

THE UNIVERSITY OF AUCKLAND

SECOND SEMESTER, 2008
Campus: City

COMPUTER SCIENCE

Mastering Cyberspace: An Introduction to Practical Computing

(Time Allowed: ONE hour)

NOTE: You must answer **all** questions in this test.
No calculators are permitted
 Answer Section A (Multiple choice questions) on the Teleform answer sheet provided. Answer Section B in the space provided in this booklet.
 There is space at the back for answers that overflow the allotted space.

Surname	Sample
Forenames	Answers
Student ID	
Login (UPI)	

	Question	Mark	Out Of
1 - 20	Multiple Choice		50
21	Acronyms		10
22	Digital Images and Internet		20
23	XHTML and CSS		20
TOTAL			100

CONTINUED

SECTION A**MULTIPLE CHOICE QUESTIONS**

Each question in this section is worth 2.5 marks. There is only one correct answer for each question. Select your preferred alternative on the Teleform answer sheet provided.

Question 1

How many different numbers can be represented by 5 bits?

1. 24
2. 40
3. 16
4. 10
5. 32

Question 2

What decimal number is equivalent to the binary number 1011?

1. 12
2. 22
3. 9
4. 26
5. 11

Question 3

What binary number is equivalent to the decimal number 7?

1. 1101
2. 0111
3. 1001
4. 0101
5. 1011

Question 4

Which of the following lists are in increasing magnitude from **smallest** to **largest**?

1. 1MB, 1024KB, 1MiB
2. 1MB, 1MiB, 1000KiB
3. 1000KB, 1MiB, 1024KiB
4. 1000KiB, 1000KB, 1MB
5. 1024KiB, 1000KB, 1024KB

Question 5

Which of the following statements about hardware is **false**?

1. The main purpose of a CPU is to move information from one part of the motherboard to another
2. Fans are required to cool down most CPUs so they don't overheat
3. The CPU is plugged into a socket on the motherboard
4. The clock speed of a CPU is usually measured in Hz
5. Intel and AMD are two common manufacturers of CPUs

Question 6

Which of the following statements about memory and storage is **true**?

1. A hard drive has no moving parts
2. RAM typically has a fan attached so that it doesn't overheat
3. Accessing information in a hard drive is faster than accessing information stored in RAM
4. When power is switched off, any information in a hard drive is lost
5. For a given amount of memory, RAM is more expensive than a hard drive

Question 7

Which of the following pieces of hardware is normally categorised as a communication device?

1. Keyboard
2. Modem
3. Screen
4. Web camera
5. System unit

Question 8

Which of the following companies developed Acrobat Reader?

1. Microsoft
2. Apple
3. Adobe
4. Google
5. Corel

Question 9

Which of the following statements about software is **false**?

1. An open file format stores information using a published standard that has no restrictions on use
2. Open file formats can be used legally by proprietary software
3. Proprietary file formats can be used legally by open-source software
4. Windows uses file extensions to determine which application to use when a file is opened
5. A proprietary file format is covered by a patent or copyright that restricts use

Question 10

Which of the following lists of events is arranged in correct **chronological** order?

1. ARPANET started
TCP/IP developed
Domain Name System used
NZ connected to the Internet
WWW released
2. ARPANET started
TCP/IP developed
NZ connected to the Internet
Domain Name System used
WWW released
3. ARPANET started
NZ connected to the Internet
TCP/IP developed
Domain Name System used
WWW released
4. WWW released
Domain Name System used
TCP/IP developed
NZ connected to the Internet
ARPANET started
5. ARPANET started
NZ connected to the Internet
TCP/IP developed
WWW released
Domain Name System used

Question 11

Which of the following statements about TCP/IP is **false**?

1. An IP address consists of 4 numbers separated with full stops.
2. TCP divides a message into packets and combines the packets into the message
3. TCP is for packet-switching networks and IP is for circuit-switching networks
4. TCP and IP are two different protocols
5. IP is used to specify the location (address) of computers on the Internet

Question 12

Which of the following statements about email is **true**?

1. A recipient that was sent a message using CC cannot tell who else received the message
2. Email is sent and received using different protocols
3. Richard Stallman sent the first email message in 1971
4. Email stands for Electronic Message And Internet Language
5. A recipient that was sent a message using BCC cannot tell who sent the message

Question 13

Which of the following statements **best** describes a blog?

