

S228/204

DUBLIN INSTITUTE OF TECHNOLOGY
KEVIN STREET, DUBLIN 8

B.Sc. in Computer Science

Year 2

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Web Development

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Attempt **Section A**
and
1 question from *Section B*
and
2 questions from *Section C*.

All questions carry equal marks.

Section A

Compulsory

1. Attempt any 5 of parts (a), (b), (c), (d), (e) and (f).

- (a) (i) Identify two different types of list that is possible to produce using HTML. Distinguish between the two.
(ii) Give the HTML code that would produce the output below.

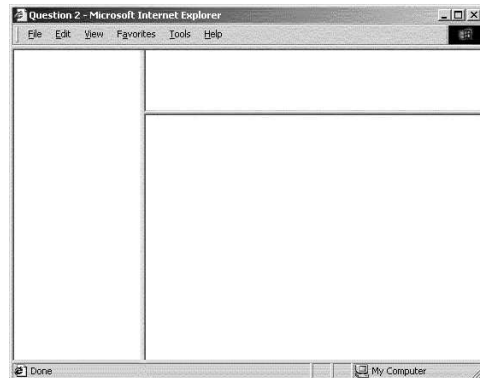
Colours

1. Dark
○ Black
○ Brown
2. Light
○ White
○ Yellow

(5 marks)

- (b) (i) Explain why it is necessary to give names to frames within a frameset.
(ii) Sketch the output produced by the code on the left below. Then alter the code below so that it produces the frameset shown on the right.

```
<frameset rows="100,*">  
  <frame name="banner" src="banner.htm">  
  <frameset cols="150,*">  
    <frame name="links" src="links.htm">  
    <frame name="main" src="main.htm">  
  </frameset>  
</frameset>
```



(5 Marks)

- (c) (i) Explain, in detail, exactly what the following piece of code does.

```
<SELECT NAME="menu" onchange=
    "alert(this.options[this.selectedIndex].text);">
<OPTION SELECTED>One
<OPTION>Two
<OPTION>Three
<OPTION>Four
<OPTION>Five
</SELECT>
```

- (ii) Rewrite the above piece of code as a scrollable list

(5 marks)

- (d) (i) Explain, in detail, exactly what the following piece of code does.

```
Sub addButton_onClick()
Dim value
    value=InputBox("Enter an Integer", "Input Box", ,1000,1000)
    total=CInt(total)+CInt(value)
    Call MsgBox("You entered " & value & "; total so far is " &
        total,, "Results")
End Sub
```

- (ii) How would this piece of code be used?

(5 marks)

- (e) (i) Explain, in detail, exactly what the following pieces of code do.

```
<script language="JavaScript">
<!--
    function change2locs(url1, url2) {
        parent.topFrame.location = url1;
        parent.mainFrame.location = url2;
    }
// -->
</script>
...
<form>
    <input type="button" value="OptionB"
        onclick="change2locs('Top_b.htm', 'Detail_b.htm');">
</form>
```

- (ii) These pieces of code use frames. Develop using HTML an appropriate frame structure and show where the pieces of code would reside.

(5 marks)

- (f) (i) Explain, in detail, exactly what the following piece of code does.

```
<SCRIPT LANGUAGE='JavaScript'>
<!--
var isNN, isIE;
if(parseInt(navigator.appVersion)>4){
    isNN=(navigator.appName=='Netscape');
    isIE=(navigator.appName.indexOf('Microsoft')!=-1)
}
//-->
</SCRIPT>
```

- (ii) Why would it be used?

(5 marks)

Section B
(Attempt 1 Question)

2. (a) “Internet applications are client server applications.”
Discuss this statement clearly outlining what is meant by the term “*client server*” and giving two sample applications.
(8 marks)
- (b) Give an account of the use of *Cascading Stylesheets*. In your answer you should use diagrams to show the different means by which CSS may be referenced. You should also supply some sample CSS code.
(8 marks)
- (c) In designing a web site you should consider the following
- Web Page Layout
 - Navigation Style
- Discuss each of these, indicating the choices that can be made and the necessity for making a good choice. You may refer to your own web site, or any other web site for the purpose of examples.
(9 marks)
3. (a) Give a brief account of each of the following Internet applications, giving a sample application for each.
- Ping
 - Telnet
 - FTP
- (6 marks)**
- (b) <http://www.company.com/intro.htm>
- (i) How would you link to the above URL from within a HTML document?
 - (ii) With reference to the URL above identify and explain each of the different components of a URL.
 - (iii) What part of a URL is missing from the one above? What purpose does it serve?
- (9 marks)**
- (c) You have been employed by the European Union. You are required to make a large amount of documentation available to the citizens of the Union. This information covers a wide range of topics. Outline how you would organise this information, and give two different means for delivering the information over the Internet. State, giving reasons for your preference for one over the other.
(10 marks)

Section C
(Attempt 2 Questions)

4. (a) What is a scripting language? Explain what a client-side web scripting language is, giving examples.

(5 marks)
- (b) Describe two things that a scripting language will allow you to do. Give examples of the scripting code needed to do each one

(12 marks)
- (c) What is a collection? Give two examples of collections, include JavaScript code to show how to use them.

(8 marks)
5. (a) What is a cookie? Describe the structure and format of a cookie. Explain why a cookie is a useful client-side feature.

(7 marks)
- (b) Develop a web page using JavaScript that will obtain by using a form the following user information: first name, surname, date of birth, The web page should write these details to a cookie which is available to all pages in your web site and should not expire

(10 marks)
- (c) Describe how you would retrieve the details as given in part (b) above from the cookie, using JavaScript code to illustrate your answer.

(8 marks)
6. (a) Using a diagram explain in detail the Document Object Model (DOM) What difficulties does a web developer face when using the DOM? Give one example to illustrate your answer.

(10 marks)

- (b) Choose any object in the DOM, describe the capabilities of the object and give an example of how to script it.

(6 marks)

- (c) Dynamic HTML (DHTML) is an amalgam of standards and technologies.
Discuss this statement explaining the different standards and technologies that make up DHTML.

(9 marks)