UNIVERSITY OF MAURITIUS

FACULTY OF ENGINEERING

SECOND SEMESTER EXAMINATIONS

MAY 2015

PROGRAMME	BSc (Hons) Applied Computing		
MODULE NAME	Web Design and Development		
DATE	Tuesday 19 May 2015	MODULE CODE	CSE1032Y(1)
TIME	09:30 – 12:30 Hrs	DURATION	3 hours
NO. OF QUESTIONS SET	6	NO. OF QUESTIONS TO BE ATTEMPTED	5

INSTRUCTIONS TO CANDIDATES

Answer Any Five (5) Questions.

All questions carry equal marks.

Answer <u>Any Five (5) Questions</u>.

<u>Question 1</u>

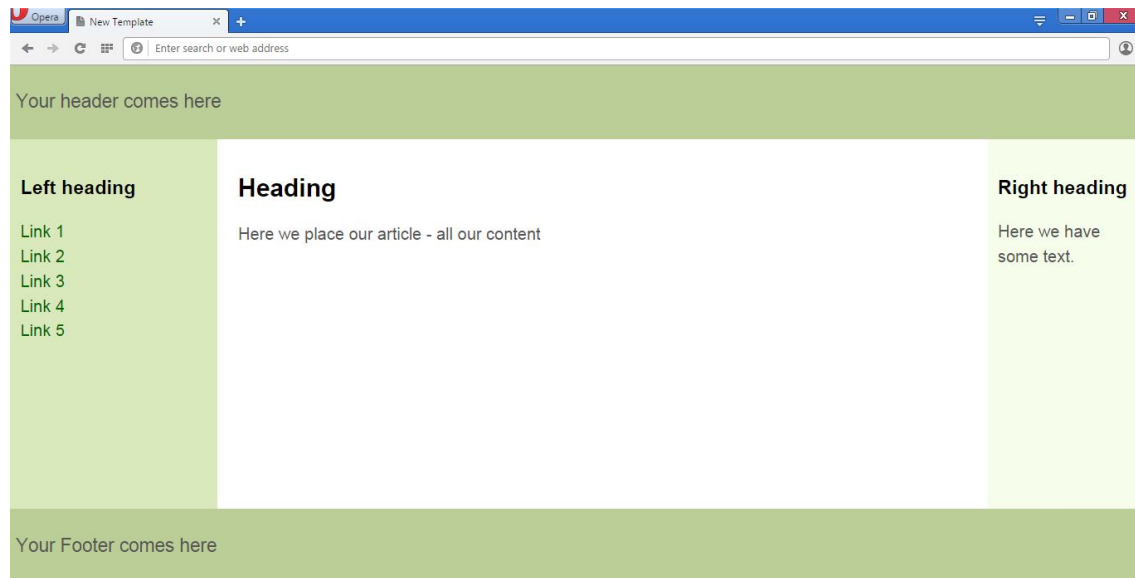Refer to the page, **template.html**, displayed in Figure 1 below.

Figure 1: template.html

a)   Write the HTML code for the page **template.html** given that <nav>, <div>, <article>, <header> and <footer> been used for the design of the page. The 5 sections of the page are named **header**, **left**, **center**, **right** and **footer** and all the links point to the **template.html** page itself. You do not need to implement any formatting yet.   **[10 marks]**

b)   The page **template.html** is linked to an external css file, **styles.css**. Write the line of code to link the external stylesheet to **template.html**. Indicate where in your code this line is placed.   **[2 marks]**

c)   Write the code for the page **styles.css** given that **template.html** is formatted as follows:

- The background color of the header and footer is #BCCE98, of the left section is #DAE9BC, of the right section is #F7FDEB and of the center section is #fff.
- The font-size of the header and the footer is large.
- The min-width of the body is 630px.

[5 marks]

d)   In the above scenario, all elements having id starting with the letters 'fix_' are to have the same background color, #FFA500. Write the CSS 3 to implement this style.

[3 marks]

Question 2

Refer to Figure 2, **doctorRegistration.html**, where doctors can register in a database for doctors.

a)   Write the HTML code for the page **doctorRegistration.html** given that:

- The names of the fields are as follows: txtId, txtFName, txtLName, txtDOB, txtHPhone, txtMPhone, txtAddress, txtEmail, txtDegree and txtSpecialisation. You should choose the most appropriate type for each field.
- The options in the combobox are None, Anesthesiologist, Cardiologist, Dermatologist, Opthalmologist, Pediatrician and Surgeon.
- The fields marked with a star, *, are compulsory and hence cannot be left blank – validated using HTML5.
- The form is submitted to **processRegister.php** by method **POST**.
- All formatting has been done using CSS/CSS3. There is no need to implement any formatting and JavaScript yet.

Figure 2: doctorRegistration.html

[16 marks]

b)   In the above form, <u>all</u> elements having name starting with the letters '*txt*' should display text in *italic* and in *red.* Use **<u>CSS 3</u>** to implement this style.

Indicate how this code is linked to the above page given that inline styling has NOT been used.

