

THE UNIVERSITY OF AUCKLAND

SUMMER SEMESTER, 2010
 COMPUTER SCIENCE
 Mastering Cyberspace:
 An Introduction to Practical Computing

TEST
(Time allowed: 60 MINUTES)

Surname:	
Forenames:	
Student ID number:	
Login name (UPI):	

INSTRUCTIONS:

- Attempt **ALL** questions - write your answers in the box provided
- Calculators are **NOT** permitted

Question	Mark
Digital, Hardware, Software	(/25)
Internet	(/30)
XHTML and CSS	(/25)
Presentation	(/10)
Applications	(/10)

TOTAL:

(/100)

Digital Information, Hardware and Software (25 marks)

1. Representing information:

(i) How many different numbers can be represented by 4 bits?

(2 marks)

(ii) What decimal number is equivalent to the binary number 1010?

(2 marks)

(iii) What is the binary value of the decimal number 12?

(2 marks)

2. List three differences between primary and secondary storage.

1)

2)

3)

(3 marks)

3. Give one example of primary storage.

(1 mark)

4. Give one example of secondary storage.

(1 mark)

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5. Give **two** examples of output devices.

1) 2)

(2 marks)

6. What is the unit of measurement for clock speed?

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(2 marks)

7. List **two** differences between open standards and proprietary standards.

1) 2)

(2 marks)

8. Give **one advantage** and **one disadvantage** of using a command line interface (CLI) rather than using a GUI.

Advantage: Disadvantage:

(4 marks)

9. Give **two** examples of application software, and **two** examples of system software.

Application software 1) 2) System software 1) 2)

(4 marks)

Internet (30 marks)

10. What is the purpose of a router?

(2 marks)

11. What is the difference between a *domain name* and an *IP address*?

(2 marks)

12. Give one example of a domain name.

(2 marks)

13. Give one example of an IP address.

(2 marks)

14. Put the following historical events into chronological order (i.e. arrange the events in order with the earlier events listed before later events).

- (a) WWW created
- (b) First email sent across a network
- (c) Creation of the Advanced Research Agency Network (ARPANET)
- (d) First wiki created

1) (*earliest*)

2)

3)

4) (*latest*)

(4 marks)

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15. What is USENET?

(2 marks)

16. What advantage did ARPANET have over the traditional telephone exchange system?

(2 marks)

17. Which is larger, the Internet or the World Wide Web?

(2 marks)

18. State two differences between the POP3 and IMAP protocols.

1)

2)

(4 marks)

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19. Name two search engines.

1) 2)

(2 marks)

20. What is the term used to describe “good manners on the Internet”?

--

(2 marks)

21. What is *phishing*?

--

(2 marks)

22. Give one example of an *asynchronous* system of communication and one example of a *synchronous* system.

Asynchronous : Synchronous :

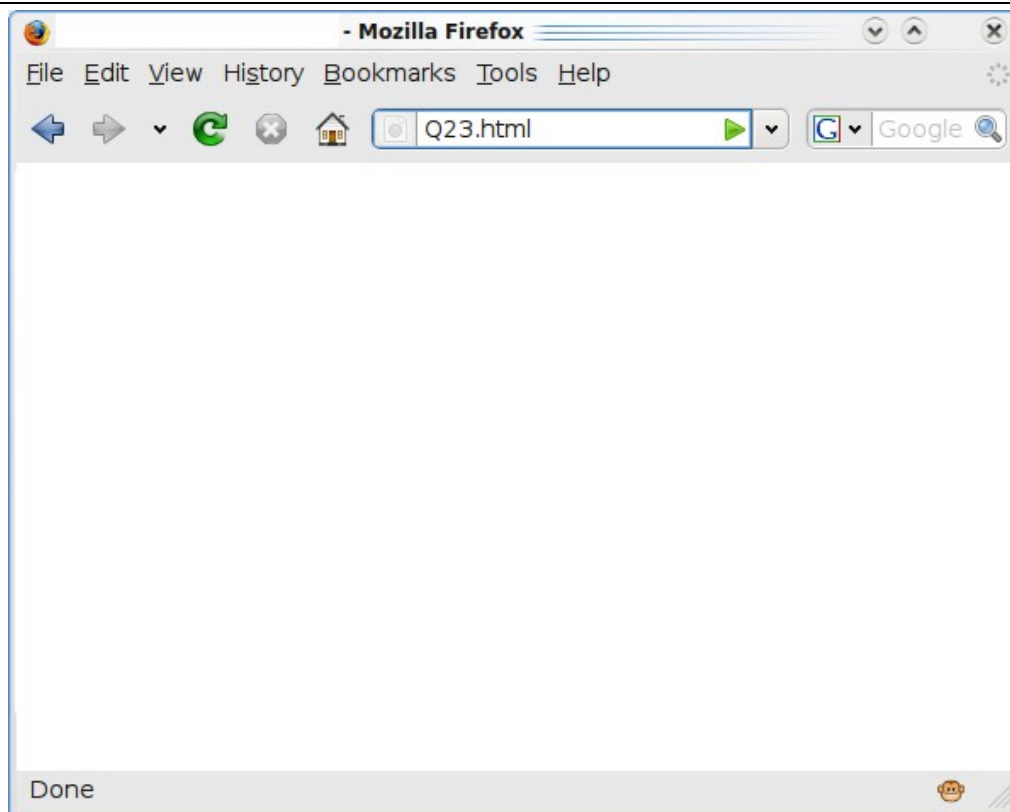
(2 marks)

