# UNIVERSITY OF MAURITIUS

## FACULTY OF LAW AND MANAGEMENT

## SECOND SEMESTER EXAMINATIONS

## MAY 2010

| PROGRAMME | BSc (Hons) Accounting With Information Systems – Level 2 | | |
|---|---|---|---|
| MODULE NAME | Web Technologies with Multimedia | | |
| DATE | **Thursday 27 May 2010** | MODULE CODE | *CSE 2009Y* |
| TIME | *09.30-12.30 Hrs* | DURATION | *3 Hours* |
| NO. OF QUESTIONS SET | *6* | NO. OF QUESTIONS TO BE ATTEMPTED | *4* |

INSTRUCTIONS TO CANDIDATES

There are 2 Sections in this paper: Section A and Section B.

Answer TWO (2) questions from each Section.

Section A Question 1 is compulsory.  Answer any other question from Section A.
Section B Question 4 is compulsory. Answer any other question from Section B.

Use separate answer books for EACH Section.

All questions carry equal marks.

# SECTION A

*Answer 2 questions from this Section.*

*Use separate answer books for each Section.*

## Question 1 *(Compulsory)*

1. What does HTML stand for?
A. Hypertext Markup Language
B. Home Tool Markup Language
C. Hyperlinks and Text Markup Language
D. Hyper Modeling Language

2. Choose the correct HTML tag for the largest heading
A. <H1>
B. <heading>
C. <head>
D. <h6>

3. What is the correct HTML tag for inserting a line break?
A. <br/>
B. <lb>
C.
D. <line>

4. What is the correct HTML code for adding a background color?
A. <body style="background-color:yellow">
B. <body background="yellow">
C. <background>yellow</background>
D. <yellow>text</yellow>

5. What is the correct HTML code for creating a hyperlink?
A. <a>http://cse.uom.ac.mu/courses</a>
B. <a url=" http://cse.uom.ac.mu/courses ">CSE website</a>
C. <a href=" http://cse.uom.ac.mu/courses ">CSE website</a>
D. <a name=" http://cse.uom.ac.mu/courses ">CSE website</a>

6. Which of the following can be used to create an e-mail link?

A. &lt;a href="mailto:xxx@yyy"&gt;
B. &lt;a href="xxx@yyy"&gt;
C. &lt;mail&gt;xxx@yyy&lt;/mail&gt;
D. &lt;mail href="xxx@yyy"&gt;

7. Which of the following is used to open a link in a new browser window?
A. <a href="url" target="_blank">
B. <a href="url" new>
C. <a href="url" target="new">
D. <a href="url">

8. Which is the correct CSS syntax?
A. body {color: black}
B. {body:color=black(body}
C. {body;color:black}
D. body:color=black

9. What is the correct HTML for referring to an external stylesheet?
A. <stylesheet src="mystyle.css">
B. <a href="mystyle.css">
E. <link rel="stylesheet" type="text/css" href="mystyle.css">
F. <link rel="stylesheet" type="text/css" src="mystyle.css">

10. Which stylesheet definition would you use to add a background color for all <h1> elements?
A. all.h1 {background-color:#FFFFFF}
B. h1.all {background-color:#FFFFFF}
C. h1 {background-color:#FFFFFF}
D. h1 : background-color:#FFFFFF

11. Which stylesheet definition would you use to display hyperlinks without an underline?
A. a {text-decoration: no underline}
B. a {text-decoration: none}
C. a {underline: none}
D. a {decoration: no underline}

12. Which stylesheet definition would you use to make each word in a text start with a capital letter?
A. text-transform:capitalize
B. text-transform:uppercase
C. text-decoration:uppercase
D. CSS cannot be used to do that

13. Inside which HTML element is JavaScript code inserted?
A. <script>
B. <js>
C. <javascript>
D. <scripting>

14. What is the correct JavaScript syntax to write "Hello World"?
A. response.write("Hello World")
B. document.write("Hello World")
C. "Hello World"
D. ("Hello World")

15. What is the correct syntax for referring to an external script called "validation.js"?
A. <script src="validation.js">
B. <script name="validation.js">
C. <script href="validation.js">
D. <js src="validation.js">

16. An external JavaScript file
 A. must contain the <script> tag
 B. must not contain the <script> tag
 C. may or may not contain the <script> tag
 D. starts with the <HTML> tag

17. How is an alert box created in JavaScript?
 A. alertBox="Hello World"
 B. msgBox("Hello World")
 C. alert("Hello World")
 D. alertBox("Hello World")

18. What is the correct syntax to create a function in JavaScript?
 A. function:my function()
 B. function myfunction()
 C. function=myfunction()
 D. function myfunction;

19. How is a function named "myFunction" called in JavaScript?
 A. myFunction()
 B. call myFunction()
 C. call function myFunction()
 D. myFunction

