THE UNIVERSITY OF AUCKLAND

SUMMER SEMESTER, 2015
Campus: City

COMPUTER SCIENCE

An Introduction to Practical Computing

(Time Allowed: ONE HOUR)

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

Surname	
Forenames	
Student ID	
Login (UPI)	

Question		Mark	Out Of
1 - 30	Multiple Choice		75
31	LaTeX Output		13
32	LaTeX Code		12
	TOTAL		100

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SECTION A
MULTIPLE CHOICE QUESTIONS

For each question, choose the best answer according to the information presented in lectures. Select your preferred answer on the Teleform answer sheet by shading in the appropriate box.

Question 1

[2.5 marks] Which of the following is **NOT** a connector or bus?

    (a) FireWire
    (b) VGA
    (c) RAM
    (d) USB
    (e) DVI

Question 2

[2.5 marks] One of the following is physically connected directly to all of the others. Which one is it?

    (a) Sound Card
    (b) Graphics Card
    (c) Processor
    (d) Motherboard
    (e) Memory

Question 3

[2.5 marks] How many different states (or numbers) can be represented with 10 bits?

    (a) 2048
    (b) 1024
    (c) 1000
    (d) 10
    (e) 10000

Question 4

[2.5 marks] Which one of the following decimal numbers is equal to the binary number 101011?

    (a) 51
    (b) 21
    (c) 86
    (d) 43
    (e) 122

Question 5

[2.5 marks] Which of the following values is the **smallest**?

   (a) 1,000,000 KB
   (b) 10,000,000,000 Bytes
   (c) 10,000 MB
   (d) 1 TB
   (e) 100 GB

Question 6

[2.5 marks] Complete the following sentence: "Shareware" and "freeware" are similar except that …

   (a) shareware can be shared with others; freeware cannot.
   (b) shareware is only offered by corporations.
   (c) the source code for freeware is always published.
   (d) payment is usually expected for unrestricted use of shareware.
   (e) it is illegal to use shareware without paying for it.

Question 7

[2.5 marks] Which of the following statements about software and files is **FALSE**?

   (a) A command line interface is easier for beginners to use than a graphical user interface.
   (b) Software must be loaded from secondary storage into primary storage before it starts running.
   (c) Standards are not necessarily free, and may be proprietary.
   (d) An operating system consists of software used to manage the system resources.
   (e) None of the above.

Question 8

[2.5 marks] Complete the following sentence: A file format is …

   (a) a copy of information stored in a separate location in case the original is deleted.
   (b) a particular way that information is encoded for storage.
   (c) a technique used to remove information from a hard drive.
   (d) used to determine the order in which files appear in a folder.
   (e) a way to separate the style from the structure of a document.

Question 9

[2.5 marks] What does the abbreviation DNS stand for?

   (a) Domain Name System
   (b) Do Not Switch
   (c) Dial Number Switch
   (d) Double Name Security
   (e) Distinguished Number System

Question 10
[2.5 marks] Complete the following sentence: An ISP is …

    (a) a system used to detect plagiarism on the Internet.
    (b) a kind of software used to connect a web interface to a database.
    (c) an organization that allows account holders to connect to the Internet.
    (d) a device that allows multiple computers in a LAN to share the same internet connection.
    (e) a protocol used to transfer secure information.

Question 11
[2.5 marks] Which one of the following statements is **FALSE**?

    (a) TCP is used to break a message up into packets and reform the packets back into the original message.
    (b) TCP uses compression to ensure that the packets take less space when transferred.
    (c) An IPv4 address consists of a set of four numbers separated by dots.
    (d) IP is used to route data from a source to a destination computer through the Internet.
    (e) There are a finite number of IP addresses available.

Question 12
[2.5 marks] Which one of the following statements about email is **FALSE**?

    (a) Email might not be sent by the person listed in the "From" field.
    (b) Any type of file can be sent as an email attachment.
    (c) An email without a subject will not be delivered to the destination address.
    (d) An email signature is not legally binding and could be easily faked.
    (e) IMAP keeps mail on the server so it can be accessed from any location.

Question 13
[2.5 marks] Given the following email fields, which recipient is able to see all the other recipients?
To: Andrew@test.com
Cc: Barbara@test.com; Chet@test.com
Bcc: David@test.com; Emily@test.com

    (a) All the recipients can see all the others.
    (b) Andrew
    (c) David and Emily
    (d) Barbara and Chet
    (e) None of the recipients can see all the others.

Question 14

[2.5 marks] Which of the following applications uses asynchronous communication?

- (a) Google Hangouts
- (b) WhatsApp
- (c) Facebook Chat
- (d) Gmail
- (e) Skype

Question 15

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

- (a) Blogs are double-blind peer reviewed to ensure high quality content.
- (b) Blog entries are indexed automatically, so you always know the topic of the blog.
- (c) Blog posts are normally displayed in reverse chronological order.
- (d) Blogs can only contain plain text, but can link to images hosted elsewhere.
- (e) Blogs are objective.

Question 16

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

- (a) Wikis can only be written to by one person.
- (b) Wikis always have a moderator.
- (c) Wikis are very difficult to use.
- (d) Wikis use a markup language.
- (e) Wikis were invented by a dyslexic New Zealander.

