

THE UNIVERSITY OF AUCKLAND

SUMMER SEMESTER, 2013

Campus: City

Computer Science

Mastering Cyberspace: An Introduction to Practical Computing

TERMS TEST

(Time Allowed: ONE hour)

- NOTE:
- Calculators are **not** permitted
 - There is space at the back for answers that overflow the allotted space.

Surname	
Forenames	
Student ID	
Login (UPI)	

	Question	Mark	Out Of
1 - 8	Digital, Hardware, Software		25
9 - 18	Internet		25
19 - 21	XHTML and CSS		25
22 - 27	Applications and Graphics		15
28 - 32	Presentation		10
	TOTAL		100

Digital Information, Hardware and Software (25 marks)

1. Why are numbers on a computer represented in the binary number system?

(2 marks)

2. Storing information:

(a) How many digits are required to represent the binary number 11101 in the decimal number system?

(2 marks)

(b) What decimal number is equivalent to the binary number 100101?

(2 marks)

(c) What binary number is equivalent to the decimal number 66?

(2 marks)

3. What RAID level is best used to **increase speed**?

(2 marks)

4. Name **three** standard slots which are used for expansion cards to plug into the Motherboard.

1) 2) 3)

(3 marks)

5. What is an expansion card and what is its purpose? Name one example of an expansion card.

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(3 marks)

6. Is the statement “Software is loaded from primary memory into secondary storage before it is executed” correct? Briefly explain your answer.

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(3 marks)

7. What does the file format define and how does the Windows Operating System identify the format of a file?

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(3 marks)

8. What is proprietary software? Can freeware be proprietary software?

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(3 marks)

Internet (25 marks)

9. Name **one** type of data that a centralized network is better at transporting than a modern decentralized network.

(2 marks)

10. List **three** sets of rules and/or procedures that internet protocols include.

1)

2)

3)

(3 marks)

11. Name **two** common internet protocols and state what each of these protocols is used for.

1)

2)

(3 marks)

12. What does TCP stand for and what does it do?

(4 marks)

13. Approximately how long does it normally take to transport an email from the sender's account to the recipient?

(2 marks)

Question/Answer Sheet

14. When addressing an email, what are “CC” and “BCC” used for?

(2 marks)

15. In a chat system how do the clients know which of your contacts are online?

(2 marks)

16. What are web agents?

(2 marks)

17. What is a Firewall?

(2 marks)

18. When using Wikimark to design a wiki page, what characters are used to identify a **heading**, to **emphasise** text and to insert a **link to the author**?

Heading:

Emphasise:

Link to the author:

(3 marks)

XHTML and CSS (25 marks)

19. The following screenshot shows a web page created using XHTML 1.0 Strict and CSS. Complete the source code on the following page that would result in the web page shown below. You **must** use the style rules provided in the internal style sheet and **must not** add any new styles.

The image is stored in a file called “**skytower.jpg**” in the same folder as your web page. You must also provide an alternative description for the image in case it cannot be displayed. The destination for the link is “**[http://en.wikipedia.org/wiki/Sky_Tower_\(Auckland\)](http://en.wikipedia.org/wiki/Sky_Tower_(Auckland))**”.



The screenshot shows a web browser window with a single tab titled "Sky Tower". The browser's address bar is empty, and the page content is centered. At the top, the title "Sky Tower" is displayed in a large, bold, black serif font. Below the title is a vertical photograph of the Sky Tower in Auckland, New Zealand, illuminated with blue and white lights at night. Underneath the image, the text "A few facts about the Sky Tower:" is followed by a bulleted list. The first bullet point states "Location: Auckland, New Zealand" and the second states "Height: 328 metres". At the bottom of the page, there is a line of text: "For more information click [here](\"http://en.wikipedia.org/wiki/Sky_Tower_(Auckland)\")."

```
<?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 xmlns="http://www.w3.org/1999/xhtml" xml:lang="en" lang="en">
  <head>
    <title>Sky Tower</title>
    <style type="text/css">
      .text {text-align:center;}
      #italic {font-style:italic;}
      .blue{color:blue;}
      .boldtext{font-weight:bold;}
    </style>
  </head>
  <body>

  </body>
</html>
```

(12 marks)

20. In the following piece of XHTML 1.0 Strict code, circle each error and write a correction in the line immediately beneath the error.

```
<?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 xmlns="http://www.w3.org/1999/xhtml" xml:lang="en" lang="en">

<heading>

<title>What is incorrect?</title>

<style type="text/cts">
    .writing (text-align= center;)
</style>

</heading>

<body>

    <h0>Find the errors</h0>

    <b id="writing">How many errors can you find?</b>

</body>

<html>
```

(7 marks)

21. Using XHTML 1.0 Strict code, insert the correct code into the space below so that the following table is displayed:

Sat	Sun	Mon
Fine	Cloudy	Wet

```
<?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 xmlns="http://www.w3.org/1999/xhtml" xml:lang="en" lang="en">
  <head>
    <title>Table</title>
  </head>
  <body>

</body>
</html>
```

(6 marks)

Applications and Graphics (15 marks)

22. What does ASCII stand for? What is ASCII?

(4 marks)

23. How many **bytes** are required for a 16 colour image 15 pixels wide and 30 pixels high?
Show **all** your working.

(3 marks)

24. In a digital image what does the image resolution represent?

(2 marks)

25. When an image is displayed on an output device, which device has a higher resolution: printer or screen?

(2 marks)

26. How many bits are required for each pixel in a black and white bitmap image?

(2 marks)

27. What is the name of the application that was taught in the lectures and labs, that is used to maintain a database of references and can be used to add citations to documents?

(2 marks)

Presentation (PowerPoint and Web) (10 marks)

28. State a potential benefit and a potential problem of showing one point at a time in a presentation?

Benefit:
Problem:

(2 marks)

29. You would like to inform your audience about the rainfall in Auckland in each month of the year. Should you use a graph, table, or text? Briefly explain why.

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(2 marks)

30. List **two** elements of a PowerPoint presentation affected by the design theme.

1)
2)

(2 marks)

31. What is the difference between a web page and a web site?

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(2 marks)

32. Give advice on two things to avoid when designing a website. Choose things which **would not** apply to designing a PowerPoint presentation.

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(2 marks)

- Overflow Sheet 1 -

Write the question number and letter next to your answer. You must ALSO indicate in the allotted space that you have used the overflow sheet.

- Overflow Sheet 2 -

Write the question number and letter next to your answer. You must ALSO indicate in the allotted space that you have used the overflow sheet.

Rough Working – This page will not be marked

Rough Working – This page will not be marked

