THE UNIVERSITY OF AUCKLAND

SECOND SEMESTER, 2011
Campus: City / Epsom

Computer Science

Mastering Cyberspace: An Introduction to Practical Computing

(Time Allowed: ONE hour)

NOTE:
- No calculators are permitted
- Compare the test version number on the Teleform sheet supplied with the version number above. If they do not match, ask the test supervisor for a new sheet.
- Enter your name and student ID on the Teleform sheet. Your name should be entered left aligned. If your name is longer than the number of boxes provided, truncate it.
- Answer Section A (Multiple choice questions) on the Teleform answer sheet provided. Answer Section B in the space provided in this booklet.
- Use a dark pencil to shade in your answers in the multiple choice answer boxes on the Teleform sheet. Check that the question number on the sheet corresponds to the question number in this question book. If you spoil your sheet, ask the supervisor for a replacement.
- 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 - 30	Multiple Choice		75
31	XHTML and CSS		25
TOTAL			**100**

SECTION A

MULTIPLE CHOICE QUESTIONS

Each question in this section is worth 2.5 marks. For each question, choose the best answer according to the information presented in lectures. Select your preferred alternative on the Teleform answer sheet provided.

Question 1
[2.5 marks] In what order did the following events occur?

    (a) ARPANET created, World War II ended, World Wide Web created, Internet created
    (b) World War II ended, ARPANET created, Internet created, World Wide Web created
    (c) World War II ended, ARPANET created, World Wide Web created, Internet created
    (d) ARPANET created, World War II ended, Internet created, World Wide Web created
    (e) World War II ended, World Wide Web created, ARPANET created, Internet created

Question 2
[2.5 marks] Which of the following statements about packet-switching networks is FALSE?

    (a) Best for real-time data packets
    (b) Messages broken into packets
    (c) Each packet sent independently
    (d) Packets can avoid broken/slow nodes on the way to their destination
    (e) Nodes can route data packets efficiently to their destinations

Question 3
[2.5 marks] Which of the following statements about a LAN is FALSE?

    (a) Can host peer-to-peer software
    (b) Can host Intranet
    (c) Ethernet is the protocol used on a LAN
    (d) A computer network that spans distances over 1 km
    (e) Can host client server software

Question 4
[2.5 marks] Which of the following statements about TCP is FALSE?

    (a) Defines addresses for computers on the network
    (b) Makes sure packets are not sent faster than they can be received
    (c) Checks that all packets arrive
    (d) Combines packets to reform message
    (e) None of the above

Question 5

[2.5 marks] Which email system downloads the email from the server to the local computer and then deletes it from the server?

(a) DNS

(b) SMTP

(c) POP3

(d) IP

(e) IMAP

Question 6

[2.5 marks] Which of the following systems is asynchronous?

(a) Instant Messaging

(b) Chat rooms

(c) Forums

(d) Telephone

(e) None of the above

Question 7

[2.5 marks] Which of the following statements about a blog is FALSE?

(a) A blog is a type of website.

(b) Anyone can read the page.

(c) Very easy to use.

(d) Posts are made in chronological order.

(e) Anyone can edit or remove the contents of a page.

Question 8

[2.5 marks] With regard to the URL http://ihug.co.nz/andrew-l/index.html, in what order do these appear?

(a) path, protocol, file name, domain

(b) domain, protocol, path, file name

(c) protocol, domain, path, file name

(d) protocol, domain, file name, path

(e) domain, protocol, file name, path

Question 9

[2.5 marks] Which of the following statements about web browsers is FALSE?

(a) Web browsers send requests to a web server

(b) Software used to access information on the World Wide Web

(c) Web browsers are easy to use

(d) Web browsers are client software

(e) Software that makes local files available through the web

Question 10
[2.5 marks] What does WYSIWYG stand for?

    (a) What you see is what you gave
    (b) Where you see it when you go.
    (c) Where you sent it when you go.
    (d) What you see is what you get
    (e) Why you see it when you go

Question 11
[2.5 marks] Which of the following statements about PostScript is FALSE?

