1. Static Website

•Contains fixed content that does not change unless manually updated.
•Built using HTML, CSS, and JavaScript without server-side processing.
•Loads quickly and is easy to host but lacks interactivity.
•Example: Personal blogs, portfolios, and informational sites.

✅ Advantages:
1.Loads faster due to simple HTML files.
2.More secure as it doesn't use databases or server-side scripts.
3.Cheaper to develop and host.
4.Requires less maintenance.
5.Can be hosted on any basic web server.

❌ Disadvantages:
1.Content updates must be done manually.
2.Limited interactivity (no user login, real-time updates, etc.).
3.Cannot handle large-scale applications.
4.Harder to optimize for SEO due to lack of frequent updates.
5.No database support for storing dynamic content.

2. Dynamic Website

•Content changes dynamically based on user interaction or database updates.
•Uses server-side languages like PHP, Python, JavaScript (Node.js), or ASP.NET with databases.
•Allows features like user login, real-time updates, and personalized content.
•Example: E-commerce sites, social media platforms, and news portals.

✅ Advantages:
•Content can be updated dynamically using a database or CMS.
•Allows interactivity, such as user login and personalized content.
•Can handle large-scale applications like e-commerce and social media.
•Easier to optimize for SEO due to frequent content updates.
•Supports real-time updates and user-generated content.

❌ Disadvantages:
•Slower loading speed due to database queries and server processing.
•More vulnerable to cyberattacks due to scripting and database integration.
•More expensive to develop and maintain.
•Requires advanced programming skills and database management.
•Needs a more powerful hosting environment.

Internet

Definition : Internet is global communication network that allows almost all computers world wide
to connect and exchange information electronically.
Internet is also defined as an information super highway, to access information over the Web.

Internet Protocols

Simple Mail Transfer Protocol (SMTP)
>SMTP is a protocol that sends and receives emails over
the internet. It's a TCP/IP protocol that's used by email clients and servers to deliver and forward
messages.
Used for sending and receiving emails over the internet.
Works on TCP/IP and is used by email clients and servers.
Common ports: 25 (default), 465 (SSL), 587 (TLS).

Gopher Protocol
> The Gopher protocol is a communication protocol that allows users to search, distribute, and retrieve documents on the internet.
A text-based protocol used to search, distribute, and retrieve documents.
Predecessor of the World Wide Web but became obsolete with the rise of HTTP.
Uses a menu-based system to navigate resources.

Telnet (Teletype Network Protocol)
>Telnet or Teletype Network Protocol, is a network protocol that allows users to connect to and communicate with remote computers. It's a client-server application that provides a command
line interface for accessing remote systems.
Enables remote access to computers via a command-line interface.
Works on port 23 and uses a client-server model.
Lacks encryption, making it insecure for modern use.

Trivial File Transfer Protocol (TFTP)
>TFTP is a simple protocol that allows users to transfer
files between a client and a server. It's often used for booting devices and backing up configuration
files.
A lightweight file transfer protocol using UDP for fast transfers.
Commonly used for network booting and configuration backups.
Operates on port 69 but lacks security features like authentication.

Simple Network Management Protocol (SNMP)
>It is a network protocol that allows network
administrators to monitor and manage devices on a network.
Used for monitoring and managing network devices (routers, switches, etc.).
Works on port 161 for device queries and port 162 for receiving alerts.
Helps in network performance tracking and troubleshooting.

Hypertext Transfer Protocol (HTTP)
>It is communication protocol used to retrieve web pages
from a web server. It is also called request and response protocol because the communication
between browser and server takes place in request and response pairs.
A request-response protocol used for retrieving web pages from a server.
Works on port 80, while HTTPS (secure version) uses port 443.
Facilitates communication between web browsers and servers.

CHAPTER 2
HTML

1. Basics of HTML
•HTML (Hypertext Markup Language): Standard language for creating web pages.
•Features: Simple, platform-independent, supports multimedia, and works with scripting languages.

HTML Page Structure:
•Comment Section (<!-- comment -->) – Adds notes in the code.
•Head Section (<head>) – Contains metadata and title.
•Body Section (<body>) – Contains visible content of the page.

