

## 7.1 Introduction to Web Page and CMS (Content Management System)

### A. What is a Web Page?

- A **web page** is a single document on the World Wide Web, written primarily in **HTML**.
- It can contain text, images, videos, links, and other elements.
- A **website** is a collection of related web pages under a single domain name (e.g., [www.nepal.gov.np](http://www.nepal.gov.np)).

### B. Static vs. Dynamic Web Pages

Feature	Static Web Page	Dynamic Web Page
<b>Content</b>	Fixed; changes only when edited manually	Changes automatically based on user input, time, or database
<b>Technology</b>	HTML, CSS only	HTML + CSS + Server-side scripts (PHP, ASP, Python) + Database
<b>Example</b>	A personal portfolio page	Facebook feed, e-commerce site, news portal
<b>Pros</b>	Simple, cheap to host, fast	Interactive, personalized, easy to update
<b>Cons</b>	Requires coding skills to update	More complex, requires server-side resources

### C. What is a Content Management System (CMS)?

- A **CMS** is a software application that allows users to **create, manage, and modify website content** without needing to write HTML or CSS code.
- It separates content creation from content presentation.

#### Popular CMS Platforms

CMS	Usage
<b>WordPress</b>	Most popular (blogs, business sites, government portals)
<b>Joomla</b>	Mid-complexity websites
<b>Drupal</b>	High-security, complex government sites
<b>Custom CMS</b>	Built specifically for an organization's needs

## Why Governments Use CMS

- **Non-technical staff** can update content (e.g., post news, upload documents).
- **Consistent design** across all pages.
- **Workflow management** (draft → review → publish).
- **Accessibility** features built-in.
- **Security updates** managed by the CMS team.

## CMS in Nepal's Government Context

- Many Nepali government websites use **CMS platforms** (often custom or Drupal-based).
- The **Government Integrated Data Center (GIDC)** hosts several government portals.
- The **Government Website Development and Management Directive, 2078** encourages standardized CMS use.

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## 7.2 Designing Simple Webpage with HTML

### 7.2.1 HTML Document

#### A. What is HTML?

**HTML (HyperText Markup Language)** is the standard language for creating web pages. It uses **tags** to structure content.

#### B. Basic Structure of an HTML Document

html

```
<!DOCTYPE html>
```

`<!-- Tells browser this is HTML5 -->`

```
<html>
```

`<!-- Root element -->`

```
<head>
```

`<!-- Contains meta-information -->`

```
  <title>Page Title</title>
```

```
</head>
```

```
<body>
```

`<!-- Visible content goes here -->`

```
  <h1>This is a heading</h1>
```

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

```
</body>
```

```
</html>
```

## C. Key Components Explained

Element	Purpose
<code>&lt;!DOCTYPE html&gt;</code>	Declares the document type (HTML5)
<code>&lt;html&gt;</code>	Root container for all HTML
<code>&lt;head&gt;</code>	Contains metadata, title, CSS links, scripts
<code>&lt;title&gt;</code>	Appears on browser tab; important for SEO
<code>&lt;body&gt;</code>	Contains all visible content

## D. Saving an HTML File

- File extension: .html or .htm
- Open with any web browser (Chrome, Firefox, Edge)
- Edit with any text editor (Notepad, VS Code, Sublime Text)

## 7.2.2 HTML Tags

### A. What are HTML Tags?

- Tags are keywords surrounded by angle brackets: `<tagname>`
- Most tags come in pairs: opening `<tagname>` and closing `</tagname>`
- Some tags are self-closing: `<br>`, `<img>`, `<hr>`

### B. Common HTML Tags

Tag	Description	Example
<code>&lt;h1&gt;</code> to <code>&lt;h6&gt;</code>	Headings (largest to smallest)	<code>&lt;h1&gt;Title&lt;/h1&gt;</code>
<code>&lt;p&gt;</code>	Paragraph	<code>&lt;p&gt;Text here&lt;/p&gt;</code>
<code>&lt;br&gt;</code>	Line break (self-closing)	Line one  Line two
<code>&lt;hr&gt;</code>	Horizontal rule (line)	<code>&lt;hr&gt;</code>
<code>&lt;a&gt;</code>	Hyperlink	<code>&lt;a href="url"&gt;Link text&lt;/a&gt;</code>
<code>&lt;img&gt;</code>	Image (self-closing)	<code>&lt;img src="photo.jpg" alt="description"&gt;</code>

Tag	Description	Example
<ul>, <li>	Unordered list (bullets)	<ul><li>Item</li></ul>
<ol>, <li>	Ordered list (numbers)	<ol><li>First</li></ol>
<table>	Table	<table><tr><td>Cell</td></tr></table>
<form>	Input form	<form><input type="text"></form>
<div>	Division/container for layout	<div class="header">
<span>	Inline container	<span style="color:red;">

