

# BCA - SECOND YEAR FOURTH SEMESTER

## CSA 6005T INTRODUCTION TO INTERNET TECHNOLOGY

### Unit 1: World Wide Web

#### Caveat

- Working, Web Browsers,
- URLs, web sites, Domain names,
- Portals, Search Engines, TCP/IP.



### Unit 2: E-Mail

#### Caveat

- Concepts, POP/WEB Based, Merits, Addressing, Sending & Receiving, Protocols, Servers/Clients.



### Unit 4: CSS & Design

#### Caveat

- Cascading Style Sheets, Design tools, Frames, Forms, Static vs Dynamic Websites, Issues.

### Unit 3: HTML

#### Caveat

- Hypertext, Tags, Syntax,
- Head/Body, Formatting,
- Images, Links, Backgrounds, Tables.



### Unit 4: CSS & Design

#### Caveat

- Cascading Style Sheets,
- Design tools, Frames,
- Forms, Static vs Dynamic Websites, Issues.



### Unit 5: E-Commerce

#### Caveat

- Concepts, Advantages/Disadvantages,
- Technology, Internet & E-business, Applications,
- Feasibility, E-transition challenges, IT Act 2000.



### Unit 6: Payment Systems

#### Caveat

- Types, Digital Token-Based, Smart Cards, Credit Card-Based.

# UNIT 1: WORLD WIDE WEB (WWW)

## 1. Internet

The Internet is a global network of interconnected computers that communicate using standard protocols to share information and resources.

### Features of Internet:

- Global connectivity
- Fast communication
- Information sharing
- Low cost
- Supports multimedia (text, image, audio, video)

## 2. World Wide Web (WWW)

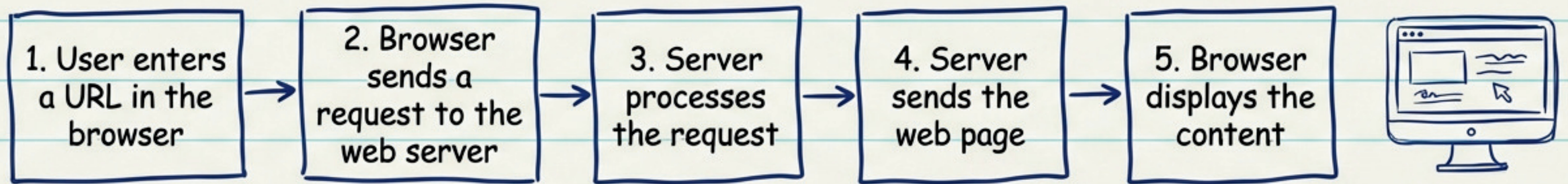
The World Wide Web (WWW) is a system of interlinked hypertext documents accessed through the Internet using a web browser.

### Components of WWW:

- Web pages
- Web servers
- Web browsers
- URLs
- HTTP/HTTPS protocol

# Permanent Marker: Mechanics of the Web

## 3. Working of WWW Permanent Marker



## 4. Web Browsers Permanent Marker

A web browser is software used to access and display web pages.

Functions:

- Interpret HTML
- Display multimedia content
- Navigate web pages
- Store cache and cookies
- Support bookmarks

Examples: Chrome, Firefox, Edge, Safari

# Addressing & Navigation

## 5. URL (Uniform Resource Locator)

A **URL** is the address of a resource on the Internet.

Format:

`protocol://domain:port/path`

Example:

`https://www.example.com/index.html`

## 6. Websites

A **website** is a collection of related web pages stored on a web server.

Types of Websites:

- Static websites
- Dynamic websites
- Educational
- E-commerce
- Government websites

# Identity & Access

## 7. Domain Names

A domain name is a human-readable name for an IP address.

**Types:**

- .com → commercial
- .edu → educational
- .org → organization
- .in → India

## 8. Web Portals

A web portal provides access to multiple services in one place.

