

TUNKU ABDUL RAHMAN UNIVERSITY OF MANAGEMENT AND TECHNOLOGY

FACULTY OF COMPUTING AND INFORMATION TECHNOLOGY

ACADEMIC YEAR 2023/2024

JANUARY EXAMINATION

AMIT2043 WEB SYSTEMS AND TECHNOLOGIES

WEDNESDAY, 17 JANUARY 2024

TIME: 2.00 PM – 4.00 PM (2 HOURS)

DIPLOMA IN INFORMATION TECHNOLOGY

DIPLOMA IN INFORMATION SYSTEMS

Instructions to Candidates:

Answer **ALL** questions. All questions carry equal marks.

AMIT2043 WEB SYSTEMS AND TECHNOLOGIES**Question 1**

- a) Differentiate between HTTP and HTTPS. (6 marks)
- b) (i) What is the main purpose of a stateful protocol? (2 marks)
- (ii) Explain how the protocol meets the purpose. (3 marks)
- c) With the aid of a diagram, briefly describe the interaction process between web server and a web client. (6 marks)
- d) Identify **FOUR (4)** advantages of designing dynamic web pages compared to static web pages. (8 marks)

[Total: 25 marks]

Question 2

- a) (i) Write PHP codes to store the following information shown in Table 1 into an associative array. Use *\$state* as the variable name. (4 marks)
- (Hint: "JH" => Johor)

Table 1: Main Campus & Branches

State Abbreviation	State Name
JH	Johor
KL	Kuala Lumpur
PH	Pahang
PN	Penang
PR	Perak
SB	Sabah

- (ii) Referring to Figure 1, display the *\$state* array. Note that, the output should exclude KL Main Campus. (6 marks)
- (Hint: *foreach*, *\$state*)

Johor (JH) Pahang (PH) Penang (PN) Perak (PR) Sabah (SB)
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Figure 1: Output

- b) (i) In PHP, what is the purpose of the *implode* and *explode* functions? (4 marks)
- (ii) Given a string:
- \$branches* = "JH-PH-PN-PR-SB";
- Convert it to an array and display it. (4 marks)
- (Hint: *print_r*)

AMIT2043 WEB SYSTEMS AND TECHNOLOGIES**Question 2 (continued)**

c) The following PHP codes are written:

```
$msg = "I like C++ programming";
echo "Calculate a product of two numbers" . "<br>";
calProduct(2,3);
```

(i) Based on the given function *calProduct()*, write PHP codes in the function to multiply two numbers, and then display the product (result). (4 marks)

(ii) Write PHP codes to replace the word "C++" to "PHP". (3 marks)
(Hint: *str_replace*)

[Total: 25 marks]

Question 3

a) Based on the following PHP codes, create a *sticky* form for the *Name* and *Email* fields. (7 marks)

```
$name = $_POST["name"];
$email = $_POST["email"];

<form method="" action="">
  Name: <input type="text" name="name">
  Email: <input type="text" name="email">
  <input type="submit" name="submit">
</form>
```

b) Answer the following questions based on the table named "*campus*" shown in Table 2. The table has been created and stored in the MySQL database.

Table 2: campus

<i>CampusID</i>	<i>CampusName</i>
<i>C1</i>	<i>KL</i>
<i>C2</i>	<i>Johor</i>
<i>C3</i>	<i>Pahang</i>
<i>C4</i>	<i>Penang</i>
<i>C5</i>	<i>Perak</i>
<i>C6</i>	<i>Sabah</i>

(i) Write PHP codes to connect the MySQL database with the following information and disconnect it if the connection fails. (3 marks)

(Hint: *mysqli_connect*, *die*)

```
Username = tarumt
Password = 123
Database = tarumtDB
Host = localhost
```

(ii) Write SQL codes to search the *Campus* table with a specific *CampusID* (*\$CampusID*) submitted by a user. Assign it to a PHP variable *\$sql_searchCampus*. (3 marks)
(Hint: *WHERE*)

AMIT2043 WEB SYSTEMS AND TECHNOLOGIES**Question 3b) (continued)**

- (iii) Based on the codes written in Question 3b) (i) and Question 3b) (ii), write PHP codes to query the database (*tarumtDB*). Assign the query result to a PHP variable named *\$result_searchCampus*. (2 marks)
(Hint: *mysqli_query*)
- (iv) Write PHP codes to display the campus name (*CampusName*) if the record is found. Otherwise, show the message "Record not found". (5 marks)
(Hint: *mysqli_fetch_array*)
- (v) Write PHP codes to update "KL" to "Kuala Lumpur". Assign the codes of updating to a PHP variable named *\$sql_updateCampus*, and the query result to a PHP variable named *\$result_updateCampus*. (5 marks)
(Hint: *UPDATE, WHERE, mysqli_query*)

[Total: 25 marks]

Question 4

- a) There are two methods of passing values to a PHP script: HTML's hidden input type, and URL's appended value.
- (i) Write a code to show the use of HTML's hidden input type to pass a value *discount* when a *submit* button is clicked. (3 marks)
(Hint: *<input type=...>*)
- (ii) Write a code to carry a parameter named *status* and its value *discount* by appending them to *confirm.php* when a *submit* hyperlink is clicked. (3 marks)
(Hint: *<a ...>*)
- b) What is the difference between using *POST* and *GET* methods in the following code? (4 marks)

```
<form action="confirm.php" method="post" / "get">
  <input type="text" name="name">
  <input type="submit" name="button" value="Submit">
</form>
```

- c) Explain **TWO (2)** main differences between *cookie* and *session*. (6 marks)
- d) In jQuery event, *hover()* is the combination of *mouseenter()* and *mouseleave()*. Write a jQuery to show the respective alert messages "ENTER" and "LEAVE" when a mouse enters and leaves the following HTML element. (5 marks)

```
<p class="special"> AMIT2043 </p>
```

- e) Describe the operation of AJAX technology. (4 marks)

[Total: 25 marks]