product. • Create a function is Even that checks if a number is even and returns a boolean. • Write a function greet that accepts a name and returns a greeting message.
Closure	1. Summarize the Lesson Learning Outcomes and get affirmation from students on these.



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	<p>2. Homework</p> <ul style="list-style-type: none">• Write a PHP program that defines a function to calculate the area of a rectangle, given its length and width.• Create a PHP program that uses a built-in array function to sort an array of numbers and return the sorted array. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<ol style="list-style-type: none">1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss.2. Conduct a quiz focusing on function syntax, parameter passing, and common built-in functions. <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>



Lesson Plan No. 5.4	Course Name: Web Technologies Topic: Reading data from web form controls like Text Boxes, radio buttons, lists etc.	Course No.: BCAMI-106
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Objectives	At the end of the lesson the student shall be able to: <ul style="list-style-type: none"> • Understand how to create web forms using HTML. • Learn how to handle different form controls like text boxes, radio buttons, checkboxes, and dropdown lists. • Use PHP to read and process form data submitted by users. • Apply these concepts to build dynamic web applications that accept user input.
Teaching Aids (if any)	a. PowerPoint Presentation b. Use of Nearpod tool for online quiz
Teaching Development	<ol style="list-style-type: none"> 1. Introduction (5 minutes) <ul style="list-style-type: none"> • Begin by asking students if they've ever filled out a form online, such as a registration or login form. • Introduce web forms as a method for collecting user data, and PHP as the tool used to process that data on the server. • Mention common form controls like text boxes, radio buttons, checkboxes, and dropdown lists. 2. Development (30 minutes) <ol style="list-style-type: none"> a. Creating a Basic HTML Form: <ul style="list-style-type: none"> • Explain how to create a simple HTML form using the <form> element and basic input controls. b. Reading Text Box Data in PHP: <ul style="list-style-type: none"> • Show how to read data from a text box input using the \$_POST or \$_GET superglobal arrays in PHP. c. Handling Radio Buttons: <ul style="list-style-type: none"> • Explain how to create radio buttons in HTML, and how PHP can detect which option is selected. 3. Exercise (5 minutes) – <ul style="list-style-type: none"> • Create an HTML form that collects a user's favorite programming language (from a list of checkboxes) and age (text box) and processes the form data using PHP. • How do you capture multiple checkbox values in PHP? • What is the difference between \$_GET and \$_POST in PHP?
Closure	<ol style="list-style-type: none"> 1. Summarize the Lesson Learning Outcomes and get affirmation from students on these. 2. Homework



	<ul style="list-style-type: none">• Create a PHP form that collects user information including name, email, phone number, and hobbies (checkboxes). Display the form data on another page.• Write a PHP script to process form data and validate user inputs (e.g., checking if all required fields are filled in). <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<ol style="list-style-type: none">1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss.2. Conduct a quiz on reading form data using \$_POST and \$_GET, focusing on practical examples of using radio buttons, checkboxes, and dropdown lists. <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>



Lesson Plan No. 5.5	Course Name: Web Technologies Topic: Handling File Uploads	Course No.: BCAMI-106
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Objectives	At the end of the lesson the student shall be able to: <ul style="list-style-type: none">• Understand how to create a web form that allows users to upload files.• Learn how PHP handles file uploads and stores them on the server.• Use the \$_FILES superglobal array to manage file upload data.• Apply file validation techniques to ensure security and proper handling.
Teaching Aids (if any)	a. PowerPoint Presentation b. Use of Nearpod tool for online quiz
Teaching Development	<ol style="list-style-type: none">1. Introduction (5 minutes)<ul style="list-style-type: none">• Start by asking students if they have ever uploaded files on a website (e.g., images, PDFs, etc.).• Introduce file uploads as a common web feature, and explain that PHP allows users to upload files securely to a web server.• Discuss some common use cases for file uploads, such as profile picture uploads, document submissions, and image galleries.2. Development (30 minutes)<ol style="list-style-type: none">a. Creating an HTML Form for File Upload:<ul style="list-style-type: none">• Explain how to create an HTML form that allows file uploads using the enctype="multipart/form-data" attribute and the <input type="file"> control.b. Handling File Uploads in PHP<ul style="list-style-type: none">• Introduce the \$_FILES superglobal array, which is used to access information about uploaded files.c. Moving the Uploaded File<ul style="list-style-type: none">• Explain how to move the uploaded file from the temporary directory to a target directory on the server using move_uploaded_file().3. Exercise (5 minutes) –<ul style="list-style-type: none">• Create a PHP form that allows users to upload PDF files and stores them in a specific directory.• Add validation to check that the uploaded file does not exceed 1 MB and is only in PDF format.
Closure	<ol style="list-style-type: none">1. Summarize the Lesson Learning Outcomes and get affirmation from students on these.2. Homework



