UNIVERSITY OF MAURITIUS

FACULTY OF LAW AND MANAGEMENT

SECOND SEMESTER EXAMINATIONS

MAY 2009

PROGRAMME	BSc (Hons) Accounting with Information System – Level 2,3,4		
MODULE NAME	Web Technologies with Multimedia		
DATE	**Thursday 14 May 2009**	MODULE CODE	*CSE2009Y*
TIME	*13.30-16.30 Hours*	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.

Section A and Section B each consists of 3 questions. Students are requested to answer 2 questions from each section.

Please answer Section A and Section B on separate answer sheets.

Each question carries 25 marks.

SECTION A
Students are requested to answer any 2 out of 3 questions.

Question 1

Consider the sketch of the page **index.html** shown in Figure 1. The page consists of different frames and each frame has a label which displays the name of the page followed by the name of the frame.

Banner.html, TopFrame		
Login.html, LoginFrame	main.html, MainFrame	Links.html, LinksFrame
	copyright.html, Copyrightframe	

Figure 1 – index.html

(a)   Write the HTML codes for **index.html** <u>only</u>.

[6 Marks]

(b)   The default pages loaded in **index.html** were formatted using external style sheets. Write the code for **styles.css** found in the **styles** subfolder relative to the current folder given that
   - All the text uses the Verdana font, the font colour is #000000 and background colour is #fdf5e6
   - The headings use 'H1' heading and are defined as italics, colour is green and background colour is yellow.
   - A normal link appears red, a visited link appears green and an active link appears yellow.

Include the code to link the style to all the pages in **index.html** given that they all use the above formatting.
In the above case, where should that piece of code be included such that all default pages are formatted using **styles.css**?

[6 + 1 + 2 marks]

(c)   Consider the php codes for the page **db_connect.php** provided below. This code will be used by all pages that need to connect to the mysql database.
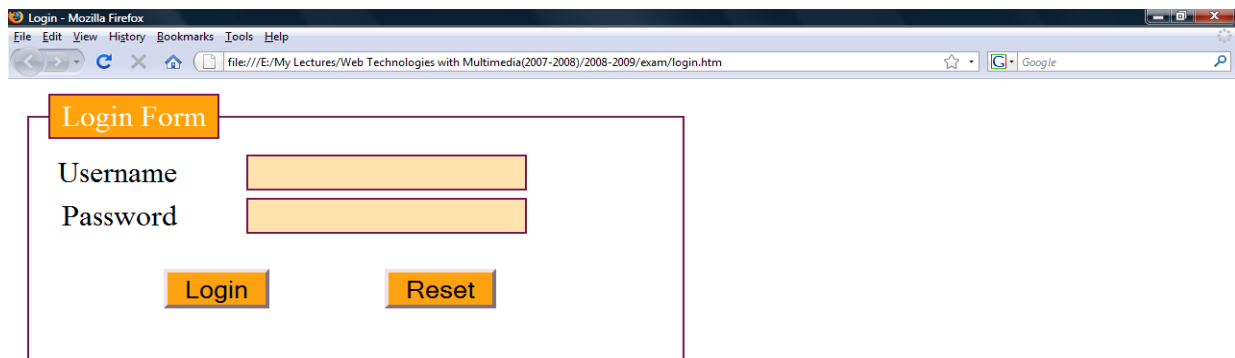
```php
<?php
    $con = mysql_connect("localhost","root","");
      if (!$con)
      {
        die('Could not connect: ' . mysql_error());
      }

      mysql_select_db("Shop", $con);
?>
```

Write the line(s) of code that need(s) to be added to all pages that use **db_connect.php**.

