Unit 1: Internet Basics

1. **What is the Internet?**

   o The Internet is a global network of computers interconnected through various technologies. It allows users to access information and communicate worldwide.

2. **Explain the concept of a domain name.**

   o A domain name is a human-readable address used to identify a website or server on the Internet. It translates to an IP address, which is a numerical address that computers use to communicate.

3. **What is the difference between an IP address and a URL?**

   o An IP address is a numerical address assigned to each device connected to the Internet. A URL (Uniform Resource Locator) is the address of a specific webpage or resource on the Internet, often including the domain name and file path.

4. **What is the role of TCP/IP in Internet communication?**

   o TCP/IP is a suite of protocols that enables communication between devices on the Internet. TCP (Transmission Control Protocol) ensures reliable data transmission, while IP (Internet Protocol) handles the addressing and routing of packets.

5. **How does a computer connect to the Internet?**

   o A computer typically connects to the Internet through a modem or router. This device establishes a connection to an Internet Service Provider (ISP), which provides access to the global network.

Unit 2: HTML Introduction

1. **What is HTML?**

   o HTML (HyperText Markup Language) is the standard markup language for creating web pages. It defines the structure and content of a webpage.

2. **What is the role of a web browser?**

   o A web browser is a software application that interprets HTML code and displays it as a visual webpage.

3. **What are HTML tags?**

- HTML tags are keywords enclosed in angle brackets (< >) that define the structure and content of a webpage. They tell the browser how to display the content.

4. **What is the basic structure of an HTML document?**

- An HTML document typically consists of the following structure:

HTML

<!DOCTYPE html>

<html>

<head>

 <title>Page Title</title>

</head>

<body>

 </body>

</html>

5. **What is the difference between an element and an attribute in HTML?**

- An element is a specific part of an HTML document, defined by tags. Attributes are used to provide additional information about an element, such as its style, class, or ID.

Unit 3: HTML Commands and Structure & Formatting

1. **What are some common HTML tags for structuring a webpage?**

- Some common HTML tags for structuring a webpage include:

  - <html>, <head>, <title>, <body>, <header>, <nav>, <section>, <article>, <aside>, <footer>, <div>, <p>, <h1> to <h6>, <ul>, <ol>,

2. **How can you format text in HTML?**

- Text can be formatted in HTML using tags like:

  - <b> for bold text

  - <i> for italic text

  - <u> for underlined text

  - <strike> for strikethrough text

▪ <font> for font size, color, and face

3. **What is the purpose of the <div> tag?**

   o The <div> tag is a generic container element that can be used to group elements together and apply styles to them.

4. **How can you create a heading in HTML?**

   o Headings are created using the <h1> to <h6> tags, with <h1> being the largest and <h6> being the smallest.

5. **What is the difference between a block-level element and an inline element?**

   o Block-level elements occupy the full width of the page and start on a new line, while inline elements only take up as much width as necessary and can be placed within a line of text.

Unit 4: HTML Lists and Graphics

1. **What are the different types of lists in HTML?**

   o There are two main types of lists:

      ▪ **Unordered lists:** with <li> items

      ▪ **Ordered lists:** with <li> items

2. **How can you add an image to an HTML page?**

   o You can add an image to an HTML page using the <img> tag with the src attribute specifying the image source.

3. **What is the alt attribute in an <img> tag?**

   o The alt attribute provides alternative text for an image, which is displayed if the image cannot be loaded or if the user has a screen reader.

4. **What are some common image formats used on the web?**

   o Common image formats include:

      ▪ JPEG: Joint Photographic Experts Group

      ▪ PNG: Portable Network Graphics

      ▪ GIF: Graphics Interchange Format

5. **How can you control the size and alignment of an image in HTML?**

o   You can control the size and alignment of an image using the width, height, and align attributes of the <img> tag.

Unit 5: Creating Tables & Frames

1. **What are the basic components of an HTML table?**

    o   The basic components of an HTML table are:

        ▪   <table>: Defines the table

        ▪   <tr>: Defines a table row

        ▪   <th>: Defines a table header cell

        ▪   <td>: Defines a table data cell

2. **How can you create a table with borders and cell spacing?**

    o   You can create a table with borders and cell spacing using the border and cellspacing attributes of the <table> tag.

