



SCHOOL OF INFORMATION AND COMMUNICATION TECHNOLOGY

AUGUST 2021 SEMESTER

TAKE HOME FINAL EXAMINATION

Subject Code : BIT210

Subject Name: WEB PROGRAMMING

This examination carries 50% of the total assessment for this subject.

Examiner(s)

DR ABDUL QAYOOM

Duration: 4 HOURS

Start Time:

Day: THURSDAY

Date: 2 DECEMBER 2021

Release Time: 9:00 AM

Due Date and Time:

Day: THURSDAY

Date: 2 DECEMBER 2021

Due Time: 1:00 PM

Declaration

- I have read and understood the [Academic Integrity Policy](#) that explains on **plagiarism**, and I testify that, unless otherwise acknowledged, the work submitted herein is entirely my own.
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Student Name: _____

Student ID: _____

(This question paper consists of 4 questions in 8 printed pages, including cover page)

Instructions:

1. Download the assignment question from the e-learning course/subject folder at the stipulated start time.
2. Answer ALL the exam questions in Microsoft Word **using the Cover Sheet attached** as the first page.
3. You are not allowed to discuss the assignment questions or answers with anyone, including your lecturers, friends, classmates or any other parties.
4. Label your answers clearly.
5. Save your Word document at regular intervals to avoid losing any data.
6. Name your Word document with your StudentID followed by subject code (e.g.B1223432BIT216.doc)
7. It is your responsibility to keep track of the time.
8. Once you have completed your exam **submit your Word document to Turnitin in the LMS.**
9. You are only allowed to do **ONE submission.**
10. The duration of the exam is **4 hours**. Therefore, you will need to submit your answers to Turnitin within this time frame. You are advised to submit earlier than the actual end time to avoid high traffic on the submission sites.
11. Any submissions after the stipulated assignment submission time will be considered as a **NON-SUBMISSION.**
12. Once the answer is submitted for grading, NO requests for amendments or submission of additional documents will be permitted or accepted.
13. In case of any questions about the examination you may post questions on the GENERAL Teams channel for your subject
14. In case of any technical problems e.g., internet connection or computer malfunction, you must immediately contact your lecturer via the LMS or Teams with **screenshots of the issues.**
15. You are required to adhere to the Academic Integrity Policy. Students found with high similarities to each other or other sources via Turnitin will receive penalties and be investigated for academic misconduct.

QUESTION 1 (18 MARKS)

- a) Markup language (HTML) uses description of documents which is simply text without any meaning to define web. As a result, retrieval of information from the web may not always be effective. In this context explain the significance of Semantic web elements in defining your web. **[6 marks]**

- b) Explain about the two HTTP requests related to the headers given below.

```
GET /cv.htm HTTP/1.1
Host: www.funwebdev.com
...
```

(i)

```
POST /demo/process.php HTTP/1.1
Host: www.funwebdev.com
name=Ali&id=b101010
...
```

(ii)

[6 marks]

- c) Full stack web development involves a three-tier architecture – presentation layer, business logic layer and data access layer. Various components and technologies are used at each layer to produce a complete web application. Using example of a web application, explain the relationships between the three tiers. **[6 marks]**

QUESTION 2 (12 MARKS)

- a) The following code snippet produces rows and columns through Bootstrap grid system. Draw the graphical representation and show the columns split on devices of different sizes – extra small, small, medium, large and extra-large.

```
<div class="container-fluid">
  <div class="row">
    <div class="col-sm-3 col-md-6 col-lg-4">Row -1 , Col- 1</div>
    <div class="col-sm-9 col-md-6 col-lg-8">Row -1 , Col- 2</div>
  </div>
  <div class="row">
    <div class="col-sm-3 col-lg-6"> Row -2 , Col- 1</div>
    <div class="col-sm-9 col-lg-6"> Row -2 , Col- 2</div>
  </div>
</div>
```

[8 marks]

- b) Bootstrap is used to create responsive web and it supports “mobile first approach” in web. Explain the “mobile first approach” notion and provide an example to support the explanation.

[4 marks]

QUESTION 3 (38 MARKS)

- a) Write HTML5 and JavaScript code to create the web interface shown in Figure 1.

Student Category

☒ Local

☐ Foreigner

Year

☐ Year 1

☐ Year 2

☐ Year 3

Skill Set

☐ C++ ☐ C# ☐ Java

Submit Clear

Figure 1: Students Skill Set

The requirements of the form are:

- Each form elements must be bound to the labels
- Student category: Local is default selection
- Define necessary attributes for each element in a manner that it ensures the user selection is retrievable at the server side.
- Upon submission, the form should be validated.
Validation criteria: Year option **MUST** be selected.
If validation is successful, the request is sent to server where it is handled by *process.php* script.
If validation is not successful, an alert message should appear as “Year: You Must select one option” and request should not go through.

