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SILVER OAK UNIVERSITY

EDUCATION TO INNOVATION

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Unit - I

1. Describe the basic structure of an HTML document.

-> An HTML document has a well-defined structure consisting of elements that define the content and layout of a webpage. Here's the basic structure:

=> Explanation of key points:

1. <!DOCTYPE HTML>
   - Declares the document type and version of HTML (HTML 5 in this case).
   - Ensures proper rendering by browsers.
2. <HTML>
   - The root element of the HTML document.
   - All other elements are nested inside this tag.
3. <head>
   - Contains metadata about the document (not visible on the webpage).

- Includes elements like:

-> <meta>
-> <title>
-> <link>
-> <style>
-> <script>
:

4. <body>

- contains the visible content of a web page.
- Includes text, images, links, buttons, other interactive elements.

Example :

```
<!DOCTYPE HTML>
<HTML lang = "en">
<heeld>
    <meta charset = "UTF-8">
    <meta name = "viewport"
content = "width = device-width,
initial-scale = 1.0">
    <title> my first HTML Page</
    </heeld>
    <body>
    <h1> welcome to my website</
    <p> this is a paragraph. </p> <a
href = "https://example.com" >click her
    visit Example </a>
    </body>
    </html>.
```

2 what are HTML form elements and attributes? Provide examples of commonly used form elements and their attributes.

HTML form elements are the building blocks of a form on a web page. they allow users to input and submit data to a server. these elements are created using the <form> tag and its child elements. they often have attributes to define their behavior and properties.

commonly used from Elements and their Attributes:

1. <form> : container for the form with attributes like action and method (Get or Post).

2. <input> : for various inputs, e.g. type="text", password, email. Attributes : name, placeholder, required.

3. <textarea> : multi-line text input. Attributes : rows, cols, name.

4. <select> & <option>: Drop down menus. Attributes: name, value

5. <button>: Buttons for submit or other actions. Attributes: type (submit, reset, or button)

6. <label>: Describes inputs linked with for (input ID)

Example:-

```
<form action="/submit"
method="post">
    <label
for="username">Username:</la
    <input type="text" id="use
name="username" required>
    <button type="submit">Sub
button>
</form>
```

Discuss the importance of browser support in Html development. how can developers ensure cross-browser compatibility?

Importance of Browser supportin HTML development:

Browser support is crucial in HTML development because different Browsers (e.g., Crome, Fire fox, Safari Edge) may interpret and render HTML, CSS, and Java script differently. Ensuring consistent behavior across browsers is vital for providing a seamless user experience. without proper browser support, some features may not work as intended, leading to usability issues, reduced accessibility and loss of potential users.

steps to Ensure cross-Browser compatibility

Follow web standards:-

- use valid and modern HTML, CSS, and Java Script as defined by the

world wide web consortium
- Avoid deprecated or
features.

2. Test Across Browsers:
- test your website on
browsers (chrome, fire fox
and their different vers
- use tools like Browser st
or Lambda test for cross
wser testing.

3. use feature Detection:
- utilize libraries like moder
to detect browser capabili
and provide fallbacks for
rted features.

4. write Responsive Code:
- use css media queries
responsiveness across different
sizes and devices.

Graceful degradation and Progressive Enhancement:

- Graceful degradation: Ensure the website works on older browsers, even if advanced features are unavailable.
- Progressive Enhancement: Build a basic functional version first then add advanced features for modern browsers.

Check Browser Compatibility:

- Refer to resources like can I use to check the compatibility of HTML, CSS, and JavaScript features across browsers.

Use Cross-Browser compatible Libraries:

- Use well-supported frameworks and libraries like Bootstrap, jQuery or React, which handle compatibility issues.

8. Poly Fills and shims:

- Use Poly Fills (e.g. core-j
add support for moder
features in older brows

9. Consistent Reset Styles:

- Use css resets to
inconsistencies in how br
handle defult styles.

10. monitor and update:

- Regularly update your
to stay compatible with
latest browser versions a
standards.

By adhering to these practi
developers can ensure their w
function reliably across dif
browsers and provide a
user experience.

4 How can background colours and 5 images be added to an HTML web page? Provide code examples demonstrating both techniques.