Question 17

[2.5 marks] Which of the following is used to prevent unauthorized access to or from a private network?

- (a) A cache
- (b) A firewall
- (c) A web server
- (d) A proxy
- (e) A web browser

Question 18

[2.5 marks] What does HTTP stand for?

- (a) Host Thread Transport Proxy
- (b) Hyper Threading Transitional Port
- (c) Harddrive Terabyte/Tebibyte Package
- (d) Hypertext Transfer Protocol
- (e) Heat Transfer Titanium Part

Question 19

[2.5 marks] Which one of the following statements about the WWW is **FALSE**?

    (a) The WWW is another name for the Internet.
    (b) A web site is a collection of web pages.
    (c) The WWW was created by Tim Berners-Lee.
    (d) The protocol used to transfer web pages is HTTP.
    (e) Web resources on the WWW are identified through URLs.

Question 20

[2.5 marks] Which one of the following does **NOT** keep a log of webpage accesses?

    (a) Internet Service Provider
    (b) Operating System
    (c) Domain Name Server
    (d) Web Server
    (e) Client

Question 21

[2.5 marks] For which one of the following games can human players still beat the best existing AI program?

    (a) Chess.
    (b) Go.
    (c) Checkers.
    (d) Jeopardy.
    (e) None of the above.

Question 22

[2.5 marks] What does the term 'AI winter' stand for?

    (a) A decade during which serious doubts about the potential of Artificial Intelligence arose.
    (b) A short period of time when, within a few months, several major discoveries in different areas of AI research were made.
    (c) A period of time during which a lot of enthusiasm about the potential of AI was prevalent.
    (d) A particularly cold winter in the Northern hemisphere that includes snow, ice and hail (all inclusive = A.I.).
    (e) A period of time during which AI research narrowed from general applications to very specific purposes.

Question 23

[2.5 marks] Which of the following is **NOT** part of a **problem space** that is used to describe a certain problem for AI?

    (a) An initial state.
    (b) Solution path(s) for the problem.
    (c) An expert system.
    (d) Operators that change states.
    (e) A goal state

Question 24

[2.5 marks] What is the ASCII code for the word "Test"?

    (a) 84 101 115 116
    (b) 84 101 115 84
    (c) 116 101 115 116
    (d) 116 69 83 116
    (e) 84 69 83 84

Question 25

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

    (a) Microsoft Word is a proprietary word processor.
    (b) A header appears at the top of every page.
    (c) Open Office is an open-standard word processor.
    (d) A footnote appears at the bottom of every page.
    (e) A text editor is used for editing plain text files.

Question 26

[2.5 marks] Which one of the following is **NOT** good advice for the design of PowerPoint presentations?

    (a) The colour of text should have high contrast with the background colour.
    (b) Use a simple colour palette to avoid distracting the audience.
    (c) Always use complete and grammatically correct sentences.
    (d) The font size of main points should be different than sub-points to emphasize the hierarchy.
    (e) Use a simple font rather than a complex font to improve the readability of text.

Question 27

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

  (a) Using PowerPoint makes it easy to have a consistent look to your slides.
  (b) PowerPoint is frequently used at the University of Auckland.
  (c) Using PowerPoint makes it easy to make a professional looking presentation.
  (d) Using PowerPoint fonts above size 18 means that most people in the last row of most lecture theatres can read the slides.
  (e) Using PowerPoint animation always helps to get your main points across.

Question 28

[2.5 marks] Which one of the following is a primary criticism of Edward Tufte regarding PowerPoint?

  (a) PowerPoint does not permit dynamic re-ordering of slides.
  (b) PowerPoint provides too many choices for the presenter.
  (c) PowerPoint creates too much focus on appearance.
  (d) PowerPoint does not have enough theme choices.
  (e) None of the above.

Question 29

[2.5 marks] Which of the following points is **NOT** good advice for the design of websites?

  (a) The website should use a layout and design that people are familiar with.
  (b) Each page should clearly identify how to get to other pages.
  (c) Each page should tell the user clearly what it is about.
  (d) The use of links between pages on the same website is discouraged.
  (e) Using a 'breadcrumb' navigation trail can help navigate large sites.

Question 30

[2.5 marks] Which of the following is **NOT** software that is used to create presentations?