NOTE: You are not required to write any server side code.

[16 marks]

- b) Write HTML and CSS code to create a table as shown in Figure 2. All styling used should be embedded except in case of table caption where the styling defined should be inline.

NOTE: The CSS properties are related to the border, text alignment, padding, font etc.]

Faculty-wise Students

Faculty	Number of Students	
Business	2018	70
	2019	80
	2020	50
IT	2018	40
	2019	50
	2020	45

Figure 2: Faculty-wise Student strength

[12 marks]

- c) Write necessary HTML and JavaScript code to create interface that allows a user to make selection from the menu options as shown in Figure 3. The text of the button changes in response to the selection made in the menu.

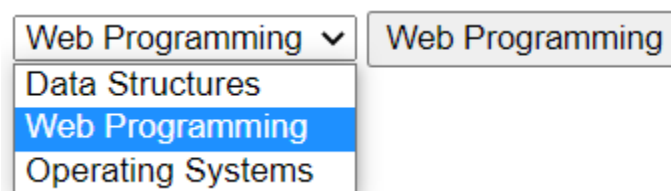


Figure 3: Subject Selection Menu

[8 marks]

- d) Study the code snippet given in Figure 4, to answer the following:

```
let webPro = { name: "Web Programming", code: "BIT210", studentCount:29 };
```

Figure 4: BIT 210 Web Programming Class Information.

- Which JavaScript construct has been used to store the information?
- Using the JavaScript construct, you are required to write the information to the web page in the following format.

<The number of students in Web Programming class is 29>

[2 marks]

QUESTION 4 (32 MARKS)

- a) Create a form that asks user for username and password. Once the form is submitted, you are required to validate the user. Validation criteria is that password should be same as that of your student ID (example B101010). Upon successful login user should be redirected to another page (userdashboard) that welcomes the user otherwise login page should appear again. If user directly accesses the userdashboard page, it should provide an “Unauthorized Access” message.

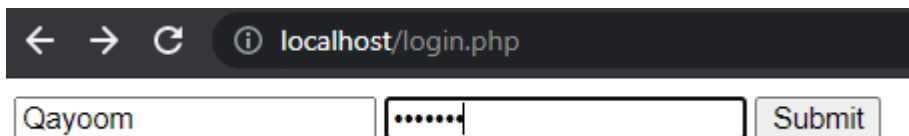


Figure 5(a): Login Page

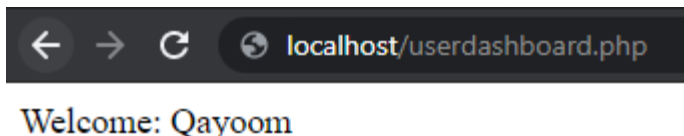


Figure 5(b): User dashboard after successful login

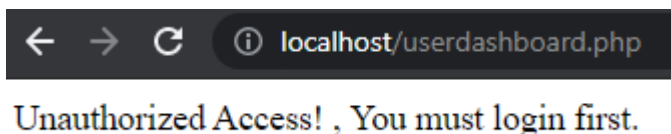


Figure 5(c): Direct access of user dashboard

[15 marks]

- b) Write PHP code to set a cookie based on the following criteria:
- The cookie name and cookie value is "User" and "Alice" respectively.
 - The expiration of the cookie is 60 seconds from the time it is set.

[2 marks]

- c) You are provided access to HELP Server named **HELPSRV** where you can connect to database using your student id as both username and password. Database and schema information is given as:

```
MariaDB [Employee]> desc payroll;
```

Field	Type	Null	Key	Default	Extra
name	varchar(30)	YES		NULL	
empcode	int(4)	YES		NULL	
salary	float	YES		NULL	
designation	varchar(20)	YES		NULL	

```
4 rows in set (0.027 sec)
```

Write relevant PHP code to perform the steps or functions given below:

- Describe and provide PHP coding for all the four steps in accessing this MySQL database.
- An employee with **empcode** 1419, currently working designated as "Senior Lecturer", needs to be promoted to "Assoc. Prof."
- Display **name**, **salary** and **designation** of the staff members whose **salary** is greater than RM 7000.

[15 marks]

*** END OF EXAMINATION PAPER ***