

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



Study Programme	: Bachelor of Software Engineering Honors
Name of the Examination	: Final Examination
<b>Course Code and Title</b>	<b>: EEI4346 – Web Technology</b>
Academic Year	: 2019/2020
Date	: 8 <sup>th</sup> October 2020
Time	: 0930- 1230hrs
Duration	: <b>3 hours</b>

### General Instructions

1. Read all instructions carefully before answering the questions.
2. This question paper consists of **Five (5)** questions in **Four (4)** pages.
3. Answer **Q1** which is a **compulsory question**.
4. Answer any **three (3)** questions from **Q2 to Q5**. (Each question carries equal marks.)
5. Answer for each question should commence from a new page.
6. This is a Closed Book Test (**CBT**).
7. Answers should be in clear handwriting.
8. Do not use red colour pen.

**Q1. . Answer All parts in Q1 (40 marks) - Compulsory**

1. Define a javascript *Vehicle* object with following attributes *model*, *chassis number*, *manufactured year* and a function *serialNumber* to return as a concatenated *string model* and the *chassis number* (string model + chassis number) [15 Marks]
2. Write two javascript functions
  - a. To take celsius temperature as an argument and return that temperature in Fahrenheit
  - b. To take Fahrenheit temperature as an argument and return that temperature in celsius.  
(Hint: Fahrenheit temp = Celsius Temp X 9 / 5 + 32)

[15 Marks]
3. You have the following array of strings, write a javascript loop to print each string in a new line.  

```
var cars = ["Javascript", "React", "Angular", "Vue", "Polymer", "Node"];
```

[10 Marks]

**Answer three (3) questions from Q2. to Q5. (each question carry equal marks)**

**Q2. (20 marks)**

1. What are the three (3) ways of inserting CSS into a web page? [03 Marks]
2. Write examples to demonstrate each of the ways listed above Q2. 1. [12 Marks]
3. When is the style of an element defined in all three (3) ways, which CSS would the element take? Explain briefly. [05 Marks]

**Q3. (20 marks)**

In general terms, an array is a data structure, which can store a fixed-size collection of elements of the same data type. There are three (3) types of arrays in PHP as given below.

- Indexed arrays
- Associative arrays
- Multidimensional arrays

1. Write the PHP code to create an array from each type  
[06 Marks]
2. Write PHP loops to go through each element of each array created above  
[06 Marks]
3. Write a PHP function to take marks as an argument and print the grade based on the following conditions.  
[08 Marks]
  - If marks are greater than or equal to 75 print "Your grade is A"
  - If marks are greater than or equal to 65 print "Your grade is B"
  - If marks are greater than or equal to 55 print "Your grade is C"
  - Else "Your grade is D"

## Q4. (20 marks)

1. Briefly explain the basic flow of an AJAX call between Browser and Server. Use a diagram to illustrate.  
[03 Marks]
2. Write a function to submit a form using AJAX on a button click event  
[04 Marks]
3. Method *hide ()* in jQuery can be used to hide elements. Write a statement to hide all the elements which have class *Casper*.  
[05 Marks]
4. Write HTML of a form with a *submit* and a *clear* button. Write a JavaScript function to clear all text fields in the form using jQuery.  
[08 Marks]

## Q5. (20 marks)

1. What does XSD stand for and why do we need XSD?  
[06 Marks]
2. List two (2) similarities and differences between JSON and XML  
[06 Marks]
3. Consider the XML (given below) and write XPATH path expressions to select below information.  
[08 Marks]
  - Select the price of *Belgian Waffles*
  - Select all element which the *description* contains the word *Waffles*
  - Select food names, that contains less than 800 calories
  - Select the description of the third food

```
<?xml version="1.0" encoding="UTF-8"?>
<breakfast_menu>
  <food>
    <name>Belgian Waffles</name>
    <price>$5.95</price>
    <description>Two of our famous Belgian Waffles with plenty of real maple
    syrup</description>
    <calories>650</calories>
  </food>
  <food>
    <name>Strawberry Belgian Waffles</name>
    <price>$7.95</price>
    <description>Light Belgian waffles covered with strawberries and whipped
    cream</description>
    <calories>900</calories>
  </food>
  <food>
    <name>Berry-Berry Belgian Waffles</name>
    <price>$8.95</price>
    <description>Light Belgian waffles covered with an assortment of fresh
    berries</description>
    <calories>900</calories>
  </food>
  <food>
    <name>French Toast</name>
    <price>$4.50</price>
    <description>Thick slices made from our homemade sourdough
    bread</description>
    <calories>600</calories>
  </food>
  <food>
    <name>Homestyle Breakfast</name>
    <price>$6.95</price>
    <description>Two eggs, bacon or sausage, toast, and our ever-popular hash
    browns</description>
    <calories>950</calories>
  </food>
</breakfast_menu>
```