### C. HTML Attributes

- Attributes provide additional information about a tag.
- Always written in the opening tag: name="value"

Attribute	Used With	Purpose
href="url"	<a>	Specifies link destination
src="url"	<img>, <script>	Specifies file source
alt="text"	<img>	Alternative text (accessibility)
width="500"	<img>, <table>	Width in pixels or percentage
height="300"	<img>, <table>	Height in pixels or percentage
style="css"	Almost any tag	Inline CSS styling
class="name"	Almost any tag	Groups elements for CSS
id="name"	Almost any tag	Unique identifier for an element

## 7.2.3 Working with Text, Hyperlinks, Images, Lists, Forms, Tables, Frames

### A. Working with Text

html

```
<h1>Main Heading</h1>
```

```
<h2>Subheading</h2>
```

```
<p>This is a <strong>bold</strong> and <em>italic</em> text.</p>
```

```
<p>This is <u>underlined</u> and <mark>highlighted</mark>.</p>
```

#### Text Formatting Tags:

Tag	Effect
<strong> or <b> >	Bold
<em> or <i>	Italic
<u>	Underline
<mark>	Highlight
<small>	Smaller text
<del>	Strikethrough

### B. Hyperlinks (Anchor Tags)

html

```
<!-- Link to another website -->
```

```
<a href="https://www.psc.gov.np">Visit PSC Nepal</a>
```

```
<!-- Link to another page on same site -->
```

```
<a href="contact.html">Contact Us</a>
```

```
<!-- Link within same page (jump to an element with id) -->
```

```
<a href="#section1">Go to Section 1</a>
```

```
<h2 id="section1">Section 1</h2>
```

```
<!-- Open link in new tab -->
```

```
<a href="https://example.com" target="_blank">Open in New Tab</a>
```

```
<!-- Email link -->
```

```
<a href="mailto:info@example.com">Send Email</a>
```

Attribute	Purpose
href	Destination URL or path
target="_blank"	Opens link in new tab
target="_self"	Opens in same tab (default)

### C. Working with Images

html

```
<!-- Basic image -->
```

```

```

```
<!-- Image with dimensions -->
```

```

```

```
<!-- Image as a link -->
```

```
<a href="gallery.html">
```

```
  
```

```
</a>
```

Attribute	Purpose
src	Image file path (local or URL)
alt	Text displayed if image fails to load; essential for accessibility
width / height	Size in pixels or percentage

Supported formats: .jpg, .png, .gif, .svg, .webp

### D. Lists

#### Unordered List (Bullets)

html

```
<ul>
```

```
  <li>Ministry of Communication</li>
```

```
  <li>Department of Information Technology</li>
```

```
  <li>National IT Center</li>
```

```
</ul>
```

## Ordered List (Numbers)

```
html
<ol>
  <li>First step: Register</li>
  <li>Second step: Apply online</li>
  <li>Third step: Submit documents</li>
</ol>
```

## Nested List (List inside a list)

```
html
<ul>
  <li>Nepal Government Services
    <ul>
      <li>Online Passport</li>
      <li>Citizenship Certificate</li>
    </ul>
  </li>
</ul>
```

---

## E. Forms (For User Input)

Forms collect data from users (e.g., login, registration, feedback).

```
html
<form action="submit.php" method="POST">
  <label for="name">Full Name:</label>
  <input type="text" id="name" name="name" required><br>

  <label for="email">Email:</label>
  <input type="email" id="email" name="email"><br>

  <label for="password">Password:</label>
  <input type="password" id="password" name="password"><br>

  <label>Gender:</label>
  <input type="radio" name="gender" value="male"> Male
  <input type="radio" name="gender" value="female"> Female<br>

  <label for="district">District:</label>
  <select id="district" name="district">
    <option>Kathmandu</option>
    <option>Lalitpur</option>
    <option>Bhaktapur</option>
  </select><br>

  <label for="message">Message:</label><br>
```

```
<textarea id="message" name="message" rows="4" cols="50"></textarea><br>
```

```
<input type="checkbox" id="agree" name="agree">
```

```
<label for="agree">I agree to terms</label><br>
```

```
<input type="submit" value="Submit">
```

```
<input type="reset" value="Clear">
```

```
</form>
```

### Common Input Types

Type	Purpose
text	Single-line text
email	Email address (validates format)
password	Hides characters
number	Numeric input
date	Date picker
radio	Select one option
checkbox	Select multiple options
select / option	Dropdown menu
textarea	Multi-line text
submit	Button to send form
reset	Button to clear form

