

UNIT 1: INTERNET, HTML AND CSS - DETAILED NOTES

1. Concept of Internet:

- The Internet is a global system of interconnected computer networks.
- It enables the sharing of information, communication, and services between computers worldwide.
- Uses: Email, web browsing, file sharing, social media, online education, e-commerce.

Advantages:

- Instant communication globally.
- Access to vast information and resources.
- Enables online business and education.

Disadvantages:

- Privacy and security risks.
- Spread of misinformation.
- Dependency on internet connectivity.

Why use Internet?

- For communication, learning, entertainment, and work.
- To connect with people and access services worldwide.

2. History of Internet:

- 1969: ARPANET was the first network to implement the TCP/IP protocol suite.
- 1983: TCP/IP adopted as the standard protocol.
- 1990: World Wide Web invented by Tim Berners-Lee.
- 1990s: Internet became publicly accessible and popular.

3. Protocols of Internet:

- Protocols define the rules for data exchange over the network.

Key Protocols:

- HTTP (HyperText Transfer Protocol): For transmitting web pages.
- HTTPS: Secure version of HTTP using encryption.
- FTP (File Transfer Protocol): For file transfer between computers.

- TCP/IP (Transmission Control Protocol/Internet Protocol): Core protocols for internet communication.
- SMTP (Simple Mail Transfer Protocol): For sending emails.
- POP3 and IMAP: For retrieving emails.

4. World Wide Web (WWW):

- A system of interlinked web pages accessed via the Internet.
- Uses Hypertext to link documents and allow easy navigation.
- Accessed using Web Browsers.

Advantages of WWW:

- Easy access to information through hyperlinks.
- Supports multimedia content (images, audio, video).
- Interactive and user-friendly.

5. URL (Uniform Resource Locator):

- A URL is the address used to access resources on the internet.

Format: protocol://domain/path

Example: <https://www.google.com/search>

6. Web Server:

- A Web Server stores website files and sends them to clients (browsers) upon request.
- Examples include Apache, Nginx, Microsoft IIS.
- Handles HTTP requests and serves HTML pages and other resources.

7. Web Browser:

- A software application that retrieves, interprets, and displays web pages.
- Examples: Google Chrome, Mozilla Firefox, Safari, Microsoft Edge.
- Converts HTML, CSS, and JavaScript into visual web pages.

HTML and CSS:

8. History of HTML:

- HTML was invented by Tim Berners-Lee in 1991.
- It is a markup language to create and structure web pages.
- HTML uses tags to define elements like headings, paragraphs, links, and images.

9. Structure of HTML Document:

Basic HTML document structure:

```
<!DOCTYPE html>
<html>
  <head>
    <title>Page Title</title>
  </head>
  <body>
    <!-- Content goes here -->
  </body>
</html>
```

Common HTML tags:

- Headings: <h1> to <h6>
- Paragraph: <p>
- Bold:
- Italic: <i>
- Underline: <u>
- Image:
- Links: Link
- Div and Span for layout and inline elements.

Advantages of HTML:

- Easy to learn and use.
- Supported by all browsers.
- Provides the basic structure for web pages.

Limitations:

- HTML alone cannot create visually attractive pages.
- Cannot add dynamic content without additional technologies like CSS or JavaScript.

10. Cascading Style Sheets (CSS):

- CSS is used to control the style and layout of web pages.
- Separates content (HTML) from presentation (CSS).

Advantages of CSS:

- Makes web pages visually appealing.
- Allows easier site-wide design changes.
- Supports responsive design for different devices.

Disadvantages:

- Requires knowledge of CSS syntax and selectors.
- Complex layouts may need advanced CSS techniques.

11. Why use CSS?

- To improve the look and feel of web pages.
- To maintain consistency across multiple pages.
- To reduce repetition of styling code.

12. CSS Syntax and Structure:

- CSS syntax consists of selectors and declarations:

```
selector {  
    property: value;  
}
```

Example:

```
p {
```

```
color: blue;
font-size: 16px;
}
```

13. Types of CSS:

a) Inline CSS:

- Applied directly within HTML elements using the style attribute.

Example: `<p style="color:red;">Text</p>`

b) Internal CSS:

- Placed inside the `<style>` tag within the HTML document's head section.

c) External CSS:

- Stored in separate .css files and linked to HTML documents using `<link>` tag.

Advantages of external CSS:

- Reusable across multiple pages.
- Keeps HTML files clean and smaller.

Exam Tips:

- Understand definitions and importance of Internet, WWW, protocols.
- Know HTML document structure and common tags.
- Learn CSS syntax, types, and benefits.
- Practice writing simple HTML and CSS code snippets.
- Be prepared to explain advantages and disadvantages.