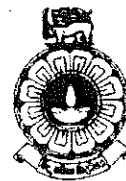


The Open University of Sri Lanka  
Faculty of Engineering Technology  
Department of Electrical and Computer Engineering



Study Programme	: Bachelor of Software Engineering Honours
Name of the Examination	: Final Examination
Course Code and Title	: <b>EEI3346 Web Application Development</b>
Academic Year	: <b>2020/21</b>
Date	: <b>17<sup>th</sup> December 2021</b>
Time	: 0930-1230hrs
Duration	: <b>3 hours</b>

## General Instructions

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1. Read all instructions carefully before answering the questions.
  2. Answer all questions in Section A
  3. Answer for Section A should mark in this sheet.
  4. Attached this answer sheet with Section B answer book.
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### ANSWER SHEET FOR SECTION A

INDEX NO:

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- 2) 

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### General Instructions

1. Read all instructions carefully before answering the questions.
  2. This question paper contains **Part A** and **Part B**. **Part A** answer should be marked in the answer sheet provided. **Part B** answer should be written in the answer book provided. Answer for each question should commence from a new page.
  3. This question paper consists of Twenty three (23) questions in Six (6) pages.
  4. Answer **all questions**.
  5. This is a Closed Book Test (**CBT**).
  6. Answers should be in clear hand-writing.
  7. Do not use red colour pen.
-

**Part – A**

1. The BODY tag is usually used after \_\_\_\_
  - a. HTML tag
  - b. EM tag
  - c. TITLE tag
  - d. HEAD tag
  
2. The main container for <TR>, <TD> and <TH> is \_\_\_\_
  - a. <DATA>
  - b. <GROUP>
  - c. <TABLE>
  - d. None of the above
  
3. Which tag tells the browser where the page starts and stops?
  - a. <body>
  - b. <head>
  - c. <title>
  - d. <html>
  
4. In CSS what does h1 can be called?
  - a. Selector
  - b. Attribute
  - c. Value
  - d. Tag
  
5. Which of the following is the correct way to apply style to a document?
  - a. Use an external style sheet, either by importing it or by linking to it
  - b. Directly embed a document-wide style in the head element of the document
  - c. Set an inline style attribute directly on an element
  - d. All of the mentioned
  
6. Which of the following category of CSS is defined in the <head> section of an HTML page within a <style> element?
  - a. External CSS
  - b. Inline CSS
  - c. Internal CSS
  - d. Both Internal and External CSS
  
7. XML is designed to store data and \_\_\_\_\_. Fill in the blank with the correct option.
  - a. design
  - b. verify
  - c. both a&b
  - d. transport
  
8. There is a way of describing XML data, how?
  - a. XML uses a DTD to describe the data
  - b. XML uses XSL to describe data
  - c. XML uses a description node to describe data

- d. Both A and C
9. The "function" and " var" are known as \_\_\_\_\_ in JavaScript. Fill in the blank with the correct word/s.
- Keyword
  - Data Type
  - Declaration Statement
  - Prototypes
10. What is the correct Javascript syntax to write "Hello World"?
- System.out.println("Hello World")
  - System.out.println("Hello World")
  - response.write("Hello World")
  - document.write("Hello World")
11. What are variables used in JavaScript Programs?
- Storing numbers, dates, or other values
  - Varying randomly
  - Causing high-school algebra flashbacks
  - None of the above
12. PHP is an example of a \_\_\_\_\_ scripting language. \_
- server-side
  - client-side
  - browser-side
  - in-side
13. PHP scripts are enclosed within \_\_\_\_\_.
- <php> . . . </php>
  - <?php . . . ?>
  - ?php . . . ?php
  - <p> . . . </p>
14. What will be the output of the following program?
- ```
<?php
$var1 = "Hello";
$var2 = "World";
echo $var1, $var2;
?>
```
- HelloWorld
  - Hello, World
  - Hello World
  - None of the above
15. What kind of transmission medium is most appropriate to carry data in a computer network