	<ul style="list-style-type: none">• Create a PHP script that allows users to upload multiple files at once and display the details (name, size, type) of each uploaded file.• Write a PHP program that allows only image file uploads (JPG, PNG) and checks for a maximum file size of 1 MB. <p>Spend 5 minutes to wrap up and consolidate the learnings.</p>
Evaluation	<ol style="list-style-type: none">1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>



Lesson Plan No. 5.6	Course Name: Web Technologies Topic : Handling sessions and cookies.	Course No.: BCAMI-106
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Objectives	At the end of the lesson the student shall be able to: Understand the difference between sessions and cookies in PHP. Learn how to set, retrieve, and manage cookies in PHP. Understand how to initiate, store, and retrieve data using PHP sessions. Apply sessions and cookies to manage user data in web applications.
Teaching Aids (if any)	a. PowerPoint Presentation
Teaching Development	1. Introduction (5 minutes) <ul style="list-style-type: none">• Begin by asking students if they've noticed how websites "remember" them after logging in or how items stay in a shopping cart after navigating away from the page.• Introduce the concept of state management and explain that web pages are stateless by default. To maintain user information, PHP provides sessions and cookies.• Briefly explain the purpose of cookies (client-side storage) and sessions (server-side storage). Development (30 minutes) <ul style="list-style-type: none">a. Introduction to Cookies:<ul style="list-style-type: none">• Define cookies as small text files stored on the user's computer that allow websites to remember information between different pages or visits.• Show how to set a cookie in PHP using the <code>setcookie()</code> function.b. Retrieving and Deleting Cookies:<ul style="list-style-type: none">• Demonstrate how to retrieve and use the value of a cookie using the <code>\$_COOKIE</code> superglobal array.c. Accessing and Modifying Session Variables:<ul style="list-style-type: none">• Demonstrate how to retrieve session data using the <code>\$_SESSION</code> superglobal array. 2. Exercise (5 minutes) – <ul style="list-style-type: none">• Set a cookie that stores the user's favorite color for 7 days. Create a page that reads this cookie and changes the page background color based on the value.• Create a session-based login system where users are greeted by their username after logging in. Provide an option to log out and destroy the session.• How do you delete a cookie in PHP? How do you destroy a session?



Closure	<ol style="list-style-type: none">1. Summarize the Lesson Learning Outcomes and get affirmation from students on these.2. Homework<ul style="list-style-type: none">• Write a PHP script that creates a session and stores the user's name, email, and login time. Display the information on multiple pages.• Create a cookie-based system where the user's preferred theme (dark or light mode) is stored and retrieved on every visit. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<ol style="list-style-type: none">1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>



Lesson Plan No. 5.7	Course Name: Web Technologies Topic : File Handling in PHP: File operations like opening, closing, reading.	Course No.: BCAMI-106
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Objectives	At the end of the lesson the student shall be able to: <ul style="list-style-type: none"> • Understand the basics of file handling in PHP. • Learn how to open, read, and close files using PHP functions. • Handle different file modes for reading and writing. • Implement file handling in practical scenarios.
Teaching Aids (if any)	a. PowerPoint Presentation
Teaching Development	<p>1. Introduction (5 minutes)</p> <ul style="list-style-type: none"> • Start by discussing the importance of file handling in web applications, such as storing user data, logs, and configuration settings. • Introduce the basic file operations: opening, reading, writing, and closing files in PHP. <p>Development (30 minutes)</p> <p>a. Opening Files:</p> <ul style="list-style-type: none"> • Explain how to open a file using the fopen() function, which returns a file pointer. <p>b. Reading Files:</p> <ul style="list-style-type: none"> • Introduce various methods to read data from a file: • fgets(): Reads a line from the file. • fread(): Reads a specified number of bytes from the file. • file_get_contents(): Reads the entire file into a string. <p>c. Error Handling:</p> <ul style="list-style-type: none"> • Discuss how to handle errors in file operations, such as checking if the file exists before attempting to open it. <p>2. Exercise (5 minutes) –</p> <ul style="list-style-type: none"> • Write a PHP script that opens a file, appends new content to it, and reads the entire file. • Implement error handling to check if the file exists before opening it. Display appropriate messages for success and failure. • What are the differences between fgets() and file_get_contents()?
Closure	<ol style="list-style-type: none"> 1. Summarize the Lesson Learning Outcomes and get affirmation from students on these. 2. Homework



	<ul style="list-style-type: none">• Create a PHP script that reads a file line by line and counts the number of words in the file. Display the word count to the user.• Write a program that creates a log file and appends timestamped messages to it every time the script is run. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<ol style="list-style-type: none">1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss.2. Nearpod Quiz on Text formatting tags <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>