20. How is a message displayed in the browser's status bar using JavaScript?
   A. window.status("some message")
   B. window.status = "some message"
   C. statusbar = "some message"
   D. status("some message")

21. How is a conditional statement written in JavaScript for executing some code if "i" is equal to 5?
   A. if (i==5)
   B. if i==5 then
   C. if i=5
   D. if i=5 then

22. What is the correct way to include the file "dbconnect.php" in PHP?
   A. <% include file=" dbconnect.php " %>
   B. <?php include_file("dbconnect.php "); ?>
   C. <?php requires("dbconnect.php "); ?>
   D. <!--include file=" dbconnect.php "-->

23. Which of the following is the correct syntax to connect to a MySQL database in PHP?
   A. dbopen("localhost");
   B. mysql_connect("localhost");
   C. connect_mysql("localhost");
   D. mysql_open("localhost");

24. Which of the following is the correct syntax to execute an SQL statement in PHP and MySQL?
   A. mysql_query("…");
   B. mysql_connect("…");
   C. mysql_select_db("…", $con);
   D. query_mysql("…");

25. Which of the following is true about a session variable?
   A. Once a session variable is created, it can be used on any page
   B. A session variable can be used only on the page it has been created
   C. A session variable can be used even after a user has left the website
   D. A session variable has the same value for all users of a website

**[Total Marks 25]**

## Question 2

Both Questions 2 and 3 are based on the **index.html** page shown below and on the sample code that follows.



**Figure 1 – index.html**

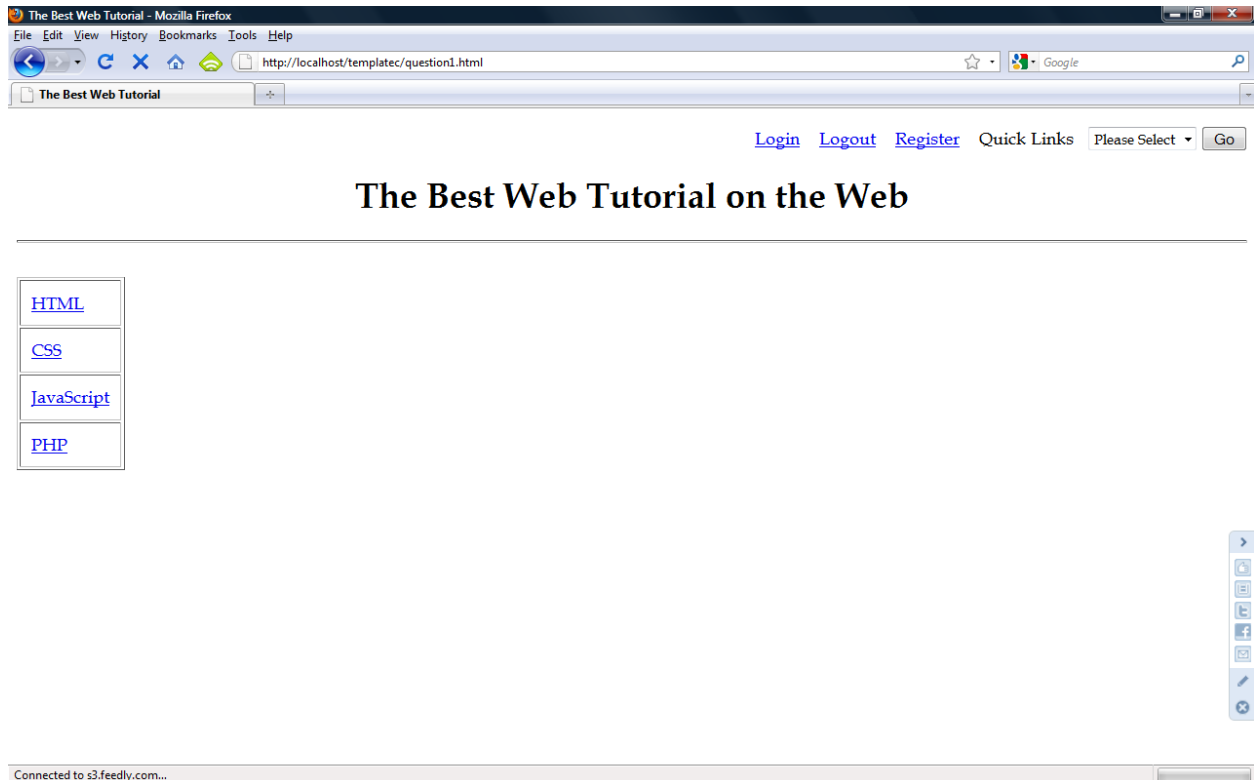A skeleton of the code for **index.html** has been provided below.

```
<html>
 <head>
   <title>The Best Web Tutorial</title>
 </head>
 <body>
<!—Code to link to external style sheet -->
<div align="right">…</div>
<div style="float:left">…</div>
 </body>
</html>
```

Consider the following page **index.html** above. **Index.html** contains 2 divs: one for the header and one for the table of links on the left.

a)      Explain what is a div and when it is used.