> To add background and images to an HTML webpage, you can the style attribute in HTML elements or apply CSS styles. Below are examples of Both techniques:

Adding a Background color:
You can use the background-colour property in CSS to set a solid color as the background.

Example : Inline CSS

```
<!Doctype HTML>
<HTML lang="en">
<head>
    <title> Background Color
Example </title>
</ head>
<Body style = "background -Color :
light Blue :">
    <h1> hello, world ! </h1>
    <p> this page has a light blue
background color </p>
```

```
</body>
</html>
```

Example : Internal CSS

```
<!DocType Html>
<HTML lang="en">
 <head>

        <title>Background colo
Example </title>
      <style>
          body {
              back ground - colo

light blue:
          }

    </style>

</head>
<body>

    <h1> hello world! </h1
    <p> this page has a ligh
back ground color. </p>
  </body>
  </HTML>
```

Adding a Back Image :

You can use the background-image property in CSS to set an image as the background.

Example : Inline CSS

```
<!Doctype HTML>
<HTML lang="en">
<head>
    <title> Back ground Image
Example </title>
</head>
<body style="background-image:
url('background.jpg');
background-size: cover;
background-repeat: no-repeat;">
    <h1> hello, world ! </h1>
    <p> this page has a background
image. </p>
</body>
</HTML>
```

Example : Internal CSS

```
<! DocType html>
<html lang="en">
 <head>
        <title> Back ground im
Example </title>
  <style>
      body {
            background-image
url('background.jpg');
            background-size: c
            background-repeat
no-repeat;
      }
  </style>
 </head>
    <h1> hello, world ! </h
    <p> this page has a bac
image :</p>
 </body>
</html>
```

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combining background color and image.

You can use both background color and background image together for a callback in case the image doesn't load.

Example : Internal CSS

```
<!DOCTYPE HTML>
<html lang="en">
<head>
    <title> Background combination
Example </title>
    <style>
        body {
            background-color:
light gray; /* callback color */
            background-image:
url('background.jpg');
            background-size: cover;
            background-repeat:

no-repeat;
        }
    </style>
```

<head>
<Body>

<h1> hello, world! </h1>
 this page has a background image with a full back

</Body>
</HTML>

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Explain div and span tag in details.

→ the and tags in HTML are foundational elements used for grouping and styling content. here'd detailed explanation:

1. tag:

Definition:

- the tag is a block-level container used to group content.
- It does not have semantic meaning by it self but is comm only used for layout and styling purposes.

Key characteristics:

- Block Level Element occupies the full width of its container by default.

- structure: often used to organize sections of a web page, like footers, or main content.
- styling: frequently styled using CSS

usage Examples:

Basic Example:

```
<!DOCTYPE HTML>
<HTML lang="eng">
 <head>
   <title> Div
```

2. tag:

definition:
the tag is an inline element used to apply styling behavior to a part of text content within a block.

Example:-

```
<P> this is a <span style="color: red;">highlighted</span> word in a paragraph.</P>
```

unit-2

Explain the difference between headings (h1-h6) and paragraphs (<p> tag) in HTML. Provide examples of when each should be used and describe their semantic significance.

Difference between headings (<h1> to <h6>) and paragraphs (<p>):

Purpose:

headings:

define the structure and hierarchy of a web page they organize content into section with <h1> being the highest-level heading (main title) and <h1> the lowest.

paragraphs:

used to group and format plain text content into readable blocks.

2) semantic significance:

~) headings:
convey the importance of text to search engines assistive technologies for ple, <h1> is usually the title.

→ paragraphs:

Indicate plain textual co without imging structural hierarchy.

3) styling:

~) headings:

to piccily hold and staledto indicate their C.C.g, <h1> is larger than <

→ Paragraphs:
Plain text that can be styled using CSS.

