Question Set CSS-HTML5-JS

Set 1

Section A: Technical & Analytical (10 Marks - 2 Questions)

1. Explain the CSS Box Model with a diagram and discuss its impact on layout design. (5 Marks)

2. Compare the performance of inline CSS versus external CSS files in a large web application. (5 Marks)

Section B: Coding (10 Marks - 2 Questions)

1. Write HTML5 code to create a form with fields for name, email, and a submit button, using appropriate semantic tags. (5 Marks)

2. Write JavaScript code to validate the email field in the form using a regular expression. (5 Marks)

Section C: QA (10 Marks - 5 Questions)

1. What is the purpose of the `<header>` tag in HTML5? (2 Marks)

2. Explain the difference between `display: block` and `display: inline` in CSS. (2 Marks)

3. What is event delegation in JavaScript? (2 Marks)

4. What are the new input types introduced in HTML5? (2 Marks)

5. How does the `addEventListener` method work in JavaScript? (2 Marks)

Set 2

Section A: Technical & Analytical (10 Marks - 2 Questions)

1. Discuss the role of CSS Flexbox in responsive web design with an example. (5 Marks)

2. Analyze the accessibility benefits of HTML5 semantic elements over div-based layouts. (5 Marks)

Section B: Coding (10 Marks - 2 Questions)

1. Create an HTML5 page with a `<nav>` element containing three links. (5 Marks)

2. Write JavaScript code to toggle the visibility of a `<div>` element on button click. (5 Marks)

Section C: QA (10 Marks - 5 Questions)

1. What is the role of the `<article>` tag in HTML5? (2 Marks)

2. Explain the use of the `position: absolute` property in CSS. (2 Marks)

3. What is the purpose of the `this` keyword in JavaScript? (2 Marks)

4. What is the `<canvas>` element in HTML5 used for? (2 Marks)

5. How does CSS media queries enhance responsiveness? (2 Marks)

Set 3

Section A: Technical & Analytical (10 Marks - 2 Questions)

1. Explain the CSS Grid layout system and its advantages over traditional layouts. (5 Marks)

2. Compare the use of JavaScript `let`, `const`, and `var` in terms of scope and hoisting. (5 Marks)

Section B: Coding (10 Marks - 2 Questions)

1. Write HTML5 code to embed a video using the `<video>` tag with controls. (5 Marks)

2. Write JavaScript code to create a simple counter that increments on button click. (5 Marks)

Section C: QA (10 Marks - 5 Questions)

1. What is the purpose of the `<section>` tag in HTML5? (2 Marks)

2. Describe the `z-index` property in CSS and its usage. (2 Marks)

3. What are JavaScript closures, and why are they useful? (2 Marks)

4. What is the role of the `<audio>` element in HTML5? (2 Marks)

5. How does the `flex-wrap` property work in CSS Flexbox? (2 Marks)

Set 4

Section A: Technical & Analytical (10 Marks - 2 Questions)

1. Discuss the role of HTML5 Web Storage (localStorage and sessionStorage) in web applications. (5 Marks)

2. Evaluate the impact of CSS animations on page load performance. (5 Marks)

Section B: Coding (10 Marks - 2 Questions)

1. Create an HTML5 page with a `<footer>` containing copyright information. (5 Marks)

2. Write JavaScript code to store and retrieve a user's name in localStorage. (5 Marks)

Section C: QA (10 Marks - 5 Questions)

1. What is the purpose of the `<aside>` tag in HTML5? (2 Marks)

2. Explain the difference between `margin` and `padding` in CSS. (2 Marks)

3. What is the event loop in JavaScript? (2 Marks)

4. What are HTML5 data attributes, and how are they used? (2 Marks)

5. How does the `justify-content` property work in CSS Flexbox? (2 Marks)

Set 5

Section A: Technical & Analytical (10 Marks - 2 Questions)

1. Explain the concept of CSS preprocessors (e.g., SASS) and their benefits. (5 Marks)

2. Analyze the security implications of using inline JavaScript in HTML5. (5 Marks)

Section B: Coding (10 Marks - 2 Questions)