**[2 marks]**

b)    Write the HTML codes for the div which is right aligned given that
   • There is a level 1 heading
   • The fields are enclosed within the form, **frmquick**
   • There are 3 links, **Login**, **Logout** and **Register** which open the pages **Login.php**, **Logout.php** and **register.html** respectively.
   • There is a combo box, **cmblinks**, with the following options: *Please Select*, *HTML*, *CSS*, *JavaScript* and *PHP*. The associated values are: *Please select*, *HTML.html*, *CSS.html*, *JavaScript.html* and *PHP.html*. *Please select* is selected by default. There is a button '**Go**' besides it.

                                                                              **[5 marks]**

c)    Write the JavaScript function **redirectpage()** such that when the user selects any valid option from the combo box and clicks on the 'Go' button, the user is redirected to the page selected. If however the user selects the default 'Please Select' option, and clicks on 'Go', he stays on the current page.
      Indicate where in your **index.html** page this code is to be included and how you call the code/function if needed.
      **Note**: you may find **window.location = "***some page***"** useful.          [**5 + 1 marks**]

d)    The page **index.html** has been formatted using an external style sheet, **styles.css**, found in the **styles** subfolder**.**
   • 'The Best Web Tutorial on the Web' has been formatted using heading level one. By default all heading levels align text to the left. A class, 'specialalign', has been defined. The class can be applied to any tag and centers text.
   • All the text on the page and in the combo box have been formatted using the font Book Antiqua
      Write the codes for styles.css.

                                                                              **[4 marks]**

e)    In the above example, both the links **Login** and **Logout** are displayed. Ideally if the user is logged in, only **Logout** should be displayed and if the user is not logged in, only **Login** should be displayed.
      Implement the above in the **index.html** page indicating any changes to be made. State any assumptions that you make (if any).                    **[5 marks]**

f)    When the user wants to log out of the website, he clicks on the **Logout** link (**Logout.php**) which deletes all session data and he is redirected to the **index.html** page. Write the PHP codes for the **Logout.php** page.
                                                                              **[3 marks]**
                                                                          **[Total marks 25]**

**Question 3**

When the user click on the link **Register** on **index.html**, the **register.html** page is opened as shown in **Figure 2**.

Figure 2 – register.html

```
<html>
 <head><title>The Best Web Tutorial</title></head>
 <body>
//some other codes

<div style="position:absolute;left:220">
<p>
<form action="register.php" method="post">
<table cellspacing="10">
<tr>
<td>Username:</td>
<td><input type="text" name="txtuname"></td>
</tr>
<tr>
<td>Password:</td>
<td><input type="password" name="txtpwd"></td>
```

```
</tr>
<tr>
<td>Confirm Password:</td>
<td><input type="password" name="txtcpwd"></td>
</tr>
</table>
</p><p align="center">
<input type="submit" value="Register"/>
<input type="reset" value="Reset"/>
</form>
</p>
</div>
</body>
</html>
```

When the user has successfully entered all information above and clicks on **Register**, he is redirected to the **register.php** page.

a) When the user clicks on the **Register** button, a few validations are made before the information is submitted: the **Username, Password** and **Confirm Password** should not be blank. The **Password** and **Confirm Password** should be the same. Write the JavaScript function **checkAll()** that does this.

**[5 marks]**

b) **Register.php** first captures all information that has been submitted. Write the PHP codes for this.

**[3 marks]**

c) Next a connection is opened to the MySQL database **BestWebsite.** Write the PHP codes for this**.**

**[3 marks]**

d) The next step involves checking whether the username entered by the user already exists. If it exists, the message 'Username … already exists. Please try again.' is displayed. 'again' is a link pointing to the **register.html** page.

**[5 marks]**

e) If the username does not exist, all information is added to the **Member** table and the message 'You have successfully registered and can now access the members area' is displayed.

**[5 marks]**

f) It is decided to format the above **register.html** page such that the text boxes appear with a blue background( #9cf) and the **Register** button is green. Write the external style sheet (**styles.css** found in the **styles** subfolder) for this and indicate any changes that need to be made to the **register.html** page if any.

**[4 marks]**

**[Total Marks 25]**

## SECTION B

**Answer 2 questions from this Section. Question 4 is compulsory.**

**Use separate answer books for each Section.**

**Question 4**  *(Compulsory)*

a)      What is meant by the terms static media and dynamic media? Give an example of each type of media.

