Exam Preparation Notes

3.3.3 Implementing Responsive Video and Other Media

- Definition: Ensuring media elements like videos, images, and iframes adapt to various screen sizes and devices.
- Techniques:
  - Use CSS properties like `max-width: 100%;` and `height: auto;`.
  - Embed videos with aspect ratio maintained using `padding` and `position`.
  - Utilize modern `<picture>` tags for responsive images.
  - Use the `srcset` attribute for serving different image resolutions.
- Tools: Media queries, `<video>` tag with flexible sizing.

3.3.4 Optimizing Multimedia Content for Performance and Accessibility

- Performance Optimization:
  - Compress media files using tools like TinyPNG (images) or HandBrake (videos).
  - Use modern formats: Images (WebP, AVIF), Videos (H.265/HEVC).
  - Lazy load media using the `loading="lazy"` attribute.
  - Use Content Delivery Networks (CDNs) for faster delivery.
- Accessibility:
  - Provide captions or transcripts for videos.
  - Use `alt` attributes for images.
  - Ensure proper contrast and readability.
  - Test with screen readers.

3.4 Web Forms: Creating and Handling User Input Forms for Data Collection

- Key Elements:
  - Form tags: `<form>`, `<input>`, `<textarea>`, `<button>`.
  - Validation: Use HTML5 attributes like `required`, `pattern`, and `type`.
  - Use `<fieldset>` and `<legend>` for grouping related fields.
- Enhancing Usability:
  - Auto-fill and auto-complete functionalities.
  - Placeholder text for user guidance.
  - Add labels for accessibility.

- Advanced Handling:

  - Use JavaScript for custom validations.

  - Backend integration to process and store data securely.

3.5 Responsive Typography

- Definition: Typography that adapts seamlessly across devices.

- Techniques:

  - Use relative units like `em`, `rem`, `%`, or `vw` instead of fixed units like `px`.

  - Implement media queries for typography adjustments.

  - Use CSS functions like `clamp()` to define minimum, preferred, and maximum font sizes.

3.5.1 Principles of Typography in Web Design

- Legibility:

  - Choose readable fonts.

  - Use proper letter-spacing and line-height.

- Hierarchy:

  - Use font size, weight, and color to establish importance.

- Consistency:

  - Maintain uniform font styles across the site.

- Accessibility:

  - Ensure text is resizable.

  - Use sufficient color contrast.