

Study Programme : Bachelor of Software Engineering Honours  
Name of the Examination : Final Examination  
Course Code and Title : EEI4346 – Web Technology  
Academic Year : 2023/2024  
Date : 21<sup>st</sup> January 2025  
Time : 0930-1230hrs  
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. All questions carry equal marks.
4. Answer for each question should commence from a new page.
5. This is a Closed Book Test (CBT).
6. Answers should be in clear handwriting.
7. Do not use **red** colour pen.

### Question 01 (25 Marks)

You are requested to create a simple system to track student attendance. Assume that you decided to develop an interface as shown in Figure 01.

### Student Attendance Tracker

Student ID

Student Name

Date of Attendance

Attendance Status

☐ Present ☐ Absent ☐ Late

Remarks

SUBMIT

SEARCH

Figure 01: GUI of Student Attendance Form

- A. Write an **HTML/CSS** snippet to create the form, as shown in Figure 01. (09 marks)
- B. Assume that you have created the database and table as specified in Table 01. Write a **PHP** code to create a database connection. (03 marks)
- C. Write an SQL query to insert book borrow details into the table “tbl\_attendance”. (04 marks)
- D. Write an SQL query to search the status and remarks details according to the “Student\_id” and “date\_attend”. Mention all your assumptions clearly. (03 marks)
- E. Write **JavaScript** codes to validate the form shown in Figure 01. (06 marks)
- (i) Ensure that the user selects a date of attendance before submission.
  - (ii) Ensure one of the radio buttons ("Present," "Absent," "Late") is selected.

Table 01: Metadata of Student Attendance Tracker

Database name	db_SAT		
Table name	tbl_attendance		
Field name	Field type	size	key
student_id	INT	5	pk
student_name	VARCHAR	50	
date_attend	DATE		
status	VARCHAR	10	
remarks	VARCHAR	50	

## Question 02 (25 Marks)

- A. Assume that a user logs into a web application by entering their credentials. Explain how the MVC architecture handles this request step by step. (09 marks)
- B. Describe the structure of an HTTP request and response. (08 marks)
- C. Compare and contrast the HTTP methods (GET, POST, PUT, DELETE, etc.). Explain their specific purposes and give real-world examples of when and why each method is used in web applications. (08 marks)

### Question 03 (25 Marks)

- A. What is REST? List its core principles. (07 marks)
- B. Discuss the importance of JSON and XML as data formats in web services. Which format is more commonly used in REST APIs, and why? (09 marks)
- C. What is the importance of statelessness in RESTful web services? How does this principle impact the design of a REST API? (09 marks)

### Question 04 (25 Marks)

- A. What is a web form in ASP.NET? Explain five (5) advantages of Using Web Forms. (05 marks)
- B. Write the Postman Scripts to show the following: (10 marks)
  - (i) Verify that the status code is 200. If this is satisfied, display “Status code is 200.”
  - (ii) To clear a collection variable “url”.
  - (iii) To set the global variable “email” to “abc@gmail.com”.
  - (iv) To get a variable “course”.
- C. You are requested to fill in the following blanks with appropriate ASP.NET components to get the Design View as shown in Figure 02. Write down answers in the given answer book in the correct order [(i) to (x)]. (10 marks)

```

<tr>

  <td class="auto-style3">

    <asp: _____(i)_____ ID="lbl_pw" runat="server" Text="Password">
    </asp: _____(ii)_____>

  </td>

  <td class="auto-style4">

    <asp:TextBox ID="TextBox3" runat="server" Width="327px"
    TextMode="Password" OnTextChanged="TextBox3_TextChanged">
    </asp:TextBox>

  </td>

  <td>

    <asp:_____ (iii)_____ ID="RFV1" runat="server" _____(iv)_____
    ="TextBox3" ErrorMessage="Password is Required"></asp:_____ (v)_____
    >

  </td>

</tr>

<tr>

  <td class="auto-style3">

    <asp:Label ID="lbl_cpw" runat="server" Text="Confirm
    Password"></asp:Label>

  </td>

  <td class="auto-style4">

    <asp:TextBox ID="TextBox4" runat="server" Width="326px"
    TextMode="Password"></asp:TextBox>

  </td>

  <td>

    <asp:_____ (vi)_____ ID="RFV2" runat="server" _____(vii)_____
    ="TextBox4" ErrorMessage="Confirm Password is
    Required"></asp:_____ (viii)_____ > <br />

    <asp:_____ (ix)_____ ID="CV1" runat="server"
    ControlToCompare="TextBox3" ControlToValidate="TextBox4"
    ErrorMessage="Enter Same Password"></asp:_____ (x)_____ >

  </td>

</tr>

```

Figure 02