3. **What is the purpose of the colspan and rowspan attributes in a table cell?**

    o   The colspan attribute merges a cell with multiple columns, while the rowspan attribute merges a cell with multiple rows.

4. **What are frames in HTML?**

    o   Frames divide a web page into multiple independent sections, each with its own content.

5. **Why are frames generally not recommended for modern web design?**

    o   Frames can make navigation and user experience complex. Modern web design practices often favor single-page applications or responsive design techniques.

Unit 6: DHTML

1. **What is CSS?**

    o   CSS (Cascading Style Sheets) is a language used to style HTML elements, controlling their appearance and layout.

2. **What are the different ways to apply CSS styles to HTML elements?**

    o   CSS styles can be applied in three ways:

        ▪   Inline styles: Directly within the HTML element using the style attribute

- Internal styles: Defined within the <head> section of an HTML document using the <style> tag

- External styles: Defined in a separate CSS file and linked to the HTML document using the <link> tag

3. **What is the box model in CSS?**

- The box model describes how elements are structured in CSS. It consists of:

  - Content: The actual content of the element

  - Padding: Space around the content

  - Border: The border of the element

  - Margin: Space outside the border

4. **How can you create a class and apply it to multiple HTML elements?**

- You can create a class using a CSS selector and then apply it to multiple elements using the class attribute.

5. **What is the difference between an ID selector and a class selector in CSS?**

- An ID selector targets a specific element with a unique ID, while a class selector targets multiple elements with the same class name.

Unit 7: Introduction to JavaScript

1. **What is JavaScript?**

- JavaScript is a programming language used to create dynamic and interactive web pages.

2. **How can you include JavaScript code in an HTML document?**

- JavaScript code can be included in an HTML document using the <script> tag.

3. **What are the basic data types in JavaScript?**

- JavaScript has several basic data types:

  - Number

  - String

  - Boolean

  - Undefined

- Null

- Object

4. **What are operators and expressions in JavaScript?**

   o Operators are symbols used to perform operations on variables and values. Expressions are combinations of operators and operands that evaluate to a value.

5. **What is type casting in JavaScript?**

   o Type casting is the process of converting one data type to another. JavaScript can perform implicit type conversion in some cases, but explicit type conversion can be necessary.

Unit 8: Programming Constructs in JavaScript (continued)

4. **What are the different types of loops in JavaScript?**

   o JavaScript offers three main types of loops:

   - **For loop:** Executes a block of code a specific number of times.

   - **While loop:** Executes a block of code repeatedly as long as a condition is true.

   - **Do-while loop:** Executes a block of code at least once, and then repeatedly as long as a condition is true.

5. **What is a break statement and a continue statement?**

   o A **break** statement terminates the execution of a loop or a switch statement.

   o A **continue** statement skips the current iteration of a loop and moves to the next iteration.

Unit 9: Functions in JavaScript

1. **What is a function in JavaScript?**

   o A function is a block of code that performs a specific task. It can be reused multiple times throughout a program.

2. **How do you define a function in JavaScript?**

- A function is defined using the function keyword, followed by the function name, parentheses for parameters, and curly braces for the function body.

3. **What is the difference between a function declaration and a function expression?**

- A **function declaration** is hoisted, meaning it can be called before it's defined.

- A **function expression** is not hoisted and must be defined before it's used.

4. **What are arguments and parameters in a function?**

- **Parameters** are variables defined within the function's parentheses to receive values.

- **Arguments** are the actual values passed to the function when it's called.

5. **What is the return statement in a function?**

- The return statement specifies the value to be returned from a function.

Unit 10: DOM Model & Browser Objects

1. **What is the DOM (Document Object Model)?**

- The DOM represents an HTML document as a tree-like structure of nodes, allowing JavaScript to manipulate the document's structure and content.

2. **What are the main browser objects in JavaScript?**

- Some of the main browser objects are:

  - **window:** Represents the browser window or tab

  - **document:** Represents the HTML document

  - **location:** Represents the current URL

  - **history:** Represents the browser's history

  - **navigator:** Represents the user's browser

3. **How can you access HTML elements using JavaScript?**

- You can access HTML elements using the document object and methods like getElementById(), getElementsByClassName(), and getElementsByTagName().