[4 marks]

Question 3

a) Provide 3 new tags (apart from header, footer, nav, article) that have been introduced since HTML5, briefly explaining the purpose of each.

[6 marks]

b) Write the code for the page **processRegister.php** given that:

- An existing file **dbconnect.php** can be used to connect to the **doctors** database.
- it checks whether the nationalId is already saved in the table **members** (id(varchar(15)),firstName(varchar(25)),lastName(varchar(25)),DOB(varchar(25), phone(int), mobile(int), address(varchar(25)), degree (varchar(25)) and specialisation (varchar(25))).

  o If the id already exists, the user is redirected to the page **error.php**.
  o If the id does not exist, then all data captured on the page **doctorRegistration.html** is inserted in the table **members**.
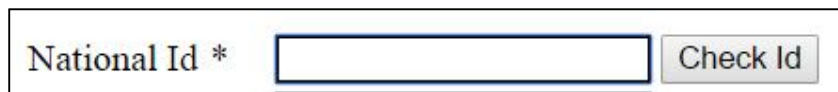
[14 marks]

Question 4

a) Very often in registration pages users are requested to enter their password twice.

(i) Why do users need to provide their password twice?

(ii) Are both passwords saved in the database or only one? Explain your answer.

(iii) Write the JavaScript code for the function **checkPassword(pwd, cpwd)** that checks if the password and confirm password are different. In case they are NOT the same a popup message should appear informing the user of it.

(iv) What is the purpose of returning true and false in a JavaScript validation function?

[2 + 2 + 4 + 2 marks]

b) Instead of checking if the id exists after submission of the form in Figure 2, another possibility is to have a button besides the txtId as shown in Figure 3 and use ajax to validate the value of txtId.

Figure 3 – Updated doctorRegistration.html

When the user clicks on the button 'Check Id', an AJAX function **checkId()** is called to check if the id already exists in the table **members**. The partial code for the function **checkId()** is provided in Code Listing 1.

(continued next page)

(Question 4 continued)

(i)   What is the implication of using Ajax on a web page?
(ii)   Write the HTML code to call function **checkId()** as described above.
(iii) Write the missing code in Code Listing 1.

```
function checkId(){
//missing code to capture id from the form.
envelop=new XMLHttpRequest();
//missing code to open a connection to checkId.php, to send data
// by method GET and capture result in function displayResult().
}
function displayResult(){
//missing code to display results in the div status }
}
```

Code Listing 1

[2 + 2 + 6 marks]

Question 5

The questions that follow refer to **register.html** shown Figure 4 below.

Figure 4

All validation code for the above web page has been written in an external file named **validations.js.**

a) Write the code snippet to link **validations.js** in **register.html**.

[1 mark]

b)   Write the HTML code such that when the button labelled 'Send Data' is clicked a function named **allvalidation** is called. (There is no need to write the whole HTML but only the code for the field(s) concerned. The form data should only be sent if all data is correct.)

[2 marks]

(continued next page)

4

4

(Question 5 continued)

c) Write the function **allvalidation**. This function is going to include function calls to the functions **validateUsernameBlank**, **validateUsernameLength** and **validateNumericPassword** which are described in parts below. Note that all function calls made to the functions need to be checked for true or false. The function **allvalidation** will return true only if all the functions have returned true. Even if at one function returns false, the function **allvalidation** will return false. You will have to pass parameters in your function calls, thus before attempting this part it is best to read the description of the functions **validateUsernameBlank**, **validateUsernameLength** and **validateNumericPassword** that follow.

[7 marks]

d) Write the JavaScript code for the function **validateUsernameBlank** that will check whether the text-box for username is blank. If it is blank, an alert should be displayed and the function return false. Else it returns true.

[3 marks]

e) Write the JavaScript code for the function **validateUsernameLength** that will check whether the username entered has a minimum length of 7 characters and maximum length of 10 characters. If it is less than 7 or more than 10, an alert with an error message should be displayed and the function should return false, otherwise it returns true.

[3 marks]

f) Write the JavaScript code for the function **validateNumericPassword** that will check whether the value entered in password textbox contains only numbers (0 to 9). If it contains any non-numeric character, an alert should be displayed and the function should return false, otherwise it returns true.

[4 marks]

Question 6

a) Refer to the page **doctorRegistration.html** in Figure 2 above and the table members where all the details have been saved. The page **displayDoctors.php** displays all doctors from the table members in a tabular format as shown in Figure 5 below.

    (i) Write the code **dbconnect.php** which is used to connect to the **doctors** database using username = 'root' and password=''.

                          [4 marks]

    (ii) Write the code for **displayDoctors.php**.

                          [10 marks]

List of all doctors

Name	Telephone	Address	Degree	Specialisation
John Smith	2563254	Reduit	MBBS	Pediatrician
Janet James	125632	Curepipe	MBBS	Surgeon
Chris Gable	6756789	Port-Louis	MBBS	Cardiologist

Figure 5 - displayDoctors.php

b) Write the jQuery code to hide a paragraph on double-clicking on it.

                          [6 marks]

END OF QUESTION PAPER

/sg