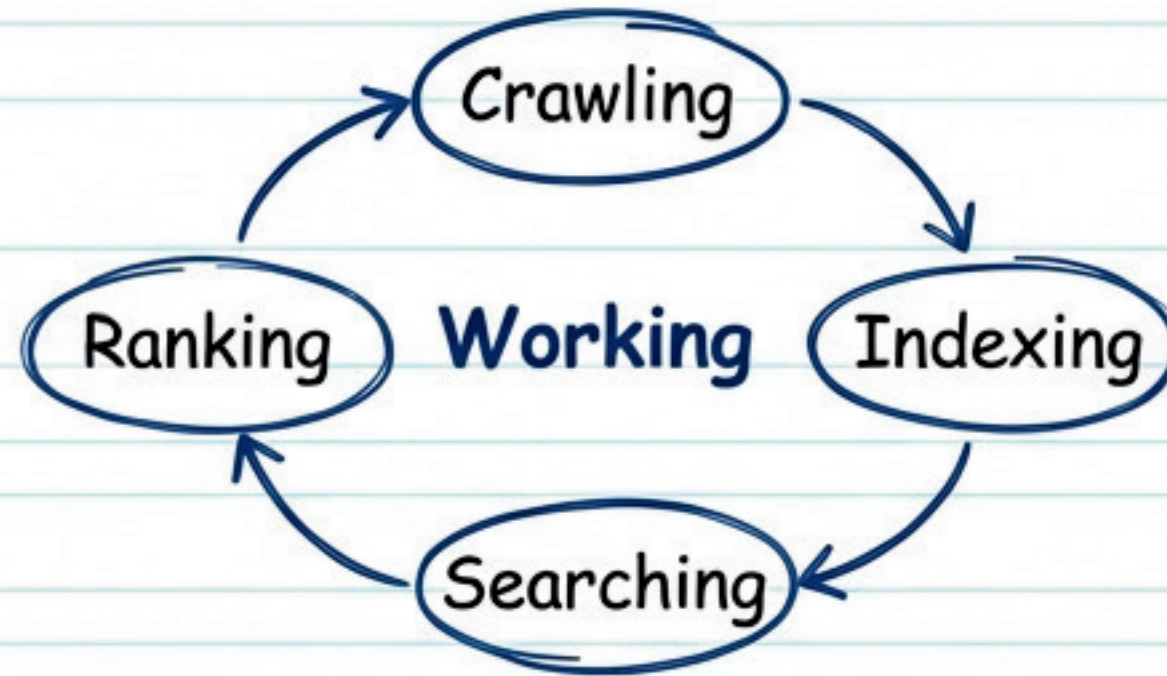
**Examples:**

- News portals
- Educational portals
- Government portals

# Search & Protocols

## 9. Search Engines

A **search engine** is used to find information on the web.



Types:

- Keyword-based
- Directory-based
- Meta search engines

## 10. TCP/IP Protocol Suite

**TCP/IP** is the basic communication protocol of the Internet.

Main Protocols:

- TCP - reliable data transfer
- IP - addressing and routing
- HTTP - web communication
- FTP - file transfer
- SMTP - email sending

# UNIT 2: E-MAIL SYSTEM

## 1. E-Mail

Electronic Mail is a method of exchanging digital messages over the Internet.

## 2. Components of E-Mail

- Sender
- Receiver
- Message body
- Subject
- Attachments

## 3. POP and Web-Based Email

POP (Post Office Protocol)

- Downloads emails to local computer
- Works offline

Web-Based Email

- Accessed through browser
- Examples: Gmail, Yahoo

## 4. Merits of E-Mail

- Fast communication
- Cost effective
- Easy file sharing
- Global reach

## 5. E-Mail Address Format

CSS

username@domain.com

# Email Mechanics & Protocols

## 6. Sending & Receiving Email

- Sending: SMTP protocol
- Receiving: POP3, IMAP

## 7. E-Mail Protocols

- SMTP - Sending mail
- POP3 - Download mail
- IMAP - Online mail access

## 8. Mailing List

A **mailing list** is a collection of email addresses used for group communication

## 9. E-Mail Servers and Clients

**Email Server:** Stores and manages emails

**Email Client:** Software to access emails (Outlook, Thunderbird)



# UNIT 3: HTML AND HYPERTEXT



1. **Hypertext:** Text containing links to other documents is called hypertext.
2. **HTML (HyperText Markup Language):** HTML is used to create web pages.

## 3. Features of HTML

- Simple and easy
- Platform independent
- Supports multimedia
- Tag-based language

