

UNIT-1

1. What is the purpose of semantic elements in HTML5?
- Semantic elements are special tags in HTML that help to describe the content inside them. They help to web browser and developers to understand the structure of a webpage.
 - They make a webpage clean and well-organized.

→ Why are semantic elements important?

- i) Easy to understand - The code becomes clean and well-organized which help to developer to understand easily.
- ii) Good for Google - helps to search engines to rank the websites.
- iii) Good for Accessibility - Screen readers can read the page easily.
- iv) Simple to edit - Makes updating the website easier.

→ Common semantic elements:

- i) <header> - Top part of the web page (title, logo, menu).
- ii) <nav> - Contains navigation links (Home, About, contact)
- iii) <section> - Divides the page into sections.
- iv) <article> - represents blog post or news content.
- v) <aside> - sidebar Content (ads, extra info)
- vi) <footer> - Bottom part of the page (copyright, contact info)

2. Name two multimedia elements supported by HTML5.
- HTML5 supports multimedia elements to add audio and video to web pages. The two main elements are:
 - i) <audio> - used to play sound or music
 - ii) <video> - used to show videos.

i) `<audio>` element (for sound & Music)

→ Helps to play music or sound on a webpage

→ Example: `<audio src="song.mp3" controls></audio>`

→ src:- defines the audio file.

→ controls:- shows play, pause, and volume buttons.

ii) `<video>` Element (for videos)

→ Helps to display videos on a web page.

→ controls shows play, pause, and volume buttons.

→ width:- sets the video width.

→ src:- defines the video file.

→ Example:

`<video src="video.mp4" controls></video>`

3. How do you define a required field in an HTML form with an example?

→ In HTML, you can use the required attribute to make ~~a box~~ sure the user must fill a box before submitting the form.

→ Example:

`<form>`

`<label for="name"> Name: </label>`

`<input type="text" id="name" name="name" required>`

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

`</form>`

→ How it works?

→ `<input type="text">` → Creates a text box

→ required :- Makes the box mandatory

→ `<button>` :- Submits the form.

→ If the user tries to submit without entering a name, a warning message will appear.

④ List all HTML tag which are new and removed in HTML5.

→ New Tags in HTML5 (Added)

→ HTML5 introduced new tags to improve web page structure and functionality.

i) <article> :- ~~used~~ represents a blog or news content.

ii) <aside> :- sidebar Content (ads, extra ^{info} ~~content~~).

iii) <header> :- Top part of a web page.

iv) <footer> :- bottom part of a web page.

v) <audio> :- Adds sounds or music.

vi) <video> :- Adds video.

vii) <nav> :- used for navigation links.

→ Remove tags (Not used in HTML5)

→ These tags are outdated and replaced by CSS or other HTML elements.

i) :- used for text color and style (now use css)

ii) <center> :- used to center text (now use css ^{center} text-align)

iii) <big> :- used to make text bigger (now use css font-size)

iv) <u> :- used to underline text (now use css text-decoration underline)

⑤ What is the significance of using placeholder attribute in form inputs with examples?

→ The placeholder shows a light text inside the input box to help users know what to type. It disappears when the user starts typing.

→ Example:-

<input type="text" placeholder="Enter your name">

- Why use placeholder?
- Tells users what to write.
- Makes forms easy to fill.
- Looks neat and clean.

(6) What is the difference between a canvas and SVG element in HTML5?

→	<Canvas>	<SVG>
i.	The full form is <u>Drawing</u> ^{Canvas}	The full form is <u>Scalable vector</u> ^{Graphics} .
ii.	It uses pixels.	It uses shapes.
iii.	It Com. becomes blurry when resized.	It can always be clear and sharp.
iv.	It is the best for Games, animations.	It is the best for Icons, charts, diagrams.
v.	It is drawn using JavaScript.	It uses simple code to create shapes.
vi.	It is faster for many objects.	It is slower if too many shapes.

(7) Discuss the benefits of using semantic elements over traditional HTML elements.

→ Semantic elements are special tags in HTML that help to describe the content inside them. They help to web browser and developers to understand the structure of a web page.

Benefits :-

- i. Easy to understand - The code becomes clean and well-organized which helps developer to understand easily.

Meditation is the best mode of worship.

- ii) Good for Google helps to search engines to rank the websites.
- iii) Good for Accessibility screen readers can read the page easily.
- iv) Simple to edit Makes updating the website easier.

Example :- `<header>, <footer>, <nav>, <section>`
`<main>.`

- (3.) List and briefly describe at least five different input types in HTML5?
- HTML5 provides different input types to collect various kinds of user data.

- i) Text Used for short text inputs like names and addresses.

Example :-

`<input type="text" placeholder="Enter your name">`

- ii) Email - Used for email addresses; checks if the input is in the correct format.

Example :-

`<input type="email" placeholder="Enter your email">`

- iii) number - Allows only numeric values with optional min/max limits.

Example :-

`<input type="number" min="1" max="100" placeholder="Enter a number">`

- iv) date - Opens a date picker to select a date easily.

Example :- `<input type="date">`

These input types improve user experience, by making forms more interactive and error-free.