→ When to use Each:

-> Headings (<h1> to <h6>):

use for titles and subtitles. e.g.:

code:-

```
<h1> main title </h1>
<h2> subtitle </h2>
<h3> section title </h3>
```

→ Paragraphs (<p>):

use for descriptive or explantory text, e.g.

code:-

```
<p> this is a paragraph </p>
```

=> Example:-

```
<!DOCTYPE HTML>
<Html>
<head>
    <title> hedding and Paragraph
</head>
<body>

    <h1> welcome to my website
    <h2> About us </h2>
    <p> we provide various servic
meet your needs </p>
    <h3> our servicess </h3
    <p> there is a list of servi
    we offer </p>
</body>
</html>
```

2 How can you create a horizontal rule (<hr> tag) in HTML? Describe its purpose and provide an example of its usage.

> how to create a horizontal Rule:

You can use the <hr> tag in HTML to create a horizontal line across the web page this tag does not require a closing tag.

> Purpose of <hr>

The <hr> tag is used to visually separate content on a web page.

It can as a thematic break between sections or indicate a shift in content.

=> Example :-

Code :-

```
<P> content above the line </P>
<hr>
<P> content below the line </P>
```

=> In this example :-

the <hr> tag creates horizontal between he two graphs, visually septry them

It enchance roudability or gym content.

-> we can style the
 tag css adjust its width, col or alignment.

3 Discuss the use of sub script (<sub>) and super script (<sup>) tags in HTML. Provide examples demonstrating their applications in text formatting.

=> use of <sup> and <sup> tags in HTML.

-> <sub> (sub script):

the <sub> tag is used to display text slightly below the normal base line. It is typically used for chemical formulas or mathematical notations.

-> <sup> (super script):

the <sup> tag is used to display text slightly above the normal baseline. It is commonly used for exponents, mathematical powers, or ordinal indicators.

=> Examples of Applications:-

1) chemical formulas (subscript)

Code :-

 water is represented as ₀

-> the 2 in H ₂ 0 appe below baseline to represent the cal formula for water.

2) mathematical notations (super sc

Code :-

 the formula for a circle i ² + ² = r ²

-> the 2 in x and r appears above the b line to represent terms.

Q4 Describe the process of aligning text in HTML using CSS what are some CSS properties and values you can use to achieve text alignment?

=> Process of Aligning text in Html using CSS:

Text alignment in HTML can be achieved by using the text-align property in CSS. this property allows you to control the horizontal alignment of text within an element.

=> CSS Property for text Alignment:

the primary property used is:

text-align: this property specifies the horizontal alignment of text.

=> values for text-align :-

1) left :

Aligns text to the le
(default alignment.

EX :

<p style="text-align : le
this text is left-aligne

2) right :

Aligns text to the right

EX :

th
right-aligned-

3) center :

Aligns text to the cent

Ex:-

this text is centered

H) justify:

stretches text to align with both the left and right edges of the container.

Ex:-

this is centered justified.

⇒ Examples from material :-

1) center - Aligned text:

centered text.

2) Right - Aligned text:

Right-aligned text.

Q-5 Compare and contrast unordered lists (<ul>) ordered lists (<ol>) definition lists (<dl>) in HTML

→ Unordered Lists (<ul>):

• Definition:

Used for lists where the order of items does not matter

• Structure:

Each list item is enclosed <li> tags.

• Appearance:

Items are typically displayed with bullet points

EX:

 Item 1

 Item 2
 Item 3

=> ordered lists (<ol>)

- Definition:

used for lists where the order of items is significant.

- Structure:

Each list item is enclosed in <li> tags.

- Appearance:

items are displayed with numbers or letters.

=> Example:-

 first item

 second item
 third item

=> Definition Lists (<dl>):

• definition: used for listing t
and their corresponding definiti

• structure:

consists of <dt> (te
and <dt> <definition> tags.

• Appearance:

terms and definition
displayed d structured form

Ex.

```
<dl>
    <dt> HTML </dt>
    <dd> A markup language for creating
    webpages </dd>
    <dt> CSS </dt>
    <dd> A stylesheet language for
    designing web pages </dd>
</dl>
```

=> comparison :-

feature	unordered List ( )	ordered List ( )
purpose	non-sequential items	sequential items
tag structure		
appearance	Bulleted items	numbered/ letter items
use case	grocery lists features	steps in process, rankings

=> conclusion :-

Each list tag serves a spe purpose choose <ul> for unordered items for ordered steps, and <dl> for de or descriptions

Unit - 3

1. Explain the structure of an HTML table. Provide an example of a basic table structure.

-> An HTML table is structured using the <table> element and consists of rows (<tr>) and cells, which can be headers (<th>) or data (<td>).