    (a) Made up of a matrix of dots
    (b) Language used by laser printers
    (c) Tells the printer how and where to display text
    (d) Started Desktop Publishing revolution
    (e) None of the above

Question 12
[2.5 marks] Which of the following statements about EndNote is FALSE?

    (a) EndNote is a plugin for web browsers
    (b) EndNote has built-in styles
    (c) EndNote maintains a database of references
    (d) EndNote adds citations to documents
    (e) EndNote maintains consistent referencing / bibliographic information

Question 13
[2.5 marks] What is "FOUR" in ASCII if 65 is capital A?

    (a) 69, 78, 86, 83
    (b) 69, 78, 84, 81
    (c) 71, 80, 86, 83
    (d) 70, 79, 85, 82
    (e) 71, 80, 84, 81

Question 14
[2.5 marks] How many bits are required for an 8 colour image 100 pixels wide by 4 pixels high?

    (a) 400 bits
    (b) 160 bits
    (c) 3200 bits
    (d) 800 bits
    (e) 1200 bits

Question 15

[2.5 marks] What format is the best for a photographic image?

(a) gif
(b) avi
(c) svg
(d) jpeg
(e) png

Question 16

[2.5 marks] What format is the best for a graphic image with 512 colours?

(a) gif
(b) png
(c) ftp
(d) jpeg
(e) avi

Question 17

[2.5 marks] Which of the following statements about vector graphics is FALSE?

(a) Loses image quality when enlarged
(b) Memory independent of the image size
(c) Objects represented independently
(d) Defined by mathematical formulae
(e) Very small memory requirements

Question 18

[2.5 marks] What binary number is represented by the decimal number 18?

(a) 1 0100
(b) 1 1001
(c) 1 0010
(d) 1 0001
(e) 1 1100

Question 19

[2.5 marks] What decimal number is represented by the binary number 1110?

(a) 28
(b) 14
(c) 7
(d) 24
(e) 12

Question 20

[2.5 marks] Which of the following values is the biggest?

    (a) 1 GB
    (b) 1 KB
    (c) 1 TB
    (d) 1 MB
    (e) 1,000,000,001 B

Question 21

[2.5 marks] Which piece of hardware is typically measured in GHz today?

    (a) PCI
    (b) HDD
    (c) RAID
    (d) DVD
    (e) CPU

Question 22

[2.5 marks] How big is the primary memory of the computer specified in the advertisement below?

    Intel Dual Core G620 2.6GHz, 3MB Smart Cache
    Intel H61 Chipset MicroATX
    4GB DDR3-1600 RAM
    256MB Integrated Intel Graphics Media Accelerator 3100
    Onboard Channel HD Audio
    On board 10/100 LAN
    500GB SATAII HDD, 6Gb/s, 64MB cache
    24X DVD Writer
    400W ATX PSU
    ATX Tower Case

    (a) 500GB
    (b) 3MB
    (c) 64MB
    (d) 4GB
    (e) 256MB

Question 23

[2.5 marks] Moore's Law states that "The number of transistors on a single chip doubles every 18 months, while the price remains the same". Given this law, if a CPU took 1 hour to complete a task in 1996, how long would it have taken a similarly priced CPU in 1990?

  (a) 12 hours
  (b) 32 hours
  (c) 8 hours
  (d) 16 hours
  (e) 4 hours

Question 24

[2.5 marks] Which of the following statements about hardware is TRUE?

  (a) A RAID can be used to hack into a network that doesn't use a firewall
  (b) USB ports are used exclusively for input devices, so output devices cannot be connected using USB.
  (c) RAM is volatile memory that only stores information while the electricity is on
  (d) Most modern CPU's use multiple graphite cores to prevent overheating
  (e) A fatherboard is used in servers and mainframes while a motherboard is used primarily in desktop PC's

Question 25

[2.5 marks] Which of the following statements is FALSE?