## Form Attributes

Attribute	Purpose
action="url"	Where to send the form data
method="GET"	Sends data in URL (visible, for search)
method="POST"	Sends data in HTTP body (secure, for forms)
required	Makes field mandatory



## F. Tables (Structured Data)

html

```
<table border="1">
  <caption>Government Office Contacts</caption>
  <thead>
    <tr>
      <th>Office Name</th>
      <th>Phone</th>
      <th>Email</th>
    </tr>
  </thead>
  <tbody>
    <tr>
      <td>Ministry of Communication</td>
      <td>01-1234567</td>
      <td>info@mocit.gov.np</td>
    </tr>
    <tr>
      <td>Department of IT</td>
      <td>01-7654321</td>
      <td>contact@doit.gov.np</td>
    </tr>
  </tbody>
</table>
```

**Table Tags**

Tag	Purpose
<table>	Defines a table
<caption>	Table title
<thead>	Header section
<tbody>	Body section
<tfoot>	Footer section
<tr>	Table row
<th>	Header cell (bold, centered)
<td>	Standard cell

**Table Attributes**

Attribute	Purpose
border="1"	Adds border
cellpadding="5"	Space inside cells
cellspacing="0"	Space between cells
colspan="2"	Merges two columns
rowspan="2"	Merges two rows

## G. Frames (Older Technique - Know for Exam)

Important: Frames are deprecated in HTML5 (no longer supported). Use <iframe> instead.

### Traditional Frameset (Not used in modern web)

html

```
<frameset cols="30%,70%">
  <frame src="menu.html">
  <frame src="content.html">
</frameset>
```

- **Problems:** Poor accessibility, bookmarking issues, security concerns.

### Modern Alternative: <iframe> (Inline Frame)

An <iframe> embeds another HTML page inside the current page.

html

```
<!-- Embed a YouTube video -->
<iframe src="https://www.youtube.com/embed/video_id" width="560"
height="315"></iframe>
```

```
<!-- Embed another website -->
```

```
<iframe src="https://www.psc.gov.np" width="800" height="600"></iframe>
```

```
<!-- Iframe with security attributes -->
```

```
<iframe src="content.html"
width="100%"
height="400"
sandbox="allow-same-origin allow-scripts">
</iframe>
```

### Common Uses of Iframes

- Embedding YouTube videos
- Embedding Google Maps
- Loading third-party widgets (like social media feeds)
- Displaying PDFs or other documents

## Quick Revision Table for HTML

Topic	Main Tags / Attributes
Document Structure	<!DOCTYPE html>, <html>, <head>, <body>
Text	<h1>-<h6>, <p>, <strong>, <em>
Hyperlinks	<a href="...">, target="_blank"
Images	
Lists	<ul>, <ol>, <li>
Forms	<form>, <input>, <select>, <textarea>, method="POST/GET"
Tables	<table>, <tr>, <th>, <td>, border, colspan
Frames	<iframe> (modern) — frameset is deprecated

### 1. Familiarity with Cascading Style Sheets (CSS)

CSS stands for **Cascading Style Sheets** .

#### A. What is CSS?

It is a stylesheet language used to control the **presentation** (look and feel) of web pages written in HTML. Think of HTML as the "skeleton" of a website (the structure and content), while CSS is the "skin and clothes" (colors, fonts, layout) .

#### B. Core Purpose & Benefits

- **Separation of Content & Design:** CSS allows you to keep the design rules separate from the HTML content. This means you can change the look of an entire website by editing just one CSS file, without touching every single page .
- **Consistency:** Ensures every page on a site looks the same.
- **Efficiency:** Reduces code duplication, making websites faster to load and easier to maintain .
- **Responsiveness:** Makes websites adapt to different screen sizes (mobile, tablet, desktop) .

## C. Types of CSS

There are three ways to apply CSS to a webpage:

1. **Inline CSS:** Written directly inside an HTML tag using the style attribute.
  - Use case: Changing a single, specific element.
2. **Internal CSS:** Written inside the `<style>` tag in the `<head>` section of a single HTML page.
  - Use case: Styling a single page differently from the rest of the site.
3. **External CSS:** Written in a separate `.css` file and linked to the HTML pages.
  - *Use case:* Styling an entire website (most common and best practice) .

## D. How CSS Works (Syntax)

A CSS rule consists of a **Selector** (which HTML element to style) and a **Declaration Block** (the style to apply).

- *Example:* `h1 { color: blue; }`
  - `h1` is the selector (all top-level headings).
  - `color: blue;` is the declaration (turn the text blue).