XHTML and CSS (25 marks)

23. Given the following XHTML source, complete the expected output of a web browser in the screen-shot shown below.

```
<?xml version="1.0" encoding="utf-8">
<!DOCTYPE html PUBLIC
"-//W3C//DTD XHTML 1.0 Strict//EN"
http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd>

<html>
<head>
  <title>Question 23: XHTML</title>
</head>
<body>
  <h1>XHTML</h1>
  <p>
    Do
      you
  </p>
  <pre>
    know
      your
  </pre>
  <ol>
    <li>XHTML tags?</li>
    <li>CSS?</li>
  </ol>
</body>
</html>
```



(6 marks)

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24. In the following piece of XHTML 1.0 strict code, circle each error and write the correction in the line immediately underneath the error.

```
<body>
<h1>Test Question 24</h2>
<p>
This <b> very <i> important text </b></i> is part of a paragraph.
</p>
<br />
But this unimportant text is not.
</br>
<body>
```

(5 marks)

25. Suppose the file at URL `http://www.example.com/index.html` needs to contain a hyperlink to a file `http://www.example.com/test/link.html`.

Complete the XHTML code for this link as a **fully specified URL**, and as a **relative URL**.

```
Fully Specified URL:
<a href="                "> </a>

Relative URL:
<a href="                "> </a>
```

(4 marks)

26. Associate each of the following three descriptors with the correct segment of the given style rule.

Descriptors: Selector, Property, Value

Style Rule: `h1 { color:blue; }`

```
Selector:
Property:
Value:
```

(3 marks)

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27. Define an XHTML CSS style rule that makes **all** paragraphs red and aligned to the right.

(3 marks)

28. Suppose we have the style rules:

```
.bright {color:red;}  
#heavy {font-weight:bold;}
```

Use these rules to complete the XHTML code making the first line red, and the second line bold.

```
<p                                >First line</p>  
  
<p                                >Second line</p>
```

(4 marks)

Presentation (10 marks)

29. List **four** mistakes that can be made in the design of a PowerPoint slide.

1)
2)
3)
4)

(4 marks)

30. What is a *master slide*?

--

(2 marks)

31. Why should text in a web page not be underlined?

--

(2 marks)

32. What is the three-click rule?

--

(2 marks)

Applications (10 marks)

33. For each of the following, state which compression algorithm (JPEG, SVG, PNG, GIF) would be the most appropriate:

- 1) Photos:
- 2) Graphics with more than 256 colours:
- 3) Simple geometric shapes:

(3 marks)

34. How many **bytes** are required for a 4 colour image 40 pixels wide and 10 pixels high? Show **all** your working.

(3 marks)

35. What is the difference between a *text editor* and a *word processor*?

(2 marks)

36. Give **two** advantages of using user defined styles in a word processing application like Microsoft Word.

- 1)
- 2)

(2 marks)

ID Number

OVERFLOW PAGE

(If you have used this page, please indicate clearly under the relevant question that you have overflowed to this page)

ID Number

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ID Number

ROUGH WORKING

(You may detach this sheet from the test script and use it for working.
This sheet will not be marked)

ID Number

ROUGH WORKING

(You may detach this sheet from the test script and use it for working.
This sheet will not be marked)