THE UNIVERSITY OF WESTERN AUSTRALIA

Achieving International Excellence

School of Computer Science and Software Engineering

SEMESTER 1, 2014 MIDTERM EXAMINATIONS

CITS3403
Web and Internet Technologies

FAMILY NAME: _____ GIVEN NAMES: _____

STUDENT ID: ☐☐☐☐☐☐☐ SIGNATURE: _____

This Paper Contains: **8** pages **(including title page)**
Time allowed: **45 minutes**

INSTRUCTIONS:

This midterm test consists of 5 questions, and is worth a total of 20 marks. The midterm contributes to 10% of the unit's final assessment.

Answer all questions. Answer the questions in the space provided. If not enough space, you can write the answers on the spare pages, but make sure you clearly identify which question you are answering.

You need to submit this test paper to the invigilator, but can keep the references with you.

PLEASE NOTE

Examination candidates may only bring authorised materials into the examination room. If a supervisor finds, during the examination, that you have unauthorised material, in whatever form, in the vicinity of your desk or on your person, whether in the examination room or the toilets or en route to/from the toilets, the matter will be reported to the head of school and disciplinary action will normally be taken against you. This action may result in your being deprived of any credit for this examination or even, in some cases, for the whole unit. This will apply regardless of whether the material has been used at the time it is found.

Therefore, any candidate who has brought any unauthorised material whatsoever into the examination room should declare it to the supervisor immediately. Candidates who are uncertain whether any material is authorised should ask the supervisor for clarification.

Supervisors Only - Student left at:

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1. [1 mark] What is the primary difference between the Internet and the Web?

2. [2 marks] Use HTML as an example to explain what a mark-up language is.

3. [3 marks] Use example CSS to demonstrate at least 6 different **types** of CSS selectors, and briefly explain how each one works.

4. [6 marks, 2 each] **DOM and DOM Event Model**

   1) Write an HTML page which has only one *form* with a set of *two radio buttons*. You only need to write the code producing the form and the radio buttons.

   2) Write JavaScript code to demonstrate at least three different ways of accessing the value of the first radio button.
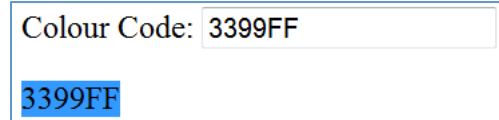
   3) Provide code to illustrate three different ways of registering an event handler when any of the radio buttons is clicked.

5. [8 marks] **Dynamic Content through DOM**

A RGB web safe colour is when each of the Red, Green and Blue component only takes a value from this set {00,33,66,99,CC,FF}. For example, "3399FF" is a web safe colour.

Below are the HTML code and the screenshot illustrating the functionality of the web page.

Colour Code:	3399FF
3399FF	

```html
<html>
   <head>
        <title>Questions</title>
        <script src="script.js"></script>
   </head>
   <body>
        <form id="wscolour">
             <label for="input">Colour Code:</label>
             <input type="text" id="input" />
        </form>
   </body>
</html>
```

Write a JavaScript function that
1) uses regular expression to check if the user input is a valid web safe colour. Note that the regex pattern needs to ensure that there are no extra characters before or after the valid colour code. Consider using the OR (|) metacharacter. [3 marks]
2) if invalid, popping out an alert window informing the user that only valid web safe colour code is allowed. [1 mark]
3) if valid, use DOM's `createElement()` and `appendChild()` methods to dynamically create a `<span>` element with the entered colour as background, and the colour code as content. [4 marks]

Note you will also need to write the code to register the function as an event handler.

Spare Page I

Spare Page I

Spare Page II

Spare Page II