  (a) Windows uses the file extension to determine which application to use when it opens a file.
  (b) All information in a file is stored as binary numbers
  (c) Software patents are not legally recognized in all countries
  (d) Both programs and data are stored in files
  (e) If a file can be opened by an application then it uses an open standard

Question 26

[2.5 marks] Which of the following statements is FALSE?

  (a) Copyright law applies to software, so a program cannot be copied without the explicit permission of the developer, even if you are shown the source code.
  (b) An operating system consists of many programs that manage the hardware, including diagnostic and maintenance tools
  (c) Freeware is sometimes proprietary software that cannot be modified by users.
  (d) Open-source software allows you access to the instructions used to build the software so you can study how the software was written.
  (e) A command line interface is a recent development that allows a user to control a system using voice-recognition software simply by speaking commands.

Question 27

[2.5 marks] Which of the following is NOT an operating system?

    (a) Linux
    (b) Apple iOS
    (c) Macintosh OSX
    (d) Google Android
    (e) Microsoft Internet Explorer

Question 28

[2.5 marks] What is Edwarde Tufte's main criticism of PowerPoint?

    (a) Presentations created on one system will not always appear the same on another system
    (b) PowerPoint is a proprietary product and it is better to use an open source product such as Open Office
    (c) High quality presentations that make frequent use of images result in very large files.
    (d) The range of templates and design themes are too limited
    (e) It encourages users to focus on the appearance of a presentation rather than the content

Question 29

[2.5 marks] Which of the following would you expect to see on a well-designed web site?

    (a) Text that uses standard formatting such as underlining to represent important words
    (b) Animated text to attract the interest of the viewer
    (c) Use of consistent layout and design for web pages within a site
    (d) Links that say "click here" to indicate clearly where the links are located
    (e) Use of colour to indicate function such as red for stop and green for go

Question 30

[2.5 marks] Which of the following counts as good advice for PowerPoint slides?

    (a) Use at least 18pt font to ensure the text is visible
    (b) Vary the background and fonts throughout the presentation to make it more interesting
    (c) Animate important words in bullet points to emphasise them
    (d) Use a different colour for each point
    (e) Use all capital letters for important sentences

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.

THIS REST OF THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK.

Question 31 XHTML and CSS

The following XHTML tags have been included as a reference for this question. You will not need to use all of these tags.

XHMTL Tags

html	h1 – h6	ol
head	p	li
title	br	dl
body	ul	dt
img	table	dd
a	tr	span
pre	td	div

(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.

Note that the web page uses both internal and external style sheets.

```
<?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">

<head>
  <title>Science</title>
  <link rel="stylesheet" href="test.css" type="text/css" />
  <style type="text/css">
    .mid {text-align:center;}
  </style>
</head>

<body>

  <h1 class="mid">Knowledge is Power</h1>
  <p>Science has transformed life in the 21st Century</p>
  <p id="footer">Science seeks to transform observations into
Knowledge</p>

</body>
</html>
```

The external style sheet is defined in a file called "test.css", with the contents:

```
h1 {text-align:right;}
#footer {text-transform: uppercase;}
.lower {text-transform: lowercase;}
```
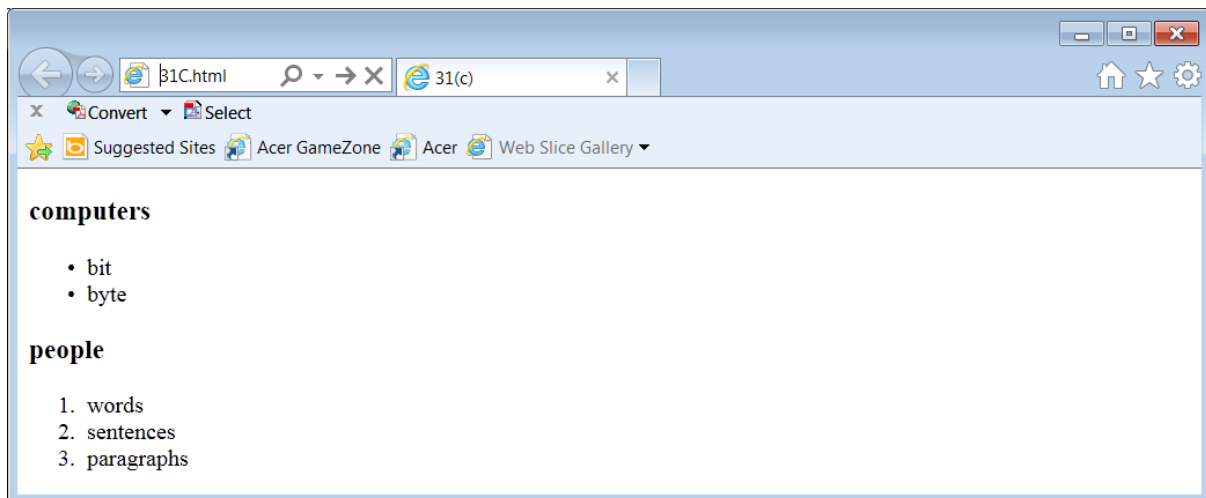
(6 marks)