- that is exposed to electrical interferences?
- Unshielded twisted pair
  - Optical fiber
  - Coaxial Cable
  - Microwave
16. It can be a software program or a hardware device that filters all data packets coming through the internet, a network, etc. it is known as the \_\_\_\_\_:
- Antivirus
  - Firewall
  - Cookies
  - Malware
17. Which of the following is the correct full form of SaaS?
- Storage-as-a-Service
  - Server-as-a-Software
  - Software-as-a-Service
  - None of the above
18. What is WordPress
- Content Management System
  - Framework
  - Programming Language
  - Operating system
19. Artificial Intelligence is about.
- Playing a game on a computer
  - Making a machine intelligent
  - Programming on Machine with your Intelligence
  - Putting your intelligence in Machine
20. SQL injection- is an attack in which \_\_\_\_\_ code is inserted into strings that are later passed to an instance of SQL Server.
- Malicious
  - Redundant
  - Clean
  - Non-malicious

[Marks 40]

**Part – B - Answer all questions.**

**Question 01**

You have been asked to design an online catalogue for a tea shop with the following information.

**Taste your favorite Tea here**

| Categories | How was it made?                                                                                                                      |
|------------|---------------------------------------------------------------------------------------------------------------------------------------|
| White Tea  | Real white tea is made from the handpicked buds of the <i>Camellia Sinensis</i> plant                                                 |
| Green Tea  | The leaf is picked, withered, heated and then rolled before drying and sifting                                                        |
| Oolong Tea | The teas are picked, often 3 leaves and a bud, withered, fermented, then heated, rolled and dried.                                    |
| Black Tea  | Black tea is picked, withered to reduce moisture and make the leaf pliable, then rolled, fermented and dried (or red) before sifting. |

- a) Write an HTML snippet to create the given table which would display the information about the tea. [08 Marks]
- b) Write the CSS code to insert the following picture with the given details  
Width is 100px and height is 100px. [06 Marks]



Figure 1: Tea Varieties

- c) Write a sample PHP snippet code to calculate the number of times the **Oolong Tea** has been sold in a given day. [06 Marks]

**Question 02**

- a) Web applications have gradually evolved from static to dynamic nature keeping in view the needs of the potential users and advancement in technology. It is important to follow a systemic approach for the development of websites.

List the main phases of the Web engineering process model [05 Marks]

- b) What is the difference between frontend and backend web development? [04 Marks]
- c)
- Explain the term „Computer network“? [02 Marks]
  - List some advantages and disadvantages of using Fiber Optic cable? [04 Marks]

- d) Consider Figure 1 below,

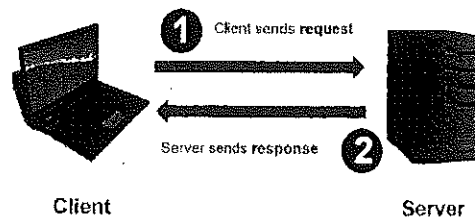


Figure 1

- i. Explain how does a Web browser work? [02 Marks]
- ii. What is HTTP? Briefly explain the anatomy of HTTP? [03 Marks]

### Question 03

Knowing how to write HTML-, CSS and JavaScript are not all to web development. When you are building a website it's not only about design and interface, in most cases when your website is more than a few static pages you would need a backend and a database, and building that requires much more than knowing HTML, CSS and JavaScript. You will have to design a database architecture that is fit for your requirements, something to access the database and fetch the data for your front end. And the bigger this website gets, the more that architecture and high-level code comes into play.

Based on the above statement, answer the following questions. [20 Marks]

- a) Explain the use of HTML, CSS, JavaScript, and their importance in web development.
- b) Briefly explain the key responsibilities of a Web Developer?
- c) In which stage do you use XML in web development?
- d) Mention some tips you can use to reduce the load time of a web application that you have written?
- e) List two (2) latest web development tools you can use?
- f) State two (2) security features that can you apply to your website and how?
- g) Briefly explain the following;
  - i. How cloud computing supports Web applications?
  - ii. Why a suitable domain name is important for a website?
  - iii. Why you should host your websites?
  - iv. What is W3C and why you should know about it as a web developer?