

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	: EEI3346 Web Application Development
Academic Year	: 2019/20
Date	: 25 th July 2020
Time	: 0930-1230hrs
Duration	: 3 hours

General Instructions

1. Read all instructions carefully before answering the questions.
 2. This question paper consists of **Section A & Section B** in **six (6)** pages.
 3. Answer all Multiple Choice Question (MCQ) in Section A. Answers of MCQ should mark in the answer sheet given separately. All questions of this section carry equal marks.
 4. Answer any three (3) questions in **Section B**. All questions of **Section B** carry 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.
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Section A

Mark (X) the single best answer in the answer sheet given separately.

(2 x 20 = 40)

1. Which version of HTML is specified by `<!DOCTYPE html>`
 - a. HTML 4.01
 - b. HTML 5
 - c. XHTML 1.0 Transitional
 - d. XHTML 1.1

2. Which HTML element cannot have content
 - a. body
 - b. style
 - c. a
 - d. input

3. Which is the correct way to link an external style sheet from a web page?
 - a. `<style href = "styles.css" type = "text/css" />`
 - b. `<link rel = "stylesheet" type = "text/css" href = "styles.css" />`
 - c. `<link type = "stylesheet">styles.css</link>`
 - d. `<link rel = "stylesheet" type = "text/css" src = "styles.css" />`

4. Which attribute of a page element should be set to allow CSS and JavaScript to deal with several elements in the same way (E.g. same style)?
 - a. id
 - b. name
 - c. class
 - d. value

5. Which JavaScript object is used to get data from a server in an AJAX transaction?
 - a. xhr
 - b. ajaxClient
 - c. XMLHttpRequest
 - d. XMLHttpRequest

6. Which is not correct for a well-formed XML document?
 - a. Must have a DOCTYPE declaration
 - b. Must have a root element
 - c. The values of any attributes must be in quotes
 - d. Proper nesting must be observed

7. Which of the following function is used to place the content of another file into a web page?
- import()
 - select()
 - include()
 - insert()
8. Which super global array is used to maintain state(data) across several pages on a site in a browsing session?
- \$_SESSION
 - \$_FILE
 - \$_GET
 - \$_POST
9. For the URL <http://localhost/books.php?genre=fantasy> the script **books.php** can access the genre as
- \$_SESSION['username']
 - \$_POST['fantasy']
 - \$_GET['genre']
 - \$id
10. To connect to a MySQL database server, we use the function
- mysql_server('host', 'user', 'password');
 - mysqli_connect('host', 'user', 'password');
 - mysqli_select_db('host', 'user', 'password', 'database');
 - mysqli_connect('host', 'user', 'password', 'database');
11. You want a numbered list on your web page. Which tag will you use to start this element?
- UI
 - OI
 - Li
 - Br
12. What does HTML stand for?
- Hypertext Machine Language
 - High Technology Master Language
 - Hypertext markup language
 - High-speed Technical machine language
13. What does the alt attribute add to an *img* tag?
- It provides a second image.
 - It makes the current image spin around and dance like it's on fire.
 - It gives an alternative image in case the original image cannot be found.
 - It describes the image for screen readers.

14. The JavaScript method is used to obtain a reference to an element that has its id attribute set as
- getElementById()
 - document.element.getId()
 - document.getElementById()
 - getElementsByTagName()
15. In the code `Google`
- Google is content.
 - a is an attribute.
 - href is an element.
 - All of the above.
16. Which are the two twisted pair cable types available?
- UDP and FTP
 - STP and UDP
 - UTP and FTP
 - None of the above
17. Which of the following is used as a high speed network backbone media?
- Fiber Optic Cable
 - Unshielded Twisted Pair Cable
 - Thick Coaxial Cable
 - Thin Coaxial Cable
18. What is the main advantage of using a Shielded Twisted Pair (STP) cable for a network connection?
- To cut back on electrical interference
 - There is no advantage to using one
 - To enhance the network connection in a small room
 - To focus the network connection in a large room
19. ARPANET stands for?
- Advanced Research Project Agency Network
 - Advanced Research Programmed Auto Network
 - Advanced Research Project Automatic Network
 - Advanced Research Project Authorized Network
20. You need to subnet a network that has 5 subnets, each with at least 16 hosts. Which one can be your choice?
- 255.255.255.192
 - 255.255.255.224
 - 255.255.255.240
 - 255.255.255.248

Section B

Answer any three (3) questions only. Each question carries equal mark.

Question 1

- (a) The process of web design can be viewed as a three (3) stage process.
- List the three (3) stages of designing a web site. You should also briefly explain the activities that are taken place at each stage. [06 Marks]
 - At which stage in the process of web design should testing take place? [02 Marks]
- (b) Card sorting involves giving potential users of a website a collection of labels and asking them to organize them into groups and sub-groups.
- (c)
- How is this useful in a web design project? [03 Marks]
 - Explain what is meant by user-centered web design. [03 Marks]
 - Explain what is meant by the term "*scenario*" in terms of web design and outline the purpose of a scenario. [06 Marks]

Question 2

- (a) Differentiate between internet, World Wide Web and WWW consortium. [06 Marks]
- (b) Identify two (2) types of ISP services. [02 Marks]
- (c) Briefly discuss the major limitations of today's Internet. [04 Marks]
- (d) Consider Figure 1 below, which shows a simple model of the WWW.

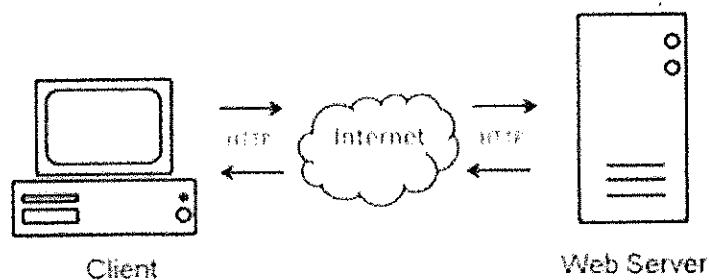


Figure 1: A simple model of the WWW

- What does HTTP stand for? Briefly explain the role of HTTP. [04 Marks]
- Briefly describe the roles of the client and server computers in Figure 1. [04 Marks]

Question 3

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Assume that you have been asked to design and deploy an e-Commerce solution for an existing online clothing retailing shop.

- (a) Write the HTML code snippet to create the given *Table*, which would list the categories of clothes available for sales.

Jackets and coats.
Trousers and shorts.
Suits
Sweaters and waistcoats.

[06 Marks]

- (b) Write the CSS code to change the following shopping cart (Figure 2) background colour into #004165



Figure 2: Shopping cart

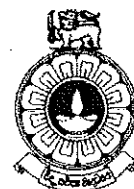
[06 Marks]

- (c) Write the sample php code snippet to calculate the number of dates a person has done shopping between two given dates. [08 Marks]

Question 4

Assume that you are in the deployment phase of the above website (Question 3).

- (a) Briefly explain how you would ensure that a webpage works across a range of different web browsers. [04 Marks]
- (b) Illustrate the website deployment process using a diagram and briefly explain it. [06 Marks]
- (c) Discuss the characteristics you would consider when selecting a platform to deploy your website. [06 Marks]
- (d) Briefly explain two possible security threats that your website could face and the possible preventive mechanisms. [04 Marks]



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

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