



# COMSATS University Islamabad, Lahore Campus

## Midterm Examination – FALL 2024

Course Title:	Web Technologies	Course Code:	CSC336	Credit Hours:	3(2,1)
Instructor/s:	M. Ali Hassan, Muhamma Usman Akram	Program Name:	BS (CS/SE)		
Semester:		Batch:		Date:	01-11-2024
Time Allowed:	1.5 Hours	Maximum Marks:	50		
Student's Name:		Reg. No.			

Question 1: Answer the following questions

[3\*5=15]

CLO-1; Bloom Taxonomy Level: Understanding

1. Explain the concept of *Flexbox* in CSS. How does it differ from traditional layout methods like floats?
2. What is AJAX in web development? Explain how it improves the user experience of a website.
3. Describe the *GET* and *POST* methods in HTTP. In what scenarios would each method be appropriate to use?
4. Define media queries in CSS and explain their role in creating a responsive web design.
5. What is the difference between *var*, *let*, and *const* in JavaScript? Give examples of when each should be used.

Question 2: Given the following HTML structure for a blog post list:

[5]

CLO-2; Bloom Taxonomy Level: Applying

```
<div class="testimonials">
  <div class="testimonial">
    <h3>John Doe</h3>
    <p>"Great service and very satisfied with the results!"</p>
  </div>
  <div class="testimonial">
    <h3>Jane Smith</h3>
    <p>"Excellent experience, highly recommended!"</p>
  </div>
</div>
```

Write CSS to style the testimonials with the following specifications:

- Display the testimonials in a vertical list.
- Add a border of 2px dashed #999 around each testimonial.
- Apply padding of 15px to each testimonial and set a background color of #f0f0f0.

**Question 3:** You are given an HTML `<input type="number">` element that allows users to enter a number representing the brightness level on a website (from 0 to 100). Write JavaScript code to display the current brightness level below the input when it is changed. [5]

CLO-2; Bloom Taxonomy Level: Applying

```
<input type="number" id="brightnessInput" min="0" max="100" value="50">
<p>Current Brightness: <span id="brightnessLevel">50</span></p>
```

**Question 4:** Given the following HTML structure for a book library: [20]

CLO-2; Bloom Taxonomy Level: Applying

```
<div id="task-list">
  <input type="text" id="task" placeholder="New Task">
  <button id="add-task">Add Task</button>

  <ul id="tasks">
    <!-- Tasks will be added here -->
  </ul>
</div>
```

Write JavaScript/jQuery code to implement the following task list functionalities:

- **Create:** Add a new task to the list when the "Add Task" button is clicked.
- **Read:** Display all tasks from an array when the page loads.
- **Update:** Allow editing a task by double-clicking on it.
- **Delete:** Remove a task when the "Delete" button next to each task is clicked.

**Question 5:** Suppose you have a job application form that collects the applicant's full name, email, and a cover letter. Write a JavaScript function `validateJobApplication()` that checks the cover letter contains at least 50 characters. [5]

CLO-2; Bloom Taxonomy Level: Applying

If the condition is not met, show an alert on the screen. The form's `onsubmit` attribute should call the `validateJobApplication()` function. If the function returns false (indicating validation failure), prevent the form submission.

```
<form id="jobApplicationForm" onsubmit="return validateJobApplication();">
  <label for="fullName">Full Name:</label>
  <input type="text" id="fullName" name="fullName" required><br><br>
  <label for="email">Email:</label>
  <input type="email" id="email" name="email" required><br><br>
  <label for="coverLetter">Cover Letter:</label>
  <textarea id="coverLetter" name="coverLetter" required></textarea><br><br>
  <input type="submit" value="Apply">
</form>
```