1. A blog is a web site that is used for political movements by giving people a voice
2. A blog is a web site in which posts are made in chronological order
3. A blog is a web site that allows people to work together collaboratively
4. A blog is a web site that is easy to use and shares information with the public
5. A blog is a web site written by children that invites the wrong kind of attention

Question 14

Which of the following is both an **advantage** and a **disadvantage** of wikis?

1. They are self-moderating
2. Administrators can set restrictions on access to some pages
3. They include change management tools
4. They are easy to use
5. Anyone can make changes to the content

Question 15

Given that 'a' is represented by the ASCII value 97 and 'A' is represented by the value 65, what sequence of ASCII codes represents the word "Face"?

1. 102 97 99 101
2. 102 65 67 69
3. 70 97 99 101
4. 102 97 67 69
5. 70 65 67 69

Question 16

If you want to display a photograph on a web page, which format should you use?

1. GIF
2. SVG
3. JPG
4. PNG
5. BMP

Question 17

Which of the following statements about animation effects are **CORRECT**?

- A. Movements should contribute to an audience's understanding of your information.
B. Movements can draw attention.
C. Excess movements can be distracting
1. B only
 2. A only
 3. C only
 4. A, B and C
 5. A and B only

Question 18

Which of the following statements is **NOT** a guideline for showing textual links?

1. Don't place links so close together that users will have difficulty on selecting them.
2. Use blue colour for emphasis with text that's not a link.
3. Don't use tiny text for links.
4. Don't underline any normal text that's not a link
5. Textual links should be coloured and underlined to achieve the best perceived affordance of clickability.

Question 19

Which of the following statements about design themes is **NOT** correct?

1. They make the content flow more logically.
2. They provide a consistent look for all slides in a presentation.
3. They contain many pre-set combinations of background and fonts
4. They enhance the visual quality of presentations.
5. They ease the process of designing individual slides.

Question 20

Which of the following statements about using colours/background in presentations is **recommended**?

1. Use a different colour for each point
2. Use red text on dark blue background
3. Use contrasting colours for text and background
4. Use red text on green background
5. Use patterned or textured backgrounds as frequently as possible

SECTION B

Answer all questions in this section in the space provided. If you run out of space then please use the Overflow sheet and indicate in the allotted space that you have used the overflow sheet.

Question 21: State what each of the following acronyms stand for.

(a) What does CSS stand for?

Cascading Style Sheets

(2 marks)

(b) What does ASCII stand for?

American Standard Code for Information Interchange

(2 marks)

(c) What does HTTP stand for?

HyperText Transfer Protocol

(2 marks)

(d) What does HTML stand for?

HyperText Markup Language

(2 marks)

(e) What does CPU stand for?

