

Cs202 Final term prep 2025

✓ 1. HTML Basics

Short Questions

1. What is the purpose of the `<form>` tag?
→ To collect user input and send it to a server.
2. Write HTML code to embed a YouTube video.
→ `<iframe src="https://www.youtube.com/embed/xyz" allowfullscreen></iframe>`
3. Name two HTML5 input types.
→ email, date

Long Question

- Write HTML to create a form with name, email, and submit button.

```
<form>
  Name: <input type="text"><br>
  Email: <input type="email"><br>
  <input type="submit">
</form>
```

✓ 2. CSS Essentials

Short Questions

1. What is the universal selector in CSS?
→ `* {}` selects all elements.
2. Explain the CSS Box Model.
→ It includes content, padding, border, and margin.
3. Difference between `id` and `class` selector?
→ `#id` is unique, `.class` can be reused.

Long Question

- Write CSS to style a box with a red border and 10px padding.

```
.box {
```

```
border: 2px solid red;
padding: 10px;
}
```

✓ 3. Responsive Design

Short Questions

1. What is the purpose of a media query?
→ To apply styles based on device width/height.
2. What unit is commonly used in media queries?
→ px (pixels)
3. How does `flex-wrap` help in responsiveness?
→ Allows items to wrap to the next line on small screens.

Long Question

- Write a media query that changes background color on screens $< 768\text{px}$.

```
@media screen and (max-width: 768px) {
  body {
    background-color: lightgray;
  }
}
```

✓ 4. JavaScript Fundamentals

Short Questions

1. What is the use of `typeof` operator?
→ To check the data type of a variable.
2. Name two types of loops in JavaScript.
→ `for`, `while`
3. Write syntax to declare an array.
→ `let arr = [1, 2, 3];`

Long Question

- Write a function to calculate the square of a number.

```
function square(num) {
  return num * num;
}
```

```
}
```

✓ 5. DOM Manipulation & Events in JS & jQuery

Short Questions

1. What is the purpose of `addEventListener()`?
→ To attach events like click, hover to HTML elements.
2. How to get the value of an input field using JS?
→ `document.getElementById("input").value`
3. What is the DOM?
→ Document Object Model, a tree of HTML elements accessible via JS.

Long Question

- Write JS code to change text of a paragraph on button click.

```
<p id="para">Hello</p>
<button onclick="changeText()">Click</button>
<script>
function changeText() {
  document.getElementById("para").innerText = "Updated!";
}
</script>
```

✓ 6. jQuery Methods

Short Questions

1. How to hide an element in jQuery?
→ `$("#id").hide();`
2. What does `.fadeIn()` do?
→ Smoothly displays a hidden element.
3. What is method chaining in jQuery?
→ Using multiple jQuery methods on the same element.

Long Question

- Write jQuery to animate a box and change its text.

```
$("#box").fadeIn(1000).text("Welcome!").css("color", "blue");
```

✓ 7. AJAX & XML/JSON

Short Questions

1. What does AJAX stand for?
→ Asynchronous JavaScript and XML
2. How is data sent using XMLHttpRequest?
→ Using `xhttp.open()` and `xhttp.send()`
3. What does `readyState == 4` mean?
→ The request is completed and the response is ready.

Long Question

- Write basic AJAX GET request.

```
var xhttp = new XMLHttpRequest();  
xhttp.open("GET", "data.txt", true);  
xhttp.send();
```

✓ 8. HTML5 APIs

Short Questions

1. What is the purpose of localStorage?
→ To store data in the browser permanently.
2. Write code to draw a red rectangle on canvas.
→

```
ctx.fillStyle = "red";  
ctx.fillRect(10, 10, 100, 50);
```

3. Which events are used in drag and drop?
→ `ondragstart`, `ondrop`, `ondragover`

Long Question

- Save and retrieve user data using localStorage.

```
localStorage.setItem("username", "Habiba");  
let name = localStorage.getItem("username");
```

```
alert(name);
```

✓ 9. JSON vs XML & Namespaces

Short Questions

1. Give an example of a JSON object.
→ { "name": "Ali", "age": 25 }
2. How to convert a JSON string into JS object?
→ `JSON.parse(jsonString);`
3. What is the use of namespaces in XML?
→ To avoid element name conflicts.

Long Question

- Compare JSON vs XML in a table.

Feature	JSON	XML
Syntax	Lightweight	Verbose
Readability	Easy	Complex
Data Type Support	Yes	Limited
Parsing Speed	Fast	Slow

✓ 10. Responsive Web Design & Media Queries

Short Questions

1. What is mobile-first design?
→ Designing the smallest screen layout first.
2. Give an example of a media query.
→ `@media (max-width: 600px)`
3. What is `viewport` meta tag used for?
→ To control layout on mobile browsers.

Long Question

- Create responsive card layout using Flexbox.

```
.card-container {
```

```
display: flex;
flex-wrap: wrap;
justify-content: center;
}
.card {
flex: 1 1 300px;
margin: 10px;
}
```

✓ 11. CSS Transitions, Animations, Shadows

Short Questions

1. What does `transition` do in CSS?
→ Adds smooth animation to property changes.
2. Syntax of text shadow?
→ `text-shadow: 1px 1px 2px black;`
3. What is `ease-in-out`?
→ A timing function that starts and ends slowly.

Long Question

- Write CSS to animate button on hover.

```
button {
  transition: background-color 0.5s ease-in-out;
}
button:hover {
  background-color: blue;
}
```

✓ 12. Gradient Types, Selectors, Ease/Speed in Effects

Short Questions

1. Write syntax for a linear gradient.
→ `background: linear-gradient(to right, red, yellow);`
2. What is the `nth-child` selector?
→ Selects the `nth` child of a parent.
3. Name one timing function other than `linear`.
→ `ease-in`

Long Question

- Write CSS code to apply a radial gradient background.

```
body {  
  background: radial-gradient(circle, red, yellow, green);  
}
```