4. **What is the innerHTML property of an element?**

o The innerHTML property allows you to get or set the HTML content of an element.

5. **How can you change the style of an HTML element using JavaScript?**

o You can change the style of an HTML element using the style property of the element.

Unit 11: Handling Events Using JavaScript

1. **What is an event in JavaScript?**

o An event is an action or occurrence that happens in a web page, such as a button click, mouse movement, or keypress.

2. **How can you add an event listener to an HTML element?**

o You can add an event listener using the addEventListener() method.

3. **What are some common event types in JavaScript?**

o Some common event types include:

▪ click

▪ mouseover

▪ mouseout

▪ keydown

▪ keyup

▪ submit

4. **How can you prevent the default behavior of an event?**

o You can prevent the default behavior of an event using the preventDefault() method.

5. **What is event bubbling and event capturing?**

o **Event bubbling:** Events propagate from the innermost element to the outermost element.

o **Event capturing:** Events propagate from the outermost element to the innermost element.

Unit 12: HTML Forms

1. **What are the basic components of an HTML form?**

o The basic components of an HTML form are:

- <form>: Defines the form

- <input>: Defines different types of input fields

- <textarea>: Defines a multi-line text input

- <select>: Defines a dropdown list

- <button>: Defines a button

- <label>: Defines a label for a form control

2. **How can you validate form data using JavaScript?**

   - You can validate form data using JavaScript by checking the input values and displaying error messages if necessary.

3. **What is the submit() event?**

   - The submit() event is triggered when a form is submitted.

4. **How can you submit a form using JavaScript?**

   - You can submit a form using JavaScript by calling the submit() method on the form object.

5. **What is the difference between the GET and POST methods in a form?**

   - **GET:** Sends form data as part of the URL.

   - **POST:** Sends form data in the request body, making it more secure for sensitive information.

Unit 13: Built-in Objects in JavaScript

1. **What is a built-in object in JavaScript?**

   - Built-in objects are predefined objects in JavaScript that provide various functionalities.

2. **What are the properties and methods of the String object?**

   - The String object provides properties and methods for working with strings, such as length, charAt(), indexOf(), substring(), and toUpperCase().

3. **What are the properties and methods of the Math object?**

   - The Math object provides mathematical constants and functions, such as PI, sqrt(), pow(), round(), and random().

4. **What is the Date object in JavaScript?**

- o The Date object represents a specific instant in time. It provides methods for getting and setting date and time components.

5. **How can you create a custom object in JavaScript?**

   - o You can create a custom object using the Object constructor or by using object literal syntax.

Unit 14: Basics of jQuery and DOM Manipulation

1. **What is jQuery?**

   - o jQuery is a JavaScript library that simplifies DOM manipulation and AJAX operations.

2. **How can you select HTML elements using jQuery?**

   - o jQuery provides selectors to select elements, such as:
     - ▪ $(selector): Selects elements based on CSS selectors
     - ▪ $('#id'): Selects an element by its ID
     - ▪ $('.class'): Selects elements by their class name
     - ▪ $('tag'): Selects elements by their tag name

3. **What are some common jQuery methods for DOM manipulation?**

   - o Some common jQuery methods for DOM manipulation include:
     - ▪ hide(): Hides selected elements
     - ▪ show(): Shows hidden elements
     - ▪ toggle(): Toggles the visibility of elements
     - ▪ css(): Sets or gets CSS properties
     - ▪ html(): Gets or sets the HTML content of elements
     - ▪ text(): Gets or sets the text content of elements

4. **How can you create animations using jQuery?**

   - o jQuery provides various animation methods like fadeIn(), fadeOut(), slideUp(), slideDown(), and animate().

5. **What is the difference between jQuery and plain JavaScript for DOM manipulation?**

   - o jQuery simplifies DOM manipulation by providing a concise and efficient syntax. It also offers many built-in features like AJAX, animations, and

event handling. Plain JavaScript, while more flexible, can be more verbose and less efficient for complex DOM operations.