Central Processing Unit

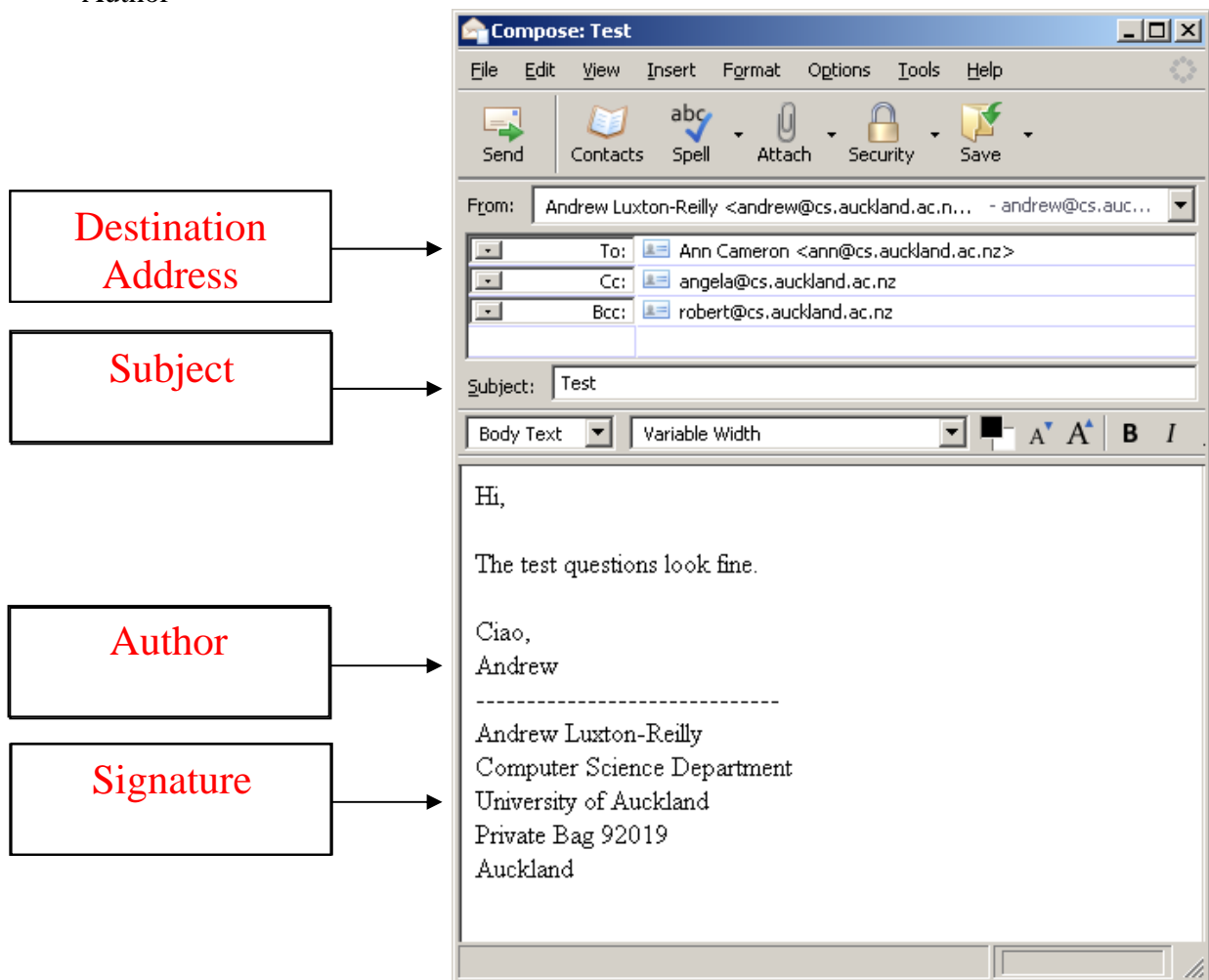
(2marks)

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Question 22: The following questions relate to digital images and the Internet.

(a) Given the following labels, write the most appropriate label in the gaps provided on the diagram below. Not all labels will be used. (2 marks each)

- Footer
- Footnote
- Signature
- Message
- Source address
- Destination address
- Message subject
- Author



(8 marks)

(b) Who will receive the message shown above when it is sent?

Ann Cameron, Angela, Robert

(2 marks)

(c) Given an image with 8 colours, 80 pixels wide and 10 pixels high, how many bytes will it take to store the image. Show your working.

$$\begin{aligned}\text{Number of pixels} &= 10 * 80 \\ &= 800 \text{ pixels}\end{aligned}$$

8 colours needs 3 bits per pixel

$$\begin{aligned}\text{So bits required} &= 3 * 800 \\ &= 2400 \text{ bits}\end{aligned}$$

Since there are 8 bits in a byte,

$$\begin{aligned}\text{Number of bytes} &= 2400 / 8 \\ &= \underline{300 \text{ bytes}}\end{aligned}$$

(5 marks)

(d) For each of the following methods of communication, state whether they are **synchronous** or **asynchronous**:

Wiki: **Asynchronous**

Forum: **Asynchronous**

Email: **Asynchronous**

Instant Message: **Synchronous**

Telephone Call: **Synchronous**

(5 marks)

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Question 23: The following questions relate to XHTML and CSS.

(a)

