



The Open University of Sri Lanka
Faculty of Engineering Technology
Department of Electrical & Computer Engineering

Study Programme : Bachelor of Software Engineering Honours
Name of the Examination : Final Examination
Course Code and Title : EEI4346 Web Technology
Academic Year : 2024/25
Date : 05th March 2026
Time : 0930-1230h
Duration : 3 hours

General instructions

1. Read all instructions carefully before answering the questions.
2. This question paper consists of **Four (4)** questions in **Four (4)** pages.
3. Answer **all** questions.
4. All questions carry equal marks.
5. Answer for each question should commence from a new page.
6. This is a Closed Book Test (CBT).

Question 01 (25 Marks)

A. Write the **HTML5 code** to design the registration form below. (11 marks)

Registration Form

Name:	
Email:	
Password:	 (at least 8 characters with a number, uppercase, and lowercase letter)
Confirm Password:	
Date of Birth:	YYYY/MM/DD
Gender:	☒ Male ☐ Female
Comments (optional):	
Register	

Figure 1.

- B. Explain the role of HTML5 semantic elements in improving web page structure, accessibility, and SEO. Illustrate your answer using suitable examples. (8 marks)
- C. Differentiate between inline, internal, and external CSS. Discuss situations where each method is most appropriate. (6 marks)

Question 02 (25 Marks)

- A. Describe the **client-side vs server-side scripting** concepts. Clearly state the advantages of each with suitable examples. (6 marks)

Registration Form

Name:	
Email:	
Password:	 (at least 8 characters with a number, uppercase, and lowercase letter)
Confirm Password:	
Date of Birth:	YYYY/MM/DD
Gender:	☒ Male ☐ Female
Comments (optional):	
Register	

Figure 2.

- B. Write a **JavaScript function** to validate the form with the following rules:

- (i). Name and Email fields must not be empty
- (ii). Email must be in a valid format
- (iii). Password must contain **at least 8 characters**
- (iv). Password and Confirm Password must match

The form should **not be submitted** if validation fails, and appropriate **error messages** should be displayed. (13 marks)

- C. Explain how **AJAX** improves user experience in modern web applications. Outline the steps involved in an AJAX request-response cycle. (6 marks)

Question 03 (25 Marks)

- A. Assume the form data is submitted using the **POST** method shown in Figure 3.

Registration Form

Name:	
Email:	
Password:	(at least 8 characters with a number, uppercase, and lowercase letter)
Confirm Password:	
Date of Birth:	YYYY/MM/DD
Gender:	☒ Male ☐ Female
Comments (optional):	
Register	

Figure 3.

- Write a PHP script to Retrieve the form values and display a confirmation message showing the Name, Email, Gender, and Date of Birth. (10 marks)
- B. Write an SQL statement to create a table named **students** with suitable data types for student_id, name, email, password, date_of_birth, gender. (8 marks)
- C. Write an **SQL INSERT query** to store the submitted registration details onto the table. (7 marks)

Question 04 (25 Marks)

- A. A web application stores student marks in an array.

Write a PHP script to:

1. Store marks for 5 students in an array
2. Calculate and display the **average mark**
3. Determine and display the **highest mark**
4. Display a message indicating whether each student has Passed or Failed (pass mark = 50)

Ensure proper use of PHP syntax and output formatting. (8 marks)

B. Explain the role of a **web server** and **DNS server**

(6 marks)

C. **Figure 4** shows an incomplete Vue.js script. Fill in the blanks **(A)–(E)** to correctly display the message **"Welcome to Web Technology"** on the web page.
(11 marks)

```
<!DOCTYPE html>
<html>
  <head>
    <title>Vue Example</title>
    <script src="https://unpkg.com/vue/dist/vue.global.js"></script>
  </head>
  <body>
    div id="app": [ ] (A) }

    const app = [ ] (B) {
      [ ] ((C) {
        return
          [ ] (D): "Welcome to Web Technology"
      });
      app.[ ] (E) ["#app"]);
    };
  </script>
</html>
```

Figure 4.