(b) In the box below, complete the XHTML 1.0 strict code segment that produced the table above.
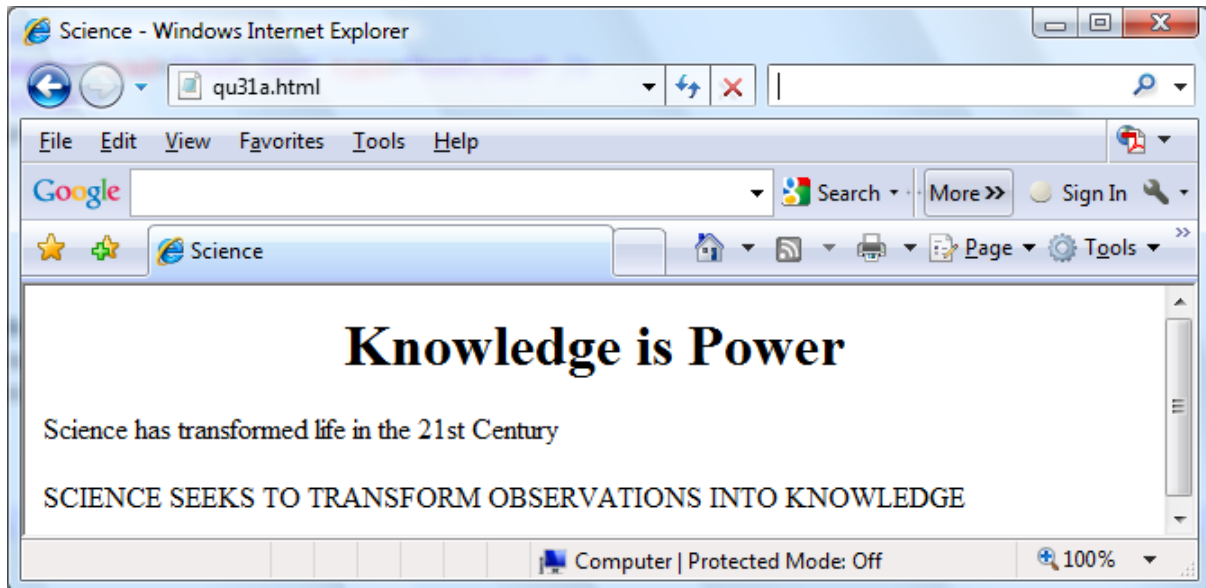
```
<table border = "2px" style="text-align:center">
<tr>
     <td>computers</td> <td>people</td>
</tr>
<tr>
     <td>bit</td> <td>words</td>
</tr>
<tr>
     <td>byte</td> <td>sentences</td>
</tr>
<tr>
     <td></td> <td>paragraphs</td>
</tr>
</table>
```

(6 marks)