1. Write HTML5 code to create a table with three rows and two columns using `<table>` tags. (5 Marks)

2. Write JavaScript code to change the background color of a `<div>` on mouseover. (5 Marks)

Section C: QA (10 Marks - 5 Questions)

1. What is the role of the `<main>` tag in HTML5? (2 Marks)

2. Describe the `transition` property in CSS. (2 Marks)

3. What are JavaScript promises, and how do they handle asynchronous operations? (2 Marks)

4. What is the purpose of the `<figure>` tag in HTML5? (2 Marks)

5. How does the `grid-template-columns` property work in CSS Grid? (2 Marks)

Set 6

Section A: Technical & Analytical (10 Marks - 2 Questions)

1. Discuss the role of HTML5 Geolocation API in modern web applications. (5 Marks)

2. Compare the use of CSS pseudo-classes versus pseudo-elements with examples. (5 Marks)

Section B: Coding (10 Marks - 2 Questions)

1. Create an HTML5 page with a `<progress>` bar element. (5 Marks)

2. Write JavaScript code to get the user's current location using the Geolocation API. (5 Marks)

Section C: QA (10 Marks - 5 Questions)

1. What is the purpose of the `<nav>` tag in HTML5? (2 Marks)

2. Explain the `overflow` property in CSS and its values. (2 Marks)

3. What is the difference between `null` and `undefined` in JavaScript? (2 Marks)

4. What is the `<meter>` element used for in HTML5? (2 Marks)

5. How does the `align-items` property work in CSS Flexbox? (2 Marks)

Set 7

Section A: Technical & Analytical (10 Marks - 2 Questions)

1. Explain the concept of responsive images in HTML5 using the `<picture>` element. (5 Marks)

2. Analyze the performance benefits of using CSS variables (custom properties). (5 Marks)

Section B: Coding (10 Marks - 2 Questions)

1. Write HTML5 code to include a responsive image using the `<picture>` tag. (5 Marks)

2. Write JavaScript code to dynamically change a CSS variable value. (5 Marks)

Section C: QA (10 Marks - 5 Questions)

1. What is the role of the `<time>` tag in HTML5? (2 Marks)

2. Describe the `box-shadow` property in CSS. (2 Marks)

3. What are JavaScript arrow functions, and how do they differ from regular functions? (2 Marks)

4. What is the purpose of the `<dialog>` element in HTML5? (2 Marks)

5. How does the `grid-gap` property work in CSS Grid? (2 Marks)

Set 8

Section A: Technical & Analytical (10 Marks - 2 Questions)

1. Discuss the role of JavaScript ES6 modules in modern web development. (5 Marks)

2. Compare the use of HTML5 Web Workers for background tasks versus main thread execution. (5 Marks)

Section B: Coding (10 Marks - 2 Questions)

1. Create an HTML5 page with a `<details>` and `<summary>` element. (5 Marks)

2. Write JavaScript code to implement a Web Worker for a simple calculation. (5 Marks)

Section C: QA (10 Marks - 5 Questions)

1. What is the purpose of the `<output>` tag in HTML5? (2 Marks)

2. Explain the `transform` property in CSS. (2 Marks)

3. What is the spread operator in JavaScript, and how is it used? (2 Marks)

4. What are HTML5 custom elements? (2 Marks)

5. How does the `order` property work in CSS Flexbox? (2 Marks)

Set 9

Section A: Technical & Analytical (10 Marks - 2 Questions)

1. Explain the concept of CSS specificity and how it affects styling. (5 Marks)

2. Analyze the impact of JavaScript frameworks on HTML5 development. (5 Marks)

Section B: Coding (10 Marks - 2 Questions)

1. Write HTML5 code to create a dropdown menu using the `<select>` tag. (5 Marks)

2. Write JavaScript code to populate the dropdown options dynamically from an array. (5 Marks)

Section C: QA (10 Marks - 5 Questions)