Basic structure

1. <table> : defines the table.
2. <thead> : optional, groups header rows.
3. <tbody> : optional, groups body rows.
4. <tfoot> : optional, groups footer rows.
5. <tr> : defines a table row.
6. <th> : defines a header cell.

7. <td> : defines a data cell.

Example

```
<table border = "1">
  <thead>
    <tr>
      <th> header 1</th>
      <th> header 2</th>
  </tr>
  </thead>
  <tbody>
    <tr>
      <td> data 1</td>
      <td> data 2</td>
  </tr>
  <tr>
      <td> data 3</td>
      <td> data 4</td>
  </tr>
  </tbody>
  </table>
```

this will create a table w
two rows and two columns, wi
headers for each column.

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2 how can you align a table and its
3 cell contents in HTML? Describe the CSS
properties or HTML attributes used
for alignment and provide examples
demonstrating their application.

To align a table and its cell contents in HTML. You can use CSS properties or certain HTML attributes. Here's how you can achieve alignment.

table Alignment

CSS Property:

→ use the margin property for aligning the entire table.

- margin: auto; centers the table horizontally.

- Example:

```
<style>
    table {
        margin: auto;
    }

</style>
```

<table border = "1">
<tr><td> content </td></tr>
</table>

2. HTML Attribute :-

→ use the align attribute on the <tables element I called in HTML5).

- Example :

<table border = "1"
align = "center">
<tr><td> content </td></tr>
</tables

cell content Alignment

I. CSS Properties:

Example:

<styles
td {
text-align: center;
vertical-align: middle;

height: 100px;
width: 100px;
}
</style>
<table border = "1">
<tr> <td> centered content </td> </tr>
</table>

HTML Attributes:

Example:

```
<table border = "1">
  <tr>
    <td align = "center"
valign = "middle"> Aligned
  content </td>
  </tr>
</table>
```

Q- 3 Describe the process of nesting
3 2 in HTML. Provide in example i
ruting nested tables.

-> Nesting tables in HTML i
placing one <table> elemen
inside a <td> cell of anot
<table>. this allows for
complex layouts.

Example:-

```
<table border="1">
  <tr>
    <td>main table cell 1</td>
    <td>
    <!-- Nested Table -->
    <table border="1">
    <tr>
      <td>Nested table
td>
      <td>Nested table
2</td>
    </tr>
    </table>
```

</td>
</tr>
</table>

this example creates a main table where the second cell contains a nested table.

Q-4 what are frames in HTML, c
how are they created? EXPLA
purpose of the <frameset> a
<frame> tags.

→ frames in HTML were used
divide the browser window i
multiple sections each capabl
of displaying a different HTM
document. frames are crea
using the <frameset> and <
tags, which have been depr
in HTML5.

purpose of tags

1. <frameset>: Replaces
<Body> tag to define ho
the window is divided into
frames (rows or columns).

- Attributes:

→ rows: Divides the window h
ntally.

→ cols: Divides the window ve

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- Example:

```
<frameset rows = "50%,50%">
<frame src="top.html">
<frame src="bottom.html">
</frameset>
```

2. <frames>: specifies the individual frames and the HTML content to be loaded in each.

- Attributes:

→ src: specifies the URL of the document to display.

→ name: Assigns a name to the frame for navigation targeting.

Example:

```
<frameset cols="50%,50%">
<frame src="left.html">
<frame src="right.html">
</frameset>
```

Note :-

Frames are now obsolete due to accessibility, usability, SEO issues. Use modern alternatives like CSS Grid & Flexbox instead of iframes for similar functionality.

Discuss the concept of applying hyperlink targets to frames.

In the context of frames (deprecated in HTML5), hyperlink targets allow link in one frame to control the content displayed in another frame. This is achieved using the target attribute in the <a> tag and the name attribute in <frame>.

process :-

1. Assign a name to frames: Each <frame> is given a unique name to identify it.

```
<frameset cols="30%, 70%">
  <frame src="menu.html"
name="menu">
  <frame src="content.html"
name="content">
</frameset>
```

2 use target in Links: the target attribute in <a> specifies frame where the linked text should load.