## 4. Versions of HTML

- HTML 2.0
- HTML 4.01
- XHTML
- HTML5

## 5. HTML Syntax



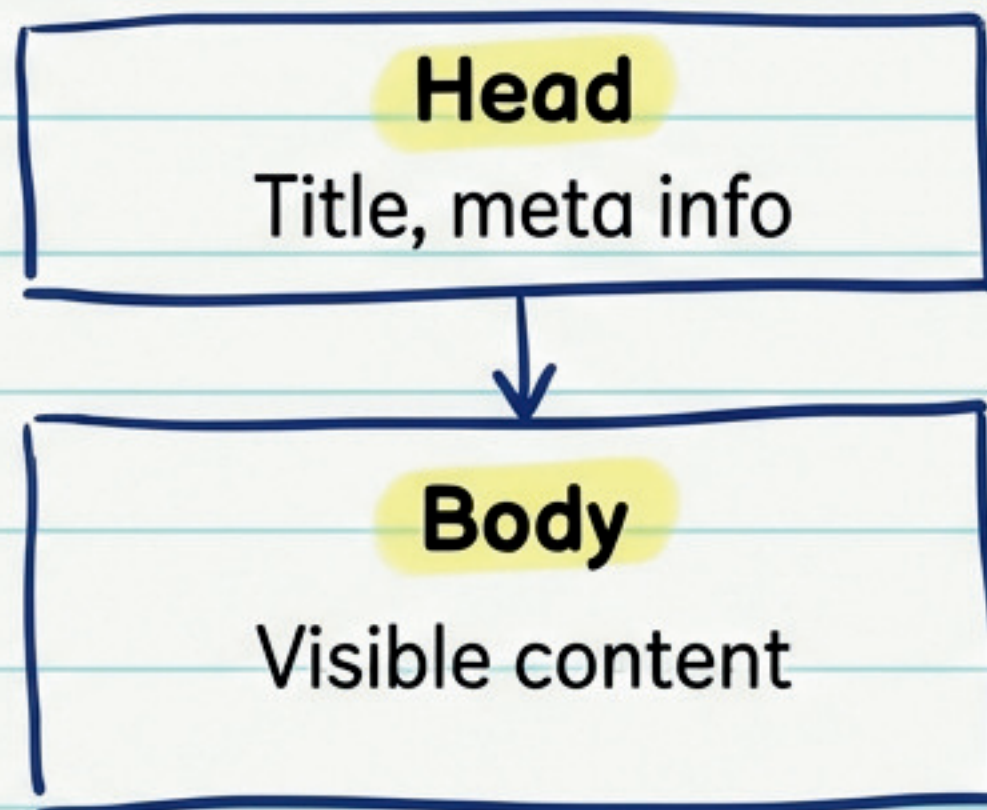
```
html  
<tagname> content </tagname>
```

## 6. HTML Elements

- Head section
- Body section
- Attributes
- Tags

# Structure & Text Formatting

## 7. Head & Body Sections



## 8. Text Formatting

Headings `<h1>` to `<h6>` → Meaning: Titles and Subtitles

Paragraph `<p>` → Meaning: Blocks of text

Alignment → Meaning: Text positioning (left, center, right)

Fonts and styles → Meaning: Typeface, bold, italic

# HTML Media & Layout

## 9. Images in HTML

```
html  

```

## 10. Hyperlinks

```
html  
<a href="page.html">Click</a>
```

Types:

- Text links
- Image links
- Bookmarks

## 11. Background and Colors

- Background color
- Text color
- Page styling

# Tables, Lists & CSS Intro

## 12. Tables in HTML

Used to arrange data in rows and columns.

	Col 1	Col 2
Row 1		
Row 2		

## 13. Lists

- Ordered `<ol>`
- Unordered `<ul>`
- Definition `<dl>`

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## UNIT 4: CSS AND WEB DESIGN

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### 1. Cascading Style Sheets (CSS)

CSS is used to style and design web pages.

### 2. Uses of CSS

- Layout design
- Color and fonts
- Responsive design
- Consistency

### 3. HTML Design Tools

HTML editors, Image editors, Code editors.

### 4. Popular HTML Editors

VS Code, Notepad++, Sublime Text.

# Advanced Design & Site Types

## 5. Frames

Frames divide a browser window into multiple sections.

## 6. Forms

Forms collect user input.

Elements:

- Text box
- Radio button
- Checkbox
- Submit button

## 7. Static vs Dynamic Websites

Static	Dynamic
<ul style="list-style-type: none"><li>• Fixed content</li><li>• Simple</li></ul>	<ul style="list-style-type: none"><li>• Database driven</li><li>• Interactive</li></ul>

## 8. Website Issues & Maintenance

- Security
- Performance
- Updates
- Compatibility

# UNIT 5: E-COMMERCE

## 1. E-Commerce

Electronic buying and selling of goods and services over the Internet.

## 2. Concepts of E-Commerce

- Online transactions
- Digital payments
- Virtual marketplaces



## 3. Advantages & 4. Disadvantages

- |   |  |
|---|--|
| <ul style="list-style-type: none"><li>• 24/7 availability</li><li>• Global reach</li><li>• Reduced cost</li></ul> | <ul style="list-style-type: none"><li>• Security risks</li><li>• No physical inspection</li><li>• Technical issues</li></ul> |
|---|--|



## 5. Technology in E-Commerce

- Internet
- Databases
- Payment gateways
- Security protocols



## 5. Technology in E-Commerce

- Internet
- Databases
- Payment gateways
- Security protocols



## 6. Internet & E-Business

E-Business includes all online business activities.

## 7. Applications

- Online shopping
- Banking
- Ticket booking
- Online education



## 8. E-Transition Challenges (India)

- Infrastructure
- Cyber security
- Digital literacy
- Trust issues

# UNIT 6: ELECTRONIC PAYMENT SYSTEMS

## 1. Electronic Payment System

A system that enables **electronic** transfer of **money**.



## 2. Types

- **Credit card** payment
- **Debit card** payment
- **Smart cards**
- **Digital wallets**
- **Token-based systems**



## 3. Digital Token-Based System

Uses **encrypted digital tokens** for transactions.



## 4. Smart Cards

Plastic cards with **embedded chips** for **secure payments**.



## 5. Credit Card-Based System

- **Cardholder**
- **Merchant**
- **Bank**
- **Payment gateway**