1. What is the role of the `<figcaption>` tag in HTML5? (2 Marks)

2. Describe the `opacity` property in CSS. (2 Marks)

3. What are JavaScript async/await functions? (2 Marks)

4. What is the purpose of the `<template>` element in HTML5? (2 Marks)

5. How does the `grid-auto-flow` property work in CSS Grid? (2 Marks)

Set 10

Section A: Technical & Analytical (10 Marks - 2 Questions)

1. Discuss the role of HTML5 Drag and Drop API in user interface design. (5 Marks)

2. Compare the use of CSS keyframes versus transition for animations. (5 Marks)

Section B: Coding (10 Marks - 2 Questions)

1. Create an HTML5 page with a draggable `<div>` element. (5 Marks)

2. Write JavaScript code to handle the drag and drop event for the `<div>`. (5 Marks)

Section C: QA (10 Marks - 5 Questions)

1. What is the purpose of the `<datalist>` tag in HTML5? (2 Marks)

2. Explain the `filter` property in CSS. (2 Marks)

3. What is the difference between `forEach` and `map` in JavaScript? (2 Marks)

4. What are HTML5 WebSockets used for? (2 Marks)

5. How does the `flex-grow` property work in CSS Flexbox? (2 Marks)

Set 11

Section A: Technical & Analytical (10 Marks - 2 Questions)

1. Explain the concept of CSS custom properties and their scope. (5 Marks)

2. Analyze the security benefits of using Content Security Policy (CSP) with HTML5. (5 Marks)

Section B: Coding (10 Marks - 2 Questions)

1. Write HTML5 code to create a responsive layout using a `<div>` with CSS Grid. (5 Marks)

2. Write JavaScript code to fetch data from an API using the Fetch API. (5 Marks)

Section C: QA (10 Marks - 5 Questions)

1. What is the role of the `<mark>` tag in HTML5? (2 Marks)

2. Describe the `clip-path` property in CSS. (2 Marks)

3. What are JavaScript generators, and how are they used? (2 Marks)

4. What is the purpose of the `<iframe>` element in HTML5? (2 Marks)

5. How does the `grid-template-areas` property work in CSS Grid? (2 Marks)

Set 12

Section A: Technical & Analytical (10 Marks - 2 Questions)

1. Discuss the role of JavaScript event bubbling and capturing. (5 Marks)

2. Compare the use of HTML5 SVG versus Canvas for graphics rendering. (5 Marks)

Section B: Coding (10 Marks - 2 Questions)

1. Create an HTML5 page with an SVG circle element. (5 Marks)

2. Write JavaScript code to change the SVG circle's color on click. (5 Marks)

Section C: QA (10 Marks - 5 Questions)

1. What is the purpose of the `<abbr>` tag in HTML5? (2 Marks)

2. Explain the `text-shadow` property in CSS. (2 Marks)

3. What is the difference between `setTimeout` and `setInterval` in JavaScript? (2 Marks)

3. What are HTML5 microdata attributes? (2 Marks)

5. How does the `align-content` property work in CSS Flexbox? (2 Marks)

Set 13

Section A: Technical & Analytical (10 Marks - 2 Questions)

1. Explain the concept of CSS BEM methodology and its benefits. (5 Marks)

2. Analyze the impact of JavaScript minification on web performance. (5 Marks)

Section B: Coding (10 Marks - 2 Questions)

1. Write HTML5 code to create a multi-column layout using CSS. (5 Marks)

2. Write JavaScript code to debounce a search input event. (5 Marks)

Section C: QA (10 Marks - 5 Questions)

1. What is the role of the `<cite>` tag in HTML5? (2 Marks)

2. Describe the `background-blend-mode` property in CSS. (2 Marks)

3. What are JavaScript destructuring assignments? (2 Marks)

4. What is the purpose of the `<embed>` element in HTML5? (2 Marks)

5. How does the `grid-column` property work in CSS Grid? (2 Marks)

Set 14

Section A: Technical & Analytical (10 Marks - 2 Questions)

1. Discuss the role of HTML5 Server-Sent Events in real-time updates. (5 Marks)

2. Compare the use of CSS floats versus Flexbox for layout design. (5 Marks)

Section B: Coding (10 Marks - 2 Questions)

