END OF SEMESTER EXAMINATION APRIL -2023

EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY
(YR III SEM II)

UNIT CODE: BCIT 3232

UNIT TITLE: ADVANCED WEB DEVELOPMENT
DATE: WEDNESDAY, 19TH APRIL, 2023

TIME: 2:00 PM – 4:00 PM

INSTRUCTIONS:

- **Answer question ONE (compulsory) and any other TWO questions**

QUESTION ONE [30 MARKS]

(a) Differentiate server-side scripting from client-side scripting (2 marks)

(b) Differentiate the internet from the world wide web (2 marks)

(c) Outline 3 things that in-browser Javascript is able to perform. (3 marks)

(d) Web pages use HTML and CSS. The purpose of HTML is to create the structure of a web page. Give the purpose of CSS. (1 mark)

(e) State 3 features of PhP. (3 marks)

(f) The figure below shows how a list of facts about London should be displayed in a browser. The HTML code should:

   i.   display each line with the bullet type shown

   ii.   display each fact on a new line

  iii.   include the citation shown.

Facts about London we bet you never knew!

- Many experts say that the name London came from the Celtic word "Londinous", which means to be bold.
- More than 80 billionaires live in London.
- London buses were not always red.

Facts taken from *Interesting Facts About London* a blog about London.

    Write HTML code to display the code above (3 marks)

(g) Web pages can contain external content. Explain how a tag can be used to add embedded content to a web page. You must include the name of the tag in your answer. (2 marks)

(h) State the name of the folder in which php files are stored for them to be viewed in a XAMPP server. (1 mark)

(i) Write down Javascript code that will prompt the user to enter a patient's body temperature and as long as it is greater than 38 the program will output the statement "Too ill", otherwise it will output the statement "Healthy" (3 marks)

(j) The Figure below shows HTML code. State the purpose of the code on line 3.   (2 marks)

```
2   <head>
3     <meta name="description" content="London facts you will never believe">
4   </head>
```

(k) Using sample code, describe 2 datatypes used in Javascript.   (2 marks)

(l) With the aid of html code examples, describe 2 types of colours that can be utilized on a HTML page.   (4 marks)

(m) State what the acronym XAMPP stands for.   (1 mark)

(n) Write HTML code that displays a list which describes three examples of fruits.   (3 marks)

QUESTION TWO

(a) Web pages allow users to access information.
   i.   The Figure below shows HTML code for a table of contents. Explain how lines 23 and 28 function together within the HTML code.   (3 marks)

```
18
19     <h1 id="TOC">Table of Contents</h1>
20
21     <a href="#fixqp">Fix the Error - Mark Scheme</a>
22     <a href="#fixms">Fix the Error - Question Paper</a>
23     <a href="#Intro">Introduction</a>
24     <a href="#Literature">Literature Review</a>
25     <a href="#Method">Methodology</a>
26     <a href="#Results">Results</a>
27
28     <h2 id="Intro">Introduction</h2>
29     <p> Some introductory text here.
30   Lorem ipsum dolor sit amet, consectetuer adipiscing elit.
31   Maecenas porttitor congue massa.
32   Fusce posuere, magna sed pulvinar ultricies, purus lectus malesuada libero, sit amet commodo
     magna eros quis urna. Fusce est.</p>
33
```

(b) The figure below shows how the HTML code for a list of bicycles should be displayed in a browser. The code should allow for any single item to be identified. For example, A2a is a bicycle suitable for a child under 10 years of age with intermediate skill level. Write the code to be used to display the list of bicycles.   (5 marks)

```
A. Bicycle
        1. Novice
                a. Child
                        Suitable for children under 10 years old

                b. Teen
                        Suitable for teenagers

        2. Intermediate
                a. Child
                        Suitable for children under 10 years old

                b. Teen
                        Suitable for teenagers

        3. Advanced
                a. Child
                        Suitable for children under 10 years old

                b. Teen
                        Suitable for teenagers
```

(c) Write code to create a web page that will contain an audio clip. The code must: (3 marks)
   - include an HTML5 tag •
   - refer to the audio file "space.mp3"
   - ensure controls are visible.