**[3 marks]**

b)      Differentiate between RGB and CMY color model and give an example of where they are used?

**[3 marks]**

c)      What is the equivalent of the RGB colour 0.5, 0.3 ,1.0 in CMY? *Please show your workings.*

**[2 marks]**

d)      How the colour CYAN is represented in the RGB model?
        *Your answer should be in the following format (0-255, 0-255,0-255).*

**[2 marks]**

e)      Consider a screen resolution of 1280 by 1024. Suppose the screen has a 16-bit color depth. What will be the size of its frame buffer in KB? *Please show your workings.*

**[3 marks]**

f)      In terms of color models, explain the process of sending a digital image for printing.

**[4 Marks]**

g)      Briefly explain how the human visual system senses colour. Explain your answer with reference to an apple; describing why human beings perceive the red apple as such.

**[4 marks]**

h)      What key issues or problems does a multimedia system have to deal with when handling multimedia data?

**[4 marks]**

**[Total Marks 25]**

**Question 5**

a) Briefly explain the following terms as used in multimedia:
   i.     Layer
   ii.    Mask
   iii.   Interlacing.
   iv.    Dithering

**[4 x 2 Marks]**

b) *"Interlacing is best for larger GIF images such as illustrations and photographs. Interlacing is a poor choice for small GIF graphics such as navigation bars, buttons, and icons."* Explain why.

**[3 Marks]**

c) Assume you are to create a Website Design.
   i.    Suggest when you will use JPEG Image file format.          **[2 Marks]**
   ii.   Suggest when you will use GIF image file format.           **[2 Marks]**

d) Refer to the diagrams below and answer the questions which follow.
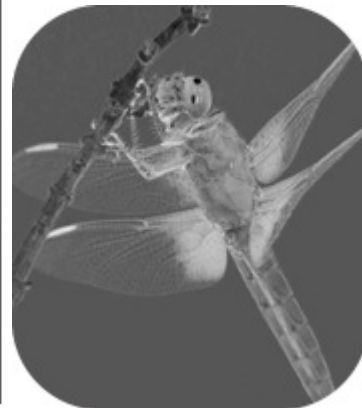


| Figure 3a | Figure 3b | Figure 3c |

   i. Suppose you are to change the colour of the dragonfly as in **Figure 3a** from its original colour to a red colour. Describe the steps detailing how you will proceed.          **[4 Marks]**

   ii. Now you are to create a negative effect as in **Figure 3b** out of the original image in **Figure 3a**. Describe the steps detailing how you will proceed.          **[3 Marks]**

   iii. Describe how you can achieve rounded corners for your photo as in **Figure 3c**.
          **[3 Marks]**
          **[Total Marks 25]**

## Question 6

a)  Assume that you have taken a picture in a very dusty environment. Hence, when the picture came out, there were tiny dusty spots in the image. Describe a technique which you can use to remove the spots in your picture.  **[3 marks]**

b)  Explain how sound can be digitized illustrating your answer with the help of a diagram? (*Note: Your answer should consider the dimension variable of sound*).

**[5 marks]**

c)  What is the difference between MIDI and Digital sound?

**[4 marks]**

(d)  Briefly describe the following as used in Macromedia flash
*   Frame
*   Timeline
*   Tween

**[3 x 1 Marks]**

(e)  Suppose you are to create a Pencil animation in flash as shown in **Figure 4** below. List the different steps about how you will proceed.



**Figure 4**

**[5 Marks]**

(f)  Suppose you are to create a Masking effect animation in Macromedia Flash 2004 as shown in **Figure 5.**  List the steps of how you can achieve this?
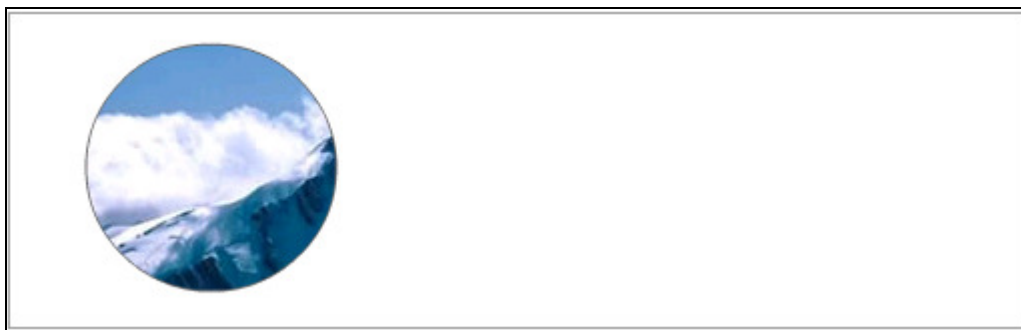


**Figure 5**

**[5 Marks]**

**END OF QUESTION PAPER**