

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	: EEI3346 Web Application Development
Academic Year	: 2024/2025
Date	: 17 th August 2025
Time	: 0930 - 1230
Duration	: 3 hours

General Instructions

1. This question paper contains **Four (04)** compulsory questions on the Three (03) pages, Answer all questions.
2. Answers should be in clear handwriting.
3. This is a closed book examination
4. Do not use red color pens.

Question 01 (Marks 25)

1. Web programming is sometimes called scripting. Explain the two broad categories of scripting with suitable examples. [04 Marks]
2. Why is it necessary to include Terms of Use and Privacy Policy pages on a website? How do they benefit both the user and the website owner? [06 Marks]
3. What is user authentication, and what are some secure practices to implement it? [05 Marks]
4. Explain the Open Systems Interconnection Model (OSI) and why it's important for networking. [05 Marks]
5. What are cookies, and how can developers secure them? [05 Marks]

Question 02 (Marks 25)

1. What is serverless computing in the context of web development? How does it differ from traditional hosting models?. [05 Marks]
2. Describe the importance of IP addresses and DNS in accessing web applications. How do they work together in web development? [05 Marks]
3. How do web developers ensure secure form submission? Support your answer with relevant points and examples. [05 Marks]

4. Write a simple Vue.js program to demonstrate two-way data binding.

Your application should:

- Display a heading that shows a default message (e.g., "Hello Vue!").
- Include a text input field below the heading.
- As the user types in the input field, the message in the heading should update instantly to match the input.

Requirements and Marks:

- Use Vue.js via CDN. [02 Marks]
- Use the v-model directive to bind the input field to the data. [04 Marks]
- Display the bound data using Vue's {{ }} syntax. [02 Marks]
- Apply basic styling for better readability. [02 Marks]

Question 03 (Marks 25)

1. Consider the following Course Enrollment form.

- Write an HTML snippet to create the given form with the information shown below. [10 Marks]
- Apply the following designs. *Submit button – apply blue color, border – your choice* [05 Marks]

Course Enrollment

Student Name

Email

Online On-site

Course

Choose a course

I accept the terms and conditions

Enroll Now

Course

Choose a course

HTML Basics

CSS Styling

JavaScript Essentials

- c. Write an HTML snippet to create the given horizontal Navigation Bar with the following information shown below.
- Writing the HTML snippets for creating the horizontal navigation bar is enough. No need for full HTML tags. [06 Marks]
 - Write the appropriate CSS snippets to display the given style/s [04 Marks]

CSS Horizontal Navigation Bar Example

This Horizontal navbar contains black background.

[Home](#) [About Us](#) [Contact Us](#) [News](#)

Question 4 (Marks 25)

1. Write a basic JavaScript program that performs the following:
 - Accepts two numerical inputs from the user. [03 Marks]
 - Uses a JavaScript function to calculate the sum of the two numbers. [04 Marks]
 - Displays the result below the input fields when a button is clicked [03 Marks]
2. Define e-commerce and explain how web development supports e-commerce activities with the latest trends? [04 Marks]
3. What is the OWASP Top 10, and why should web developers be familiar with it? [03 Marks]
4. Write a short note for the following [08 Marks]
 - SQL Injection
 - Digital Certificate
 - CSS selectors
 - Progressive Web Apps (PWAs)