1. Create an HTML5 page with a `<div>` using float for layout. (5 Marks)

2. Write JavaScript code to implement Server-Sent Events for a live feed. (5 Marks)

Section C: QA (10 Marks - 5 Questions)

1. What is the purpose of the `<q>` tag in HTML5? (2 Marks)

2. Explain the `linear-gradient` function in CSS. (2 Marks)

3. What is the difference between `call` and `apply` in JavaScript? (2 Marks)

4. What are HTML5 form validation attributes? (2 Marks)

5. How does the `flex-shrink` property work in CSS Flexbox? (2 Marks)

Set 15

Section A: Technical & Analytical (10 Marks - 2 Questions)

1. Explain the concept of JavaScript prototypal inheritance. (5 Marks)

2. Analyze the accessibility of HTML5 ARIA roles in web applications. (5 Marks)

Section B: Coding (10 Marks - 2 Questions)

1. Write HTML5 code to add ARIA roles to a navigation menu. (5 Marks)

2. Write JavaScript code to create a prototype for a custom object. (5 Marks)

Section C: QA (10 Marks - 5 Questions)

1. What is the role of the `<address>` tag in HTML5? (2 Marks)

2. Describe the `border-radius` property in CSS. (2 Marks)

3. What are JavaScript modules, and how are they imported? (2 Marks)

4. What is the purpose of the `<object>` element in HTML5? (2 Marks)

5. How does the `grid-row` property work in CSS Grid? (2 Marks)

Set 16

Section A: Technical & Analytical (10 Marks - 2 Questions)

1. Discuss the role of CSS media queries in mobile-first design. (5 Marks)

2. Compare the use of JavaScript `fetch` versus `XMLHttpRequest` for AJAX calls. (5 Marks)

Section B: Coding (10 Marks - 2 Questions)

1. Write HTML5 code with a media query for a mobile viewport. (5 Marks)

2. Write JavaScript code to make an AJAX call using the Fetch API. (5 Marks)

Section C: QA (10 Marks - 5 Questions)

1. What is the purpose of the `<kbd>` tag in HTML5? (2 Marks)

2. Explain the `text-align` property in CSS. (2 Marks)

3. What is the difference between `let` and `const` in JavaScript? (2 Marks)

4. What are HTML5 semantic tags? (2 Marks)

5. How does the `gap` property work in CSS Grid? (2 Marks)

Set 17

Section A: Technical & Analytical (10 Marks - 2 Questions)

1. Explain the concept of JavaScript strict mode and its benefits. (5 Marks)

2. Analyze the impact of CSS frameworks like Bootstrap on development speed. (5 Marks)

Section B: Coding (10 Marks - 2 Questions)

1. Write HTML5 code to create a card layout using Bootstrap classes. (5 Marks)

2. Write JavaScript code to enable strict mode and log a variable. (5 Marks)

Section C: QA (10 Marks - 5 Questions)

1. What is the role of the `<samp>` tag in HTML5? (2 Marks)

2. Describe the `font-family` property in CSS. (2 Marks)

3. What are JavaScript template literals? (2 Marks)

4. What is the purpose of the `<ins>` element in HTML5? (2 Marks)

5. How does the `grid-auto-columns` property work in CSS Grid? (2 Marks)

Set 18

Section A: Technical & Analytical (10 Marks - 2 Questions)

1. Discuss the role of HTML5 WebRTC in real-time communication. (5 Marks)

2. Compare the use of CSS `@import` versus `<link>` for including stylesheets. (5 Marks)

Section B: Coding (10 Marks - 2 Questions)

1. Write HTML5 code to include an external CSS file using `<link>`. (5 Marks)

2. Write JavaScript code to detect WebRTC support in the browser. (5 Marks)

Section C: QA (10 Marks - 5 Questions)

1. What is the purpose of the `<del>` tag in HTML5? (2 Marks)

2. Explain the `text-decoration` property in CSS. (2 Marks)

3. What is the difference between `==` and `===` in JavaScript? (2 Marks)

4. What are HTML5 APIs? (2 Marks)

5. How does the `place-items` property work in CSS Grid? (2 Marks)