  (a) PowerPoint
  (b) Prezi
  (c) Impress
  (d) LaTeX Beamer
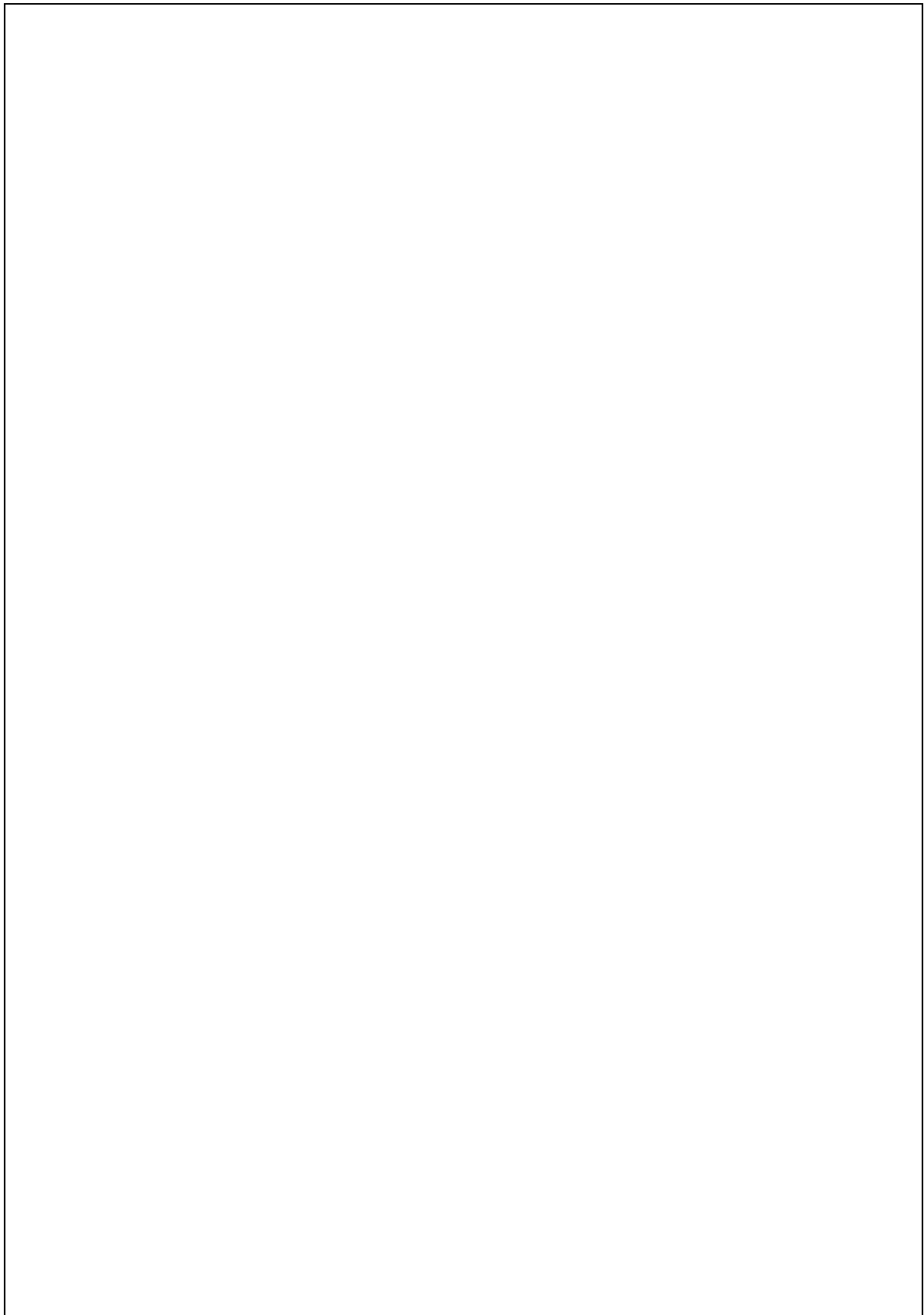 (e) Mosaic

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.

31. LaTeX Output (13 marks)

On the following page, draw the output that would be generated by the following LaTeX code:

```
\documentclass[a4paper]{article}
\begin{document}
\title{Statistics}
\author{A. Author}
\date{Summer School 2015}
\maketitle
\section{Statistics}
Statistics is the study of the collection and
organization of \emph{data}.\\

\begin{verbatim}
In applying statistics,\\ it is
necessary to begin
with a population or process to be studied.
\end{verbatim}
\section{Standard Deviation}
The formula for \textbf{Standard Deviation} is
\begin{displaymath}
 s = \sqrt{\frac{\sum_{i=1}^{N}(x_i - x)^2}{N - 1}}
\end{displaymath}
\end{document}
```

(13 marks)

32. LaTeX Code (12 marks)

On the following page, complete the LaTeX code that will produce the following output:

1   Lists

LaTeXdistinguishes between *three* different itemization environments.

1.1   Itemization

- Item 1

- Something else . . .

1.2   Enumeration

1. An item

2. Another item

1.3   Description

An item Its description

Another item $a^2 + b^2 = c^2$

The following LaTeX commands have been included as a reference. You will not need to use all of these commands. Note that the basic document structure has been completed for you.

Normal commands	*Environments*	*Math mode commands*
\emph{}	itemize	$
\section{}	enumerate	\sum_{}^{}
\subsection{}	verbatim	\frac{}{}
\large	flushright	\sqrt{}
\ldots	center	\geq
\textbf{}	quote	\rho
\title{}	displaymath	
\author{}	equation	^
\date{}	quotation	
\maketitle	description	_
\item		
\LaTeX		

```
\documentclass[a4paper]{article}
\begin{document}
```

```
\end{document}
```

(12 marks)

CONTINUED

- 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.**

Rough Working – This page will not be marked

Rough Working – This page will not be marked

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Rough Working – This page will not be marked