

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



Study Programme	: Bachelor of Software Engineering Honours
Name of the Examination	: Final Examination
Course Code and Title	: EEI4346
Academic Year	: 2021/22
Date	: 18 th November 2022
Time	: 0930-1230hrs
Duration	: 3 hours

General Instructions

1. Read all instructions carefully before answering the questions.
2. This question paper consists of **Three (3)** questions in **Three (3)** pages.
3. Answer all **Three (3)** questions.
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. Do not use red color pen.

Question 01 (50 Marks)

Assume that you are asked to develop a system for a Bike Rental Company for tourists.

1. Write an HTML/CSS snippet to create a form as shown in **Figure 01**. **(20 marks)**
2. When you enter the "Number of Hours", the system must automatically calculate and display the "Total Amount". Write a JavaScript code to calculate and display the Total Amount in the Total Amount text field. The amount per hour is Rs.250.00.
(10 marks)
3. Assume that you have created the database and table according to **Table 01**. Write a PHP code to create a database connection. **(08 marks)**
4. Write an insert query to insert payment details into the table "payment_tbl". **(06 marks)**
5. Write a search query to search the customer payment details according to the "customer_id". (Mention all your assumptions clearly) **(06 marks)**

Table 01

Database name	rbs_db		
Table name	payment_tbl		
Field name	Field type	size	key
customer_id	INT	5	pk
bike_id	INT	5	
rent_date	DATE		
return_date	DATE		
no_hours	INT	10	
amount	INT	10	

Bike Rental System

Customer ID

Bike ID

Rent Date

Return Date

No. of Hours

Total Amount

Figure 01

Question 02 (30 Marks)

1. List down **four (4)** web service features and briefly explain **two (2)** of them. **(8 Marks)**
2. Pattern is a re-useable form of a solution to a problem. Briefly explain the “point-to-point channel” enterprise integration pattern with a proper diagram. **(6 Marks)**
3. What are the types of web services? Describe them briefly. **(6 Marks)**
4. Write the Postman Scripts to show the followings. **(10 Marks)**
 - a. Check that the status code is 200. If this is satisfying, display “Status code is 200”.
 - b. Check that the response time is less than 200. If this is satisfying, display “Response time is less than 200ms.”
 - c. Clear the following variables.

Table 02

Variable Type	Variable	Value
Global	legs	four
Collection	animal	cat

Question 03 (20 Marks)

1. Explain the MVC architecture using a **real-time** example. You must map real cases/actors with the MVC architecture layers/ state. **(6 Marks)**
2. List down **Two (2)** ASP.NET security controls and briefly explain them. **(4 Marks)**
3. 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 (a to j). **(10 Marks)**

Payment Process

Select Card Type

Card Number

Card Type is Required
Must consist of 16 numbers

Figure 02

```

<tr>
  <td class="auto-style3" colspan="3">Payment Process</td>
</tr>
<tr>
  <td class="auto-style5">
    <asp:Label ID="lbl_crd_type" runat="server" CssClass="auto-style6" Text="Select Card
      Type"></asp:Label>
  </td>
  <td class="auto-style8">
    <asp:_____ (a) _____ ID="ddl_crd_type" runat="server">
      <asp:_____ (b) _____ >Select Card Type</asp:_____ (c) _____ >
      <asp:ListItem>VISA</asp:ListItem>
      <asp:ListItem>Master</asp:ListItem>
      <asp:ListItem>AMEX</asp:ListItem>
    </asp:_____ (d) _____ >
  </td>
  <td>
    <em>
      <asp:_____ (e) _____ ID="RFV1" runat="server"
      ErrorMessage="Card Type is Required" ControlToValidate="ddl_crd_type"
      CssClass="auto-style9"></asp:_____ (f) _____ >
    </em>
  </td>
</tr>
<tr>
  <td class="auto-style5">
    <asp:Label ID="lbl_cn" runat="server" CssClass="auto-style6" _____ (g) _____ ="Card Number">
    </asp:Label>
  </td>
  <td class="auto-style8">
    <asp:_____ (h) _____ ID="txt_cno" runat="server" Width="320px"></asp:_____ (i) _____ >
  </td>
  <td>
    <em>
      <asp:RegularExpressionValidator ID="REV1" runat="server"
      ControlToValidate="txt_cno" CssClass="auto-style9" ErrorMessage="Must consist of
      16 numbers" _____ (j) _____ ="^[0-9]{16}$">
      </asp:RegularExpressionValidator>
    </em>
  </td>
</tr>

```