2. HTML Tags
HTML tags define the structure and formatting of a webpage.

Types of Tags
Paired Tags: These tags have both an opening and a closing tag. Example:
<html> ... </html>

Singular Tags: These tags do not require a closing tag. Example:

 (Line break), <img> (Image)

Text Formatting Tags
Used to style text in HTML.

<b> – Makes text bold.
<i> – Makes text italicized.
<u> – Underlines text.
 – Highlights important text in bold.
 – Emphasizes text in italic.

Quotation & Definition Tags

<q> – Represents a short quotation.
<blockquote> – Used for longer quotations.

<abbr> – Defines abbreviations (e.g., <abbr title="World Health Organization">WHO</abbr>).
<cite> – Used to reference the title of a work.

Block-Level Tags
Block-level elements take up the full width of a page.

 – A container to group elements.
<p> – Defines a paragraph.

 – Inserts a line break.
<hr> – Creates a horizontal line.
 – Centers text (deprecated, use CSS instead).

3. Lists in HTML

Lists help in organizing content.

Ordered List (<ol>)
Displays items in a numbered format.

Attributes:

type (1, A, a, I, i)
start (Defines starting number)
reversed (Displays list in reverse order)

```
<ol type="A" start="3">
  <li>Item 1</li>
  <li>Item 2</li>
</ol>
```

Unordered List (<ul>)
Displays items with bullets.

Attributes:
type (disc, circle, square)

```
<ul type="square">
  <li>Item 1</li>
  <li>Item 2</li>
</ul>
```

Definition List (<dl>)
Contains terms (<dt>) and descriptions (<dd>).

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

```
</dl>
```

4. Tables in HTML
Tables organize data in rows and columns.

Basic Table Tags
<table> – Defines a table.
<tr> – Defines a row.
<td> – Defines a data cell.
<th> – Defines a header cell (bold by default).

Table Attributes

border – Defines table border.
cellpadding – Space inside a cell.
cellspacing – Space between cells.
rowspan – Merges multiple rows.
colspan – Merges multiple columns.

```
<table border="1">
  <tr>
    <th>Name</th>
    <th>Age</th>
  </tr>
  <tr>
    <td>Alice</td>
    <td>25</td>
  </tr>
</table>
```

Nested Tables
A table inside another table.

```
<table border="1">
  <tr>
    <td>
      <table border="1">
        <tr><td>Nested Table</td></tr>
      </table>
    </td>
  </tr>
</table>
```

5. Hyperlinks and Images

Hyperlinks (<a>)
Used to create links to other pages or resources.

href – Specifies the URL.
target – Defines how the link opens (_blank opens in a new tab).

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

Images (<img>)
Used to display images.
src – Defines the image source.
alt – Provides alternate text.
height, width – Define image size.

```
<img src="image.jpg" alt="Image Description" width="200" height="150">
```

6. Forms and Input Elements
Forms allow user input collection.

Forms (<form>)
action – URL to send form data.
method – GET (URL parameters) or POST (hidden data).

```
<form action="submit.php" method="POST">
  <input type="text" name="username">
  <input type="submit" value="Submit">
</form>
```

Input Types (<input>)

text – Single-line text field.
password – Password field.
radio – Select one option.
checkbox – Select multiple options.
submit – Submit button.
reset – Reset form fields.

Other Form Elements

<textarea> – Multi-line input field.
<select> – Dropdown menu with <option>.
<button> – Clickable button.

```
<select>
  <option value="html">HTML</option>
  <option value="css">CSS</option>
</select>
```

7. Frames & Iframes

Frames (<frameset>)

Used to divide the webpage into multiple sections. (Deprecated)

```
<frameset cols="50%, 50%">
  <frame src="page1.html">
  <frame src="page2.html">
</frameset>
```

Iframes (<iframe>)
Used to embed another webpage inside the current page.

```
<iframe src="https://www.example.com" width="600" height="400"></iframe>
```

8. Multimedia Elements

Embed (<embed>)
Used to insert audio, video, or interactive media.

```
<embed src="video.mp4" width="400" height="300">
```

Marquee (<marquee>)
Used to create scrolling text or images. (Deprecated)

direction – left, right, up, down.
behavior – scroll, slide, alternate.

```
<marquee direction="left" behavior="scroll">Scrolling Text</marquee>
```