🌐 HTML COMPLETE DETAILED NOTES

(Beginner → Advanced → Interview Ready)

1️⃣ INTRODUCTION TO HTML

What is HTML?

HTML (HyperText Markup Language) is used to **create the structure of web pages**.

- HyperText → Links between pages

- Markup → Uses tags to mark content

- Language → Set of rules

👉 HTML tells the browser **WHAT to display**, not **HOW** (CSS does that).

Features of HTML

- Easy to learn

- Platform independent

- Supports multimedia

- SEO friendly

- Supported by all browsers

HTML is NOT

❌ Programming language
❌ Case-sensitive
❌ Used for logic

2️⃣ HTML DOCUMENT STRUCTURE (VERY IMPORTANT)

```html
<!DOCTYPE html>
<html>
<head>
  <meta charset="UTF-8">
  <title>My Page</title>
</head>
<body>
  <h1>Hello HTML</h1>
</body>
</html>
```

Explanation Line by Line

Part	Meaning
`<!DOCTYPE html>`	Declares HTML5
`<html>`	Root element
`<head>`	Meta information
`<title>`	Browser tab title
`<body>`	Visible content

👉 Without DOCTYPE, browser may go into **quirks mode**.

3️⃣ HTML TAGS & ELEMENTS

Tag

```html
<p>Paragraph</p>
```

Element

👉 Opening tag + content + closing tag

Types of Tags

Type	Example
Paired	`<p></p>`
Unpaired	` `, `<hr>`

Nested Tags

`<p>This is <b>bold</b> text</p>`

4 TEXT & HEADING TAGS

Heading Tags

`<h1>Main</h1>`
`<h2>Sub</h2>`
`<h3>Minor</h3>`

Tag	Importance
h1	Highest
h6	Lowest

👉 **Only ONE h1 per page (SEO rule)**

Paragraph Tag

`<p>This is paragraph</p>`

Line Break & Horizontal Rule

`<br>`
`<hr>`

5 TEXT FORMATTING TAGS

`<b>Bold</b>`

```
<strong>Important</strong>
<i>Italic</i>
<em>Emphasis</em>
<u>Underline</u>
<mark>Highlight</mark>
<small>Small</small>
<del>Deleted</del>
<sup>2</sup>
<sub>2</sub>
```

Difference

Tag	Meaning
`<b>`	Style only
`<strong>`	Semantic importance

6 LINKS (ANCHOR TAG)

```
<a href="https://google.com" target="_blank">Google</a>
```

Anchor Attributes

Attribute	Use
href	URL
target	`_blank`, `_self`
title	Tooltip

Internal Link

```
<a href="about.html">About</a>
```

7 IMAGES

```
<img src="img.jpg" alt="Profile Photo" width="150">
```

Attributes Explained

Attribute	Use
src	Image path
alt	SEO + accessibility
width/height	Size

👉 `alt` is **mandatory for accessibility**

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8 LISTS

Ordered List

```
<ol type="A">
  <li>HTML</li>
  <li>CSS</li>
</ol>
```

Unordered List

```
<ul>
  <li>Apple</li>
</ul>
```

Description List

```
<dl>
  <dt>HTML</dt>
  <dd>Markup Language</dd>
</dl>
```

---

9 TABLES (EXAM FAVORITE)

```
<table border="1">
  <tr>
    <th>Name</th>
```

```
    <th>Age</th>
  </tr>
  <tr>
    <td>Gaurav</td>
    <td>21</td>
  </tr>
</table>
```

Table Tags

Tag	Use
table	Table
tr	Row
th	Header
td	Data

Cell Spanning

```
<td colspan="2">Total</td>
<td rowspan="2">Data</td>
```

🔟 FORMS (MOST IMPORTANT)

Basic Form

```
<form action="submit.php" method="post">
  Name: <input type="text"><br>
  Email: <input type="email"><br>
  Password: <input type="password"><br>
  <input type="submit">
</form>
```

Input Types

Type

text

passwor
d

email

number

date

radio

checkbox

file

submit

reset

Label (Accessibility)

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

HTML5 Form Validation

```
<input type="email" required>
<input type="number" min="1" max="10">
```

1️⃣1️⃣ SEMANTIC TAGS (HTML5)

```
<header></header>
<nav></nav>
<section></section>
<article></article>
<aside></aside>
<footer></footer>
```

Why Semantic?

✅ SEO
✅ Accessibility
✅ Clean code

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12 META TAGS (SEO + RESPONSIVE)

```
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width,
initial-scale=1.0">
<meta name="description" content="HTML Notes">
```

---

13 MULTIMEDIA

Audio

```
<audio controls>
  <source src="song.mp3">
</audio>
```

Video

```
<video controls width="300">
  <source src="movie.mp4">
</video>
```

---

14 IFRAME

```
<iframe src="page.html"></iframe>
```

👉 Used to embed another webpage.

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15 HTML ATTRIBUTES

```
<p id="p1" class="text" title="tooltip">Hello</p>
```

| Attribute | Meaning |

id	Unique
class	Group
style	Inline CSS
title	Tooltip

16 HTML COMMENTS

```
<!-- This is comment -->
```

17 HTML5 FEATURES (ADVANCED)

- Semantic tags

- Local Storage

- Audio / Video

- Form validation

- Canvas

- Drag & Drop

🎯 INTERVIEW QUESTIONS (DETAILED)

Q1. What is HTML?

HTML is a markup language used to structure web pages.

Q2. HTML vs HTML5?

HTML	HTML5
Old	Latest
No multimedia	Audio/Video

No semantic	Semantic tags

Q3. Block vs Inline elements?

Block	Inline
div, p	span, a
New line	Same line

Q4. What is semantic tag?

Tag that describes meaning of content.

Q5. What is iframe?

Used to embed webpage inside webpage.

Q6. id vs class?

id	class
Unique	Multiple
One element	Many

Q7. What is alt attribute?

Alternative text for image + SEO.

Q8. What is meta viewport?

Makes page responsive.