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Lesson Plan No. 5.8	Course Name: Web Technologies Topic : File Handling in PHP: File operations like , writing, appending, deleting etc.	Course No.: BCAMI-106
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Objectives	At the end of the lesson the student shall be able to: <ul style="list-style-type: none"> • Understand how to write data to files using PHP. • Learn how to append data to an existing file. • Implement file deletion using PHP functions. • Apply these operations in real-world web applications.
Teaching Aids (if any)	a. PowerPoint Presentation
Teaching Development	<p>1. Introduction (5 minutes)</p> <ul style="list-style-type: none"> • Start by discussing the importance of managing file content dynamically in web applications (e.g., saving user data, logs, feedback). • Introduce the basic file operations: writing, appending, and deleting files using PHP. <p>Development (30 minutes)</p> <p>a. Writing to Files:</p> <ul style="list-style-type: none"> • Explain how to write data to a file using fwrite() or file_put_contents(). Writing will either create a new file if it doesn't exist or overwrite existing content. <p>b. Appending to Files:</p> <ul style="list-style-type: none"> • Introduce the "a" mode for appending data to a file without overwriting existing content. Use fwrite() in append mode to add new data at the end of the file. <p>c. Deleting Files:</p> <ul style="list-style-type: none"> • Demonstrate how to delete a file using the unlink() function. The function permanently removes the specified file from the server. <p>2. Exercise (5 minutes) –</p> <ul style="list-style-type: none"> • Write a PHP script that writes user input to a file, then appends new data from subsequent inputs. • Create a file deletion script that checks if a file exists before deleting it and provides appropriate success or error messages. • What is the difference between fwrite() in "w" mode and "a" mode?
Closure	<ol style="list-style-type: none"> 1. Summarize the Lesson Learning Outcomes and get affirmation from students on these. 2. Suggested Reading



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	<p>https://www.php.net/manual/en/book.filesystem.php</p> <p>3. Homework</p> <ul style="list-style-type: none">• Write a PHP program that logs every user visit to a file, appending the user's IP address and timestamp.• Create a PHP script that allows users to upload comments, writes them to a file, and appends new comments. Include a "Clear all comments" option that deletes the file. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<ol style="list-style-type: none">1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss.2. Conduct a short quiz on file operations in PHP, focusing on writing, appending, and deleting operations. <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>



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Lesson Plan No. 5.9	Course Name: Web Technologies Topic : Listing directories.	Course No.: BCAMI-106
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Objectives	<p>At the end of the lesson the student shall be able to:</p> <ul style="list-style-type: none"> • Understand how to list files and directories using PHP. • Learn to work with PHP functions such as scandir(), opendir(), readdir(), and closedir(). • Apply directory listing functions to navigate and display the contents of directories.
Teaching Aids (if any)	<p>a. PowerPoint Presentation.</p> <p>b. Use of Google Form to conduct a quiz.</p>
Teaching Development	<p>1. Introduction (5 minutes)</p> <ul style="list-style-type: none"> • Start by discussing the need for navigating directories in web development. Mention how file management is crucial for building file explorers, media managers, and file upload/download systems. • Introduce the basic concept of listing files and directories using PHP and mention commonly used PHP functions for this purpose. <p>Development (30 minutes)</p> <p>a. Listing Directories Using scandir():</p> <ul style="list-style-type: none"> • Introduce the scandir() function, which returns an array of files and directories within a given directory. <p>b. Listing Directories Using opendir(), readdir()</p> <ul style="list-style-type: none"> • Introduce another approach using opendir() to open a directory handle, readdir() to read its contents, and closedir() to close the directory handle. <p>c. Recursive Directory Listing:</p> <ul style="list-style-type: none"> • Introduce the concept of recursive directory listing to handle subdirectories. Demonstrate how to list files in nested folders using a recursive function. <p>2. Exercise (5 minutes) –</p> <ul style="list-style-type: none"> • Write a PHP script that lists all files in a directory but excludes subdirectories. • Modify the directory listing script to only display .txt files. • Implement a recursive function to display nested directories and files.
Closure	<p>1. Summarize the Lesson Learning Outcomes and get affirmation from students on these.</p> <p>2. Suggested Reading: https://www.php.net/manual/en/ref.dir.php</p>



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	<p>3. Homework</p> <ul style="list-style-type: none">• Create a PHP script that lists all files in a directory and allows the user to download any file by clicking on its name.• Write a PHP program that lists all image files (.jpg, .png, .gif) in a directory. <p>Spend 5 minutes to wrap up and consolidate the learnings</p>
Evaluation	<ol style="list-style-type: none">1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss.2. Conduct a short quiz on directory listing in PHP, focusing on functions such as scandir(), opendir(), and readdir(). <p>Spend 5 minutes to evaluate student assimilation of the lesson contents</p>