Q. What is the Grid Layout in HTML?

→ The Grid layout is common webpage structure used for designing responsive websites.

i) Header: At the top, usually for the website's logo and navigation.

ii) Left Sidebar: For menus or additional navigation ^{links}.

iii) Main Content: The central part where the main information is displayed.

iv) Right sidebar: For ads, extra links, or related content.

v) Footer: At the bottom, containing copyright info, contact details, or links.

a) Why use the Grid layout?

→ Responsive: Works well on different screen sizes.

→ Flexible: Can adjust based on content needs.

→ User-Friendly: Easy to navigate for visitors.

→ Example

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title> Grid Layout </title>
  <body>
    <header> Header </header>
    <div class="Container">
      <div class="sidebar"> Left sidebar </div>
      <div class="content"> Main Content </div>
      <div class="sidebar"> Right sidebar </div>
    </div>
    <footer> Footer </footer>
  </body>
</html>
```

(10) Explain HTML <form> element with all form attributes with example

→ The <form> tag in HTML is used to take input from users like name, email, passwords, etc. It sends this data to a server for processing.

* Import Attributes of <form>

i. action: Decides where the form data will go after clicking "Submit".

→ Example: <form action="submit.php">

→ The form data will go to submit.php

ii. method: Decides how to send form data.

→ Two methods

* GET: Sends data in the URL (not secure).

* POST: Sends data hidden (more secure).

→ Example: <form action="submit.php" method="post">

iii. target: Decides where the response will open.

→ Options: - self → Open in the same tab
- blank → Open in a new tab.

→ Example: <form action="submit.php" target="blank">

iv. autocomplete: Helps users auto-fill previous data in forms.

→ Options: on → Enable auto-fill

off → Disable auto-fill

→ Example:

<form action="submit.php" autocomplete="on">

v) Novalidate stops the browser from checking if inputs are correct.

→ Example

```
<form action="submit.php" novalidate>
```

Example

<h2> Student Detail form </h2>

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

→ <label> First Name: </label>

```
<input type="text" name="fname" required>
```


→ <label> Last Name: </label>

```
<input type="text" name="lname" required>
```


→ <label> Gender: </label>


```
<input type="radio" name="gender" value="Male"> Male
```

```
<input type="radio" name="gender" value="Female"> Female
```

```
<input type="radio" name="gender" value="Other"> Others
```


→ <label> Enrollment ID: </label>

```
<input type="text" name="enrollment" required>
```


→ <label> Designation: </label>

```
<select name="designation" required>
```

<option value=""> -- select -- </option>

<option value="Student"> Student </option>

<option value="Teacher"> Teacher </option>

<option value="Staff"> Staff </option>

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</select>

→ <label> Phone no: </label>

<input type="tel" name="phone" placeholder="Enter
10 digit no! required>

→ <button type="submit"> Submit </button>
</form> .

Q. (1) → This example:-

(2) Explain the any five Git command with
syntax and example

→

i) git init :- This command is used to create a
new Git repository in a project folder.

→ Syntax- git init

→ What happens:-

Now this folder is a Git
Project

→ Example- mkdir my-Project
cd my-Project
git init

ii) git add :- This command tells Git which files to ^{stage}.

→ Syntax- git add file.txt # Add one file

→ Example- git add file.txt

→ What happens:- The file is ready to be saved.

iii. git commit :- This command saves the changes in the repository with a message

→ Syntax git commit -m "Your Commit message"

→ Example git commit -m "Added file.txt"

iv. git status :- This command shows which files are saved or need saving.

→ Syntax git status

→ Example git status

v. git log :- This command shows ~~the~~ a list of all saved work.

→ Syntax git log

→ Example git log

Q3 How do you create a new repository on Github

→ Step 1 :- Sign in to Github

→ Go to Github and log in to your account

→ Step 2 :- click on "New Repository"

→ Step 3 :- Enter a repository name and choose public or Private.

→ Step 4 :- check "Add a README file"

→ Step 5 :- click "Create Repository" to finish

(19) What are branches in Git and why are they used?
 → A branch is a separate copy of a project where changes can be made without affecting the main code.

→ Why are branches used?

- To Add new features & work on new features separately
- To fix errors & fix bugs without changing the main project
- For Teamwork:- Different people can work on different tasks at the same time.

After work is done, the branch can be merged back into the main project.

(20) Explain the concept of pull and push requests in GitHub.

- Push Request (git push) :- "push" means sending your code from your computer to GitHub.
 → It updates the repository on GitHub with your new changes.
 → Example- You write code on your computer and push it to GitHub to save it online.

(ii) Pull Request :- A pull request is a way to ask others to review and add your changes to the main project.

- It is used when working in a team, so others can review your work before adding it.
- Example- You and your friend are working on a project. You push your code to GitHub and create a Pull Request for review. Your friend reviews and approves it, then adds your changes to the main project.

Q16 Define following terms.



i) Canvas - A blank space where you can create and arrange designs like a digital drawing board.

ii) Figma - An online design tool used to create websites, apps, and UI/UX designs, allowing teamwork in real-time.

iii) Hierarchy - ~~the arrangement~~ It means arranging things in order of importance. ~~the~~ bigger or bold text is more important, while smaller text is less important in design. This helps users understand what to focus on first.

iv) Components - These are ready-made design parts like buttons, icons, or text boxes that you can use again and again. This makes designing faster and keeps everything looking the same.

v) Prototyping - Creating a clickable model of a ~~the~~ design to see how it works before the final version.