## E. CSS in Governance (Exam Context)

For a government exam, remember:

- **Accessibility:** Government websites must be usable even if CSS is not supported (e.g., by text-only browsers) .
  - **Standards:** External CSS is preferred to ensure uniformity across all government web portals.
  - **Validation:** Tools like the **W3C CSS Validator** are used to check if CSS code is error-free .
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## 2. Familiarity with Rich Site Summary (RSS)

RSS originally stood for **Rich Site Summary** but is now commonly known as **Really Simple Syndication** .

### A. What is RSS?

It is a web feed format (usually in XML) that allows users and applications to access **updates from websites** in a standardized, computer-readable format. It strips away the visual design (menus, ads) and delivers just the raw content (text, images, dates) .

## B. How it Works (The "Feed")

- Websites (like news portals or blogs) publish a special file called an **RSS feed**.
- Users subscribe to this feed using an **RSS Reader** or **Aggregator** (like Feedly).
- Whenever the website publishes new content, the feed automatically updates, and the reader shows it to the user. The user does not have to visit the website manually .

## C. Key Components of an RSS Feed

- **Channel:** The feed itself (metadata about the source).
- **Item:** An individual piece of content (e.g., a news article). Each item has a title, link, description, and publication date .

## D. Why is RSS still used in 2026?

It remains popular for:

- **Aggregating News:** Following multiple news sites in one place without ads.
  - **Podcasts:** Distributing episodes.
  - **Automation:** Connecting to tools like IFTTT to automatically post new content to social media .
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## 3. Use of Social Media in Governance

This section covers how government bodies use social media, the relevant rules, and operational strategies.

### A. Introduction to Social Media in Government

Governments use social media not just for publicity, but as a core tool for **public service delivery, crisis communication, and citizen engagement**. It allows for direct, two-way communication with citizens .

### B. Social Media Platforms

Common platforms used by governments include:

- **Facebook/Instagram:** For broad public awareness campaigns and community building .
- **X (Twitter):** For real-time updates, emergency alerts, and official announcements .
- **YouTube:** For publishing speeches, PSAs (Public Service Announcements), and training videos.
- **TikTok:** Emerging platform for reaching younger demographics (though often subject to security restrictions) .

### C. Applications in Government Organizations

1. **Information Dissemination:** Sharing policies, schemes, and initiatives (e.g., COVID-19 updates, health campaigns) .
2. **Crisis Management:** Issuing warnings during natural disasters or civil unrest.
3. **Public Feedback (Grievance Redressal):** Monitoring comments and messages to understand public opinion and address complaints (e.g., using dashboards like "SAMVAD") .
4. **Recruitment:** Advertising job openings (e.g., for police officers or civil servants) .
5. **Citizen Engagement:** Running online contests, live coverage of events, and Q&A sessions .

### D. Operating and Managing Social Media (Operational Guidelines)

Managing official government social media requires strict protocols to maintain trust and security :

- **Strategy & Audit:** Requires a defined strategy and annual audits of accounts.
- **Community Guidelines & Moderation:** Must have clear rules for public comments. Moderation is required to remove spam, hate speech, or defamatory content. Moderators need support to handle traumatic stress .
- **Record Keeping:** All social media posts are considered official records and must be archived with metadata .
- **Risk Mitigation:** Identifying risks (e.g., backlash, misinformation) before posting.
- **Security:** Government devices often block certain apps (like TikTok or WeChat) due to security/privacy risks .

### E. Specific Context: Nepal (Critical for your Exam)

Based on recent updates (2025), Nepal has strict regulations for social media:

- **Directives for Managing the Use of Social Media, 2080:** Mandates that foreign social media platforms (Facebook, YouTube, X, etc.) must **register with the Ministry of Communication and Information Technology (MoCIT)** to operate legally in Nepal .
- **Requirements:** Platforms must appoint a local contact person and a grievance officer .
- **Enforcement:** In September 2025, Nepal blocked 26 platforms (including Meta products) for non-compliance, leading to major protests. This highlights the government's power to regulate digital spaces .
- **Pending Legislation:** The **Social Media Act (Bill), 2081** is awaiting approval, which would formalize a licensing system .

**Summary Table for Revision**

Concept	Full Form	Primary Function	Key Exam Point (Governance)
<b>CSS</b>	Cascading Style Sheets	Controls visual layout (colors, fonts) of websites.	Separates design from content; ensures accessibility.
<b>RSS</b>	Rich Site Summary / Really Simple Syndication	Distributes "feeds" of updated content to readers.	Allows citizens to aggregate government news without browsing.
<b>Social Media</b>	(Platform names)	Two-way communication & information sharing.	Requires registration in Nepal (Directives 2080) and strict moderation.

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