THE UNIVERSITY OF AUCKLAND

SECOND SEMESTER, 2011
Campus: City/Epsom

COMPUTER SCIENCE

Mastering Cyberspace: Introduction to Practical Computing

(Time Allowed: TWO hours)

NOTE:
You must answer **all** questions in this exam.
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	
Forenames	
Student ID	
Login (UPI)	

	Question	Mark	Out Of
1 - 20	Multiple Choice		50
21	Programming using Python		10
22	Spreadsheets		10
23	Databases		10
24	XHTML and CSS		10
25	LaTeX		10
	TOTAL		100

SECTION A

MULTIPLE CHOICE QUESTIONS

Each question in this section is worth **2.5 marks**. There is only **one** correct answer for each question. For each question, choose the **best** answer according to the information presented in lectures. Select your preferred answer on the Teleform answer sheet provided by shading in the appropriate box.

Convert binary to decimal
Binary prefixes
Hardware
Hardware
Software
Software
PowerPoint
PowerPoint
Social Issues
Risks
Risks
History
History
AI
Internet infrastructure
Electronic Communication - Email, Chat, Forums
Publishing online - Wikis, Blogs
WWW
MS Word
Digital images

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.

21. Programming Using Python (10 marks)

(a) Show the output from the following program after the user enters the number **4** at the prompt. Show each space in the output with the "^" character.

```
[PROGRAM REMOVED]
```

```
Enter a number: 4
```

(4 marks)

(b) Write a Python program that ... [DESCRIPTION OF TASK REMOVED]

The following **two examples** show the exact formatting expected for the prompts and output. Your program must produce the same output as shown below given the input shown below.

Example 1:

```
[EXAMPLE REMOVED]
```

Example 2:

```
[EXAMPLE REMOVED]
```

(6 marks)

22. Spreadsheets (10 marks)

The following is a Microsoft Excel spreadsheet.

[DESCRIPTION REMOVED]

[SCREENSHOT REMOVED]

(a) What is the **best** formula to use in Cell **F18**?

(3 marks)

(b) What is the **best** formula to use in Cell **F10**? **Note:** You must ensure that your formula can be filled down.

(3 marks)

(c) What is the **best** formula to use in Cell **E10**? **Note:** You must ensure that your formula can be filled down.

(4 marks)

23. Databases (10 marks)

Use the following Microsoft Access relationship diagram to answer the questions in this section. Note that the primary key of each table uses the AutoNumber type to ensure uniqueness.

[RELATIONSHIP DIAGRAM REMOVED]

(a) [QUESTION REMOVED]

(2 marks)

(b) [QUESTION REMOVED]

(2 marks)

(c) [QUESTION REMOVED]

(2 marks)

(d) Give an SQL statement that [DESCRIPTION OF TASK REMOVED]

(4 marks)

24. XHTML and CSS (10 marks)

The following screenshot shows a web page created using XHTML 1.0:

[SCREENSHOT REMOVED]

Complete the XHTML code below so that it produces the output shown above. You **must not** define any new styles.

```
<?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>
   Exam on XHTML
  </title>

[PART OF HTML PAGE REMOVED]
```

(4 marks)

```
[MORE HTML REMOVED]
```

(6 marks)

```
</body>
</html>
```

25. LaTeX (10 marks)

Write the LaTeX code that will produce the following output:

[SCREENSHOT REMOVED]

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	\frac{}{}
\subsection{}	verbatim	\sqrt{}
\subsubsection{}	flushright	\pi
\large	center	\left(
\textbf{}	quote	\right)
\title{}	displaymath	\pi
\author{}	equation	\sum_{}^{}
\date{}	quotation	^
\maketitle		_
\item		

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

(2 marks)

[LATEX CODE REMOVED]

(6 marks)

[LATEX CODE REMOVED]

(2 marks)

```
\end{document}
```

- 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.

- Overflow Sheet 3 -

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