[1 mark]

(d)   When a user clicks on the login button found on the **login.html** page shown in Figure 2, all information (txtusername and txtpassword) is sent by the post method to the **login.php** page which checks whether the username and password are correct and redirects the user to either the **user.php** page or the **error.php** page.
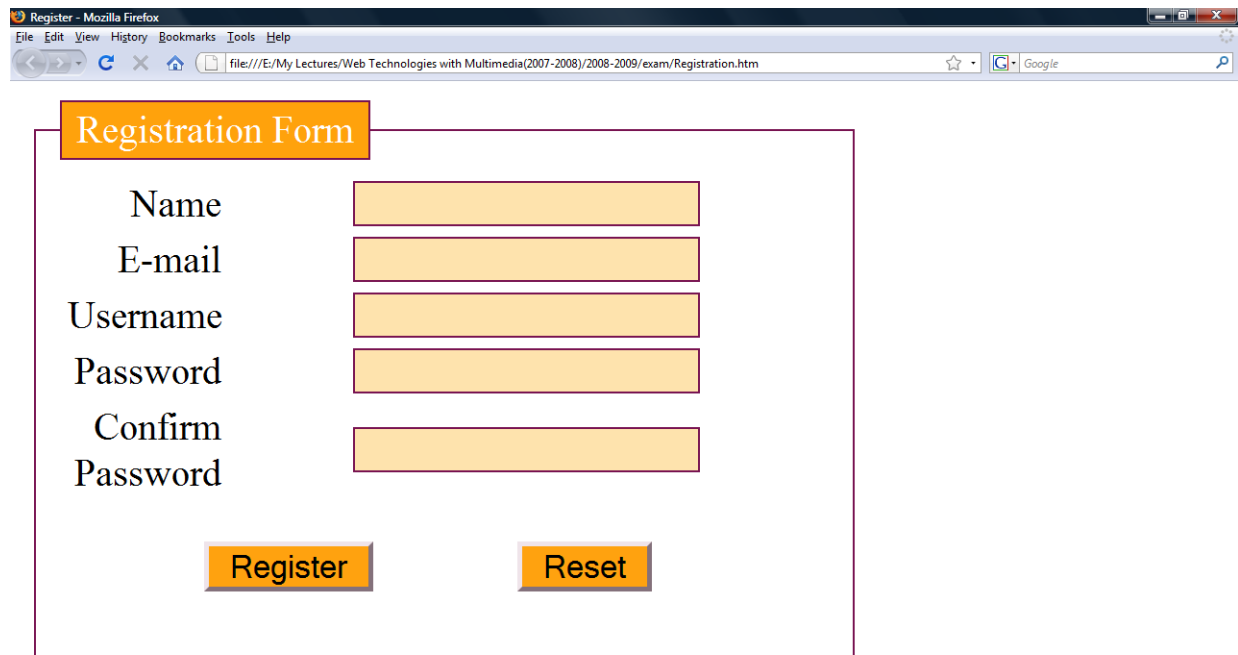

Figure 2 – login.html

Write the PHP codes for **login.php**. You may use the **db_connect.php** page to connect to the database. The schema for the table users is as follows: users(name, email, username, userpassword).

[9 marks]

Question 2

(a)   Write the HTML codes for the registration form, **register.html**, shown in Figure 3 below. Note that a table has been used for the proper formatting of the fields and that formatting information is found in an external style sheet called **style.css**. The textboxes are called txt_name, txt_email, txt_uname, txt_pwd and txt_confirmpwd respectively.

Figure 3 – register.html

[10 marks]

(b)   When the user clicks on the 'Register' button, the function validate is called. The function checks that all the fields are **not blank** and that the 'Password' and 'Confirm Password' are the same. If any of the above is not true, then proper alert messages are displayed and the form is not submitted. Write the function validate in Javascript.

[10 marks]

(c)   Indicate in your code how the function is called.

[2 marks]

(d)   The codes for **style.css** have been provided below. The 'legend' applies to the 'Registration Form' title and the 'fieldset' applies to the border around the table and form.

```
label
{
width: 4em;
float: left;
text-align: right;
margin-right: 0.5em;
display: block
}

input
{
color: #781351;
background: #fee3ad;
border: 1px solid #781351
}

.submit input
{
color: #000;
background: #ffa20f;
border: 2px outset #d7b9c9
margin-left: 4.5em;
}

fieldset
{
border: 1px solid #781351;
width: 20em
}

legend
{
color: #fff;
background: #ffa20c;
border: 1px solid #781351;
padding: 2px 6px
}
```

Modify the above stylesheet such that
- The background colour of the textboxes is now #99ffcc
- The background colour of all the cells in the table is yellow
- The text in the table is left-aligned.

[3 marks]

Question 3

This question refers to the **register.html** page of Figure 3 above. When the user clicks on the 'Register' button in the **register.html** page, all information is submitted to the **register.php** page. The **register.php** page first of all checks whether the username already exists in the database, if it exists the user is redirected to the **exist.php** page. If the username does not exist, then the new user is added to the table **users** in the **Shop** database and the user is redirected to the **login.html** page. The schema for the table users is as follows: users(name, email, username, userpassword).

(a)   Write the php codes for the **register.php** page. You may use the **db_connect.php** page to connect to the database.

[15 marks]

(b)   When a user logs in, a session is created for him as shown below:

```
session_start();
$_SESSION['username']=$username;
```

This session will be used on all pages of the website to ensure that the user has indeed logged in. Write the php codes for **validate_session.php** which checks whether the user has logged in. If the user has not logged in, he will be redirected to the **login.html** page.

[3 marks]

(c)   When the user wants to log out of the website, he clicks on the logout link (**logout.php**) which deletes all session data and redirects the user to the **index.html** page. Write the PHP codes for the **logout.php** page.

[3 marks]

(d)   Consider the pages **test.html** and **test.php**. What is the difference when each one is invoked. Explain.

[4 marks]

SECTION B

Students are requested to answer any 2 out of 3 questions.

Question 4

(a) Briefly explain the following terms as used in multimedia:
  i. Hypermedia
  ii. HSV
  iii. Multimedia Authoring

[1+2+2 marks]

(b) What is a Multimedia System and define its key characteristics?

[6 marks]

(c) In terms of colour models, explain the process of sending a digital image for printing. **[5 marks]**

(d) Define the term interlacing. **[2 marks]**

(e) "*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]

(f) What is the difference between bitmap and vector graphics and under which condition are you going to use them? **[4 marks]**

Question 5

(a) What is sound?

[2 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*).

[6 marks]

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

[4 marks]

(d) Briefly describe the following terms as used in Macromedia Flash 2004:
  i. Timeline
  ii. Tween
  iii. Keyframes
  iv. Masking

[1+2+2+2 marks]

(e)   In Macromedia Flash 2004, you are to create a small animated movie of a car following a path. Figure 4 illutrates how the animation will look like. Describe how you will proceed?
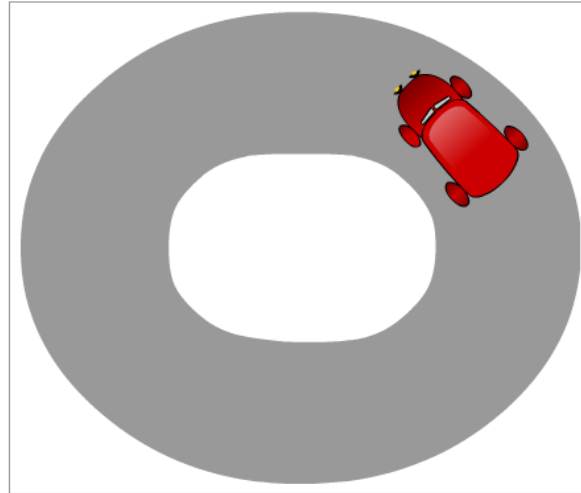
[6 marks]

Figure 4 - animation

Ref : http://www.entheosweb.com/Flash/motion_guide.asp

Question 6

(a)   Briefly explain the following terms as used in multimedia:
   i.   Multimedia
   ii. CMYK
   iii. Out of Gamut

[1+2+ 2 marks]

(b)   Define the term Gamma and explain how TV Systems pre-correct this situation?
[6 marks]

(c)   Suppose you have taken a true colour picture (24 bit). However, you have an 8 bit colour system. Explain the technique that you are going to use to maintain the appearance of your picture?

[5 marks]

(d)   Briefly describe the following terms as used in Macromedia Fireworks 2004:
      i. Marquee tool
     ii. Layer
    iii. Gradient

[1+1+2 marks]

(e)   In Macromedia Fireworks 2004, you are to give an old photographic style to an image as shown in Figure 5 below. Describe how you will proceed?

Figure 5 - image
Ref: http://www.entheosweb.com/fireworks/old-photograph-style.asp

[5 marks]

-END OF QUESTION PAPER-