(d) A web page needs to have an iframe. The source of the iframe will be *https://www.bridgelon.com* It must have a width of 150 pixels and a height of 350 pixels. Write the HTML code to display this iframe. (3 marks)

(e) Write down html code that will generate the form below. (6 marks)

```
┌─Personal Details──────────────────────────────┐
│ Salutation                                     │
│ [--None-- ▼]                                   │
│                                                │
│ First name: [                    ]             │
│                                                │
│ Last name: [                    ]              │
│                                                │
│ Gender :  ○ Male    ○ Female                   │
│                                                │
│ Email: [                  ]                    │
│                                                │
│ Date of Birth: [dd / mm / yyyy      📅]        │
│                                                │
│ Address :                                      │
│ [                                  ]           │
│ [                                  ]           │
│                                                │
│ [Submit]                                       │
└────────────────────────────────────────────────┘
```

QUESTION THREE

(a) Using your own examples, name and describe 3 types of CSS. (9 marks)
(b) Write CSS code that will generate a red circle. (2 marks)
(c) Define the term ''flex box" as used in CSS. (2 marks)

(d) CSS is used by browsers to format web page content. A web page contains text that needs to be formatted.
- The heading needs to be white and 50 pixels.
- Paragraph text needs to be right-aligned with a padding of 20 pixels.

Write CSS code that will format a page as described.   (3 marks)

(e) Using HTML, write down code that will create a page that has the following: (4 marks)
A web page contains a heading. The heading must have:
- a red, white and blue linear gradient background
- a 3-pixel red border
- centre-aligned text
- padding of 20 pixels.

QUESTION FOUR

(a) JavaScript provides interactivity for web pages. The code below shows the JavaScript used to calculate the cost of sending a parcel.

```
var weight = prompt("Enter the parcel weight in kg","")
var length = prompt("Enter the parcel length in cm","")
if (weight < 1 && length <= 20)
{
alert("This is a letter. The letter rate is £0.65")
}
else if (weight < 1 && length > 20)
{
alert("This is a small parcel. Small parcel rate is £3.85")
}
else
{
alert("This is a large parcel. Large parcel rate is £9.50")
}
```

Describe how the code works using these input values: Weight: 0.95 and Length: 20   (3 marks)

(b) The Document Object Model (DOM) allows JavaScript to change the content of a web page. One feature of the DOM is that it provides a map of the web page that can be read by JavaScript. State two other features of the DOM   (2 marks)

(c) Write the code which asks for a login with prompt. If the visitor enters "Admin", then prompt for a password, if the input is an empty line or Esc – show "Canceled", if it's another string – then show "I don't know you".
The password is checked as follows:
If it equals "TheMaster", then show "Welcome!",
Another string – show "Wrong password",
For an empty string or cancelled input, show "Canceled".   (5 marks)

(d) Write javascript code that will give the output below.   (3 marks)

1

2

3

4

5

(e) Using sample code, explain 4 ways to declare Javascript variables. (4 marks)

(f) Via the use of sample Javascript code, explain 3 ways to assign event handlers. (3 marks)

QUESTION FIVE

(a) Write down PhP code that will output the following. (3 marks)

```
The product of 2 x 1 is 2
The product of 2 x 2 is 4
The product of 2 x 3 is 6
The product of 2 x 4 is 8
The product of 2 x 5 is 10
The product of 2 x 6 is 12
The product of 2 x 7 is 14
```

(b) Explain the difference between x==y and x===y. (2 marks)

(c) State a benefit of using PhP in comparison to ASP.Net. (1 mark)

(d) Using PHP, write a function min(a,b) which returns the least of two numbers a and b.

(3 marks)

(e) Write SQL code to create a student table that has the fields: StudentID, StudentName, StudentAge and StudentGender. Set a validation on the gender field and make the StudentID the primary key. (4 marks)

(f) Write PHP code to insert data to the Student table from a html form. (4 marks)

(g) Using PHP code, display the student table data on a html page in the form of a table.

(3 marks)