(c) In the box below, complete the XHTML 1.0 Strict code segment that would produce the above headings and lists, where "**computers**" and "**people**" are both third-level headings:

```
<body>

<h3>computers</h3>

<ul>
    <li>bit</li>
    <li>byte</li>
</ul>

<h3>people</h3>

<ol>
    <li>words</li>
    <li>sentences</li>
    <li>paragraphs</li>
</ol>

</body>
```
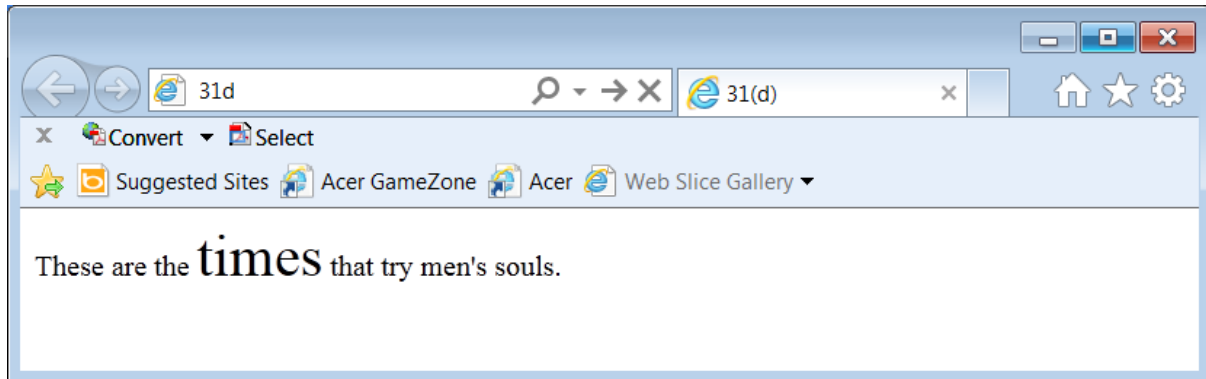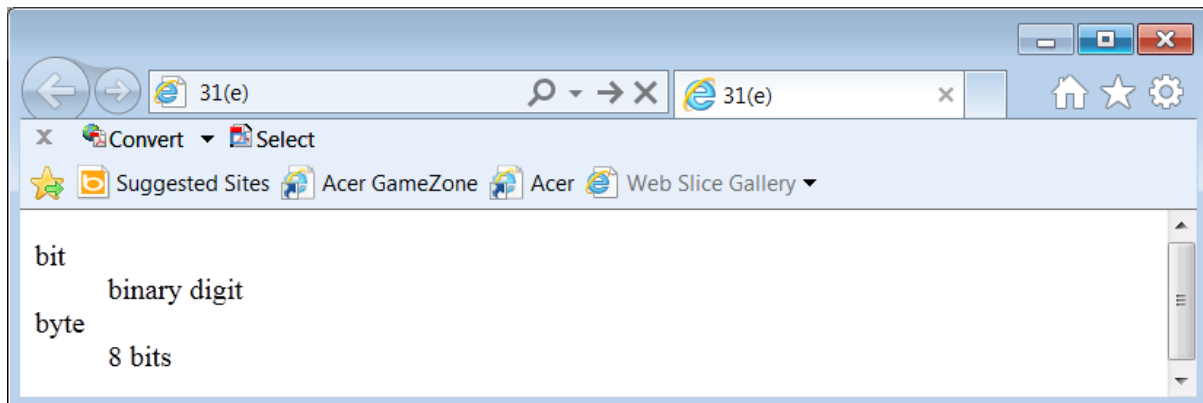
(6 marks)

(d) In the box below, complete the XHTML 1.0 strict code segment that would generate the above line of text. The font size of the word "times" is **xx-large**. The other words are just the default size. Note that you will need to use an inline style to define the font size.

```
<body>

<p>
These are the <span style="font-size:xx-large">times</span>
that try men's souls.
</p>




</body>
```

(2 marks)

(e) In the box below, complete the XHTML 1.0 strict code segment that would generate the definition list shown above.

```
<body>

<dl>

      <dt>bit</dt>
      <dd>binary digit</dt>

      <dt>byte</dt>
      <dd>8 bits</dd>

</dl>

</body>
```

(5 marks)