<a href = "page1.html" target = "content" > Load Page

Example :-

<!-- frameset -->
<frameset cols = "30%, 70%">
<frame src = "menu.html" name = "menu">
</frameset>
</frameset>

<!-- menu.html -->
 page 1
 page 2

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Unit - 4

Explain the different ways to create hyperlinks in HTML.

In the context of frames, hyperlink targets allow links in one frame to control the content displayed in another frame. This is achieved using the target attribute in the <a> tag and the name attribute in <frames>.

link to another page:

```
<a
href = "https://example.com">visit
  Example </a>
```

Link to a section on the same page:

```
<a href = "#section2"> Go to
section 2</a>
<h2 id = "section2"> section 2</h2>
```

3. Link to an Email Address:

```
<a
href = "mailto: example@example
">send Email </a>
```

4. Link to a phone number:

```
<a href = "tel: +123456789">C
us</a>
```

5. open in a new tab:

```
<a href = "https:// example.com
target = "_blank" > open Example
```

6. Download a file:

```
<a href = "file.pdf"
download > Download file</
```

2. how can you style hyperlinks in HTML to change their color?

2) you can style hyperlinks in HTML using CSS to change their color. use the following pseudo-classes for different link states:

1. Normal Link:

```
a {
    color: blue;
}
```

2. visited link:

```
a: visited {
    color: purple;
}
```

3. hover effect:

```
a: hover {
    color: red;
}
```

4. active Link:

```
u: active {
    color: green;
}
```

Add these styles in a <style> block or in external css file.

Describe the process of inserting an image on a webpage using the <img> tag in HTML.

To insert an image on a webpage using the <img> tag in HTML:

Basic Syntax:

```
<img src="image.jpg"
alt="description">
```

src: specifies the image file's URL for path.

Alt: provides alternative text for accessibility or if the image fails to load.

Optional Attributes:

width and height: set the dimensions.

```
<img src="image.jpg"
alt="description">
```

2. Optional Attributes:

```
<img src="image.jpg"
alt="description" width="300"
height="200">
```

- title: Adds a tooltip.

```
<img src "image.jpg"
alt="description"
title="tooltip text">
```

3. Example:

```
<img src="logo.png"
alt="website Logo"
width="150"
height="100">
```

Discuss the steps involved in creating a HTML form with various input elements like text boxes buttons, checkboxes, dropdowns, and date fields, provide examples demonstrating each type of form element.

To create a HTML Form with various input elements. Follow these steps:

Form Tag:

```
<form action="submit.php"
method="post">
```

Text Box:

```
<label for="name">Name:</label>
<input type="text" id="name"
name="name">
```

Button:

```
<button type="submit">Submit</
button>
```

4. Checkbox:

<label><input type="checkbox" name="subscribe">subscribe</label>

5. Drop down:

<label for="country">country:</label>
<select id="country" name="country">
<option value="us">United States</option>
<option value="uk">United Kingdom</option>
</select>

6. Date field:

<label for="dob">Date of Birth:</label>
<input type="date" id="dob" name="dob">

7. Close form tag:

</form>

Explain how multimedia content can be embedded on a webpage using HTML5 <video> and <audio> tags.

To embed multimedia content on a webpage using HTML5 use the <video> and <audio> tags.

1. Embedding Video:

Use the <video> tag to add a video File.

Attributes:

- src: specifies the video file source.
- controls: Adds video controls (play, pause etc.).
- autoplay: auto-plays the video when loaded.
- loop: Loops the video.
- muted: mutes the video.

<video src="video.mp4" control
autoplay loop>
Your browser does not suppo
the video tag.
</video>

2. Embedding Audio:

-> use the <audio> tag to add
audio file.

- Attributes:

-> src: specifies the audio fil
source.

-> controls: Adds audio controls
(play, pause, volume).

-> autoplay: Auto-plays the audio.

-> loop: Loops the audio.

<audio src="audio.mp3" controls autoplay loop>
Your browser does not support the audio tag.
</audio>

summary:

-> use <video> for video content and <audio> for audio content.

-> Add multimedia attributes like controls, auto play, and loop for better user interaction.

1.

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