



UNIVERSITI
TEKNOLOGI
PETRONAS

FINAL EXAMINATION MAY 2024 SEMESTER

COURSE : TEB2153/TFB1063 - WEB APPLICATION AND
DEVELOPMENT/WEB APPLICATION AND
INTEGRATIVE PROGRAMMING

DATE : 5 AUGUST 2024 (MONDAY)

TIME : 2:30 PM - 5:30 PM (3 HOURS)

INSTRUCTIONS TO CANDIDATES

1. Answer **ALL** questions in the Answer Booklet.
2. Begin **EACH** answer on a new page in the Answer Booklet.
3. Indicate clearly answers that are cancelled, if any.
4. Where applicable, show clearly steps taken in arriving at the solutions and indicate **ALL** assumptions, if any.
5. **DO NOT** open this Question Booklet until instructed.

Note :

- i. There are **SIX (6)** pages in this Question Booklet including the cover page
- ii. **DOUBLE-SIDED** Question Booklet.

1.
 - a. Describe **THREE (3)** components of the Internet.
[6 marks]
 - b. Explain **THREE (3)** similarities between the World Wide Web (WWW) and the Internet.
[6 marks]
 - c. Describe **TWO (2)** advantages of server-side scripting.
[4 marks]
 - d. Describe **TWO (2)** disadvantages of client-side scripting.
[4 marks]

2. a. Discuss the concept of Document Object Model (DOM) in web programming.

[4 marks]

- b. Describe **TWO (2)** characteristics of Web 3.0.

[4 marks]

- c. Create an XML document to store information about each employee whose details include full name in four parts (salutation, first name, last name and suffix), employee ID, gender, room number, email, next of kin (including first name and last name, identification number, and telephone number) and total number of dependents.

[6 marks]

- d. Write a Document Type Definition (DTD) for the document in **part (c)** with the following restrictions: the employee's full name, ID, gender, and next of kin elements are required. All other elements are optional.

[6 marks]

3. a. Explain how a PHP script retrieves input data from an XHTML form.
[2 marks]
- b. **TABLE Q3** provides information about a mySQL database.

TABLE Q3: Database details

Hostname	host.utp.edu.my
Username	root
Database name	clubAndSociety
Table name	subscription
Table field	name, studentID, telephoneNo, email

Construct a complete XHTML document with embedded PHP scripts to capture table field's inputs which will be stored in the mySQL database.

[10 marks]

- c. Write a PHP script snippet to display a record on a web page based on a studentID.

[8 marks]

4. a. Explain with an example the importance of Cascading Style Sheet (CSS) in web development.

[4 marks]

- b. Construct an external CSS file for a web page based on the following requirements:

- Set a header 2 of size 2
- Set columns to be four and centred
- Use `div` for each column
- Use `float` to line up the columns side by side
- Provide each column a border of size 1
- Set background colours to be blue on the left and red on the right.

[4 marks]

- c. **FIGURE Q4** displays a web-based menu, requesting a customer to enter the quantity of each listed item. Each subtotal is automatically calculated by multiplying each item's corresponding entered quantity with its fixed unit price. The customer cannot modify the four subtotals as well as the total. The reset button clears previously entered quantities, enabling the customer to input a new quantity of each item.

Write a complete XHTML document with embedded JavaScript for the web-based menu.

Welcome to UniqueCloth Store			
Item	Price/Unit	Quantity	Sub Total
Sweat Shirt	33.50	<input type="text"/>	0.00
Sweat Pants	47.90	<input type="text"/>	0.00
Training Shoes	182.80	<input type="text"/>	0.00
Gym Bag	72.20	<input type="text"/>	0.00
TOTAL			RM 0.00
<input type="button" value="RESET"/>			

FIGURE Q4: An Online Menu Using JavaScript

[12 marks]

5. a. Discuss how a web developer benefits from a meta data tag. [4 marks]
- b. Discuss the importance of XHTML validation tools in web development. [4 marks]
- c. **FIGURE Q5** shows a check box flexibility: unchecked, checked or disabled. Each image on leisure has a width and height of 100 and 100 pixels, respectively. The images from left to right are `swimming.jpg`, `gardening.jpg` and `reading.jpg`.
Write a complete XHTML document to produce the web page.



FIGURE Q5: Check Box Input Variants

[12 marks]

-END OF PAPER-