The following web page has been successfully validated as XHTML 1.0 Strict. On the following page, draw what the page will look like when it is displayed by a web browser.

```
<?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>Test</title>
<style type="text/css">

body
{
  text-align: center;
}

h2
{
  border-style: solid;
  border-width: 5px;
  text-align: right;
}

p
{
  text-align: left;
}

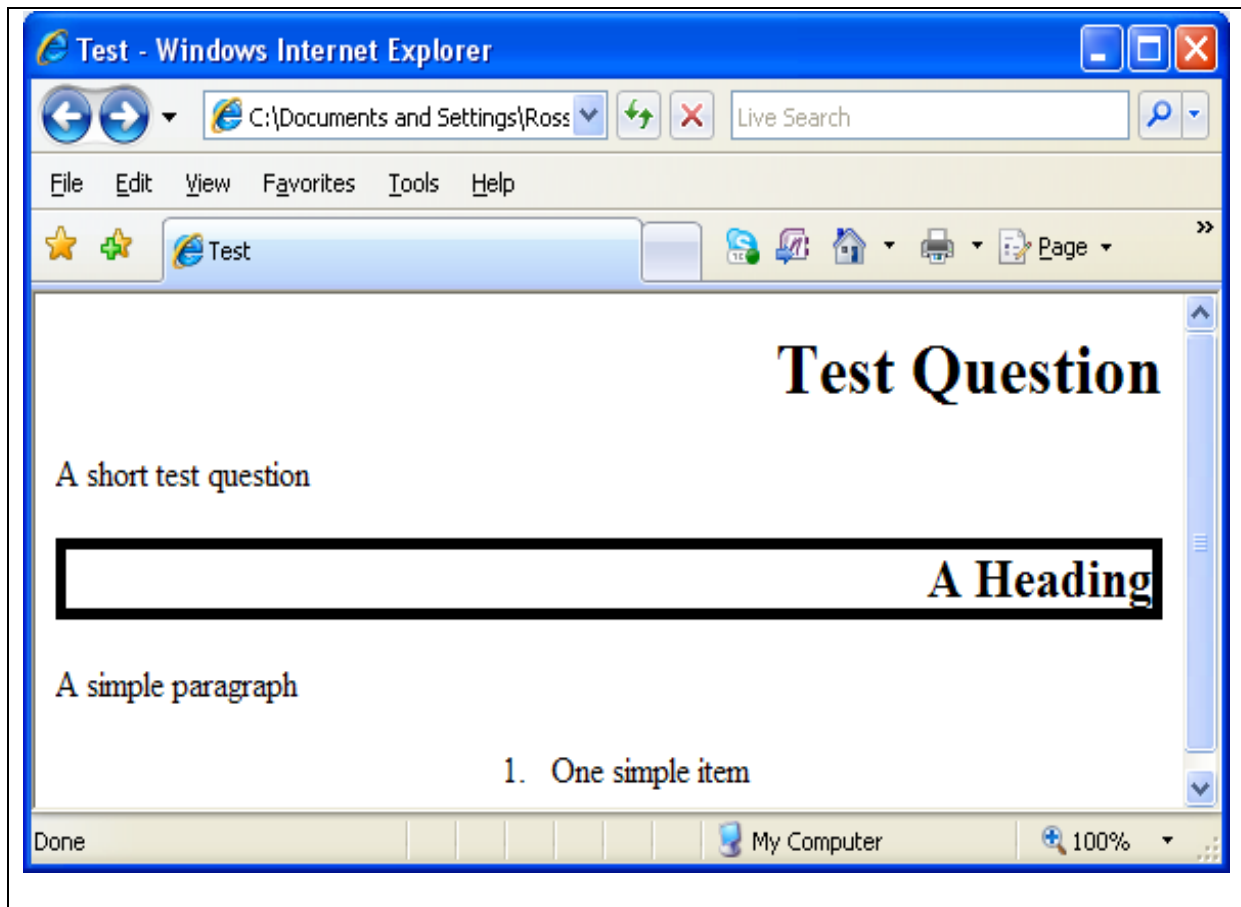
.simple
{
  text-align: right;
}

#simple
{
  text-align: left;
}

</style>
</head>

<body>
<h1 class="simple">Test Question</h1>
<p>A short test question</p>
<h2>A Heading</h2>
<p>A simple paragraph</p>
<ol>
<li>One simple item</li>
</ol>
</body>
</html>
```

CONTINUED



(10 marks)

(b) Write the valid XHTML 1.0 strict source code that will create a hypertext reference. The text that appears on the page should be Google, and the destination of the link should be the website at the host domain name **www.google.com**.

```
<a href="http://www.google.com">Google</a>
```

(3 marks)

(c) Write the valid XHTML 1.0 strict source code that will display an image of a giraffe. The address of the image is "**http://www.zoo.com/giraffe.jpg**".

```
<img src = "http://www.zoo.com/giraffe.jpg" alt = "giraffe"></img>
```

(3 marks)

CONTINUED

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(d) Write the valid XHTML 1.0 strict source code that will create a table containing one column and three rows. The table contains the text as shown in the following diagram:

First row
Second row
Third row

Note that you do not have to include the style that will display the borders. Your XHTML code should create the correct structure and content.

```
<table>
  <tr>
    <td style = "text-align:center"> First row </td>
  </tr>
  <tr>
    <td style = "text-align:center"> Second row </td>
  </tr>
  <tr>
    <td style = "text-align:center"> Third row </td>
  </tr>
</table>
```

(4 marks)

ID.....

Rough Working – This page will not be marked

