THE UNIVERSITY OF AUCKLAND

SUMMER SEMESTER, 2016
Campus: City

COMPUTER SCIENCE

An Introduction to Practical Computing

(Time Allowed: TWO HOURS)

NOTE:
You must answer **all** questions in this exam.
Calculators are NOT 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	
Forename(s)	
Student ID	
Login (UPI)	

	Question	Mark	Out Of
1 - 25	Multiple Choice		50
26	Spreadsheets		10
27	Databases		10
28	LaTeX		10
29	HTML5 and CSS		10
30	Programming Using Python		10
	TOTAL		100

SECTION A

MULTIPLE CHOICE QUESTIONS

Each question in this section is worth **2 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.

Question 1 Computer hardware

Question 2 Computer hardware

Question 3 Bits, bytes and digital information

Question 4 Bits, bytes and digital information

Question 5 Software and licenses

Question 6 Software and licenses

Question 7 Networking and the Internet

Question 8 Networking and the Internet

Question 9 Electronic communication and the Internet

Question 10 Electronic communication and the Internet

Question 11 Publishing online using tools

Question 12 Publishing online using tools

Question 13 The World Wide Web

Question 14 The World Wide Web

Question 15 Word processing and references

Question 16 Word processing and references

Question 17 Artificial intelligence

Question 18 Artificial intelligence

Question 19 Bitmap and vector graphics

Question 20 Bitmap and vector graphics

Question 21 Game design

Question 22 Game design

Question 23 Using presentation software effectively

Question 24 Ethical and legal issues of the Internet Age

Question 25 User experience design

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QUESTION/ANSWER BOOKLET FOLLOWS

SECTION B

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

26. Spreadsheets (10 marks)

…The following spreadsheet displays…

(a) … What is the best formula to use in Cell **…**? Your formula must be able to be filled down from **…** to **…** correctly.

(1 mark)

(b) … What is the best formula to use in Cell **…**? Your formula must be able to be filled down from **…** to **…** correctly.

(2 marks)

(c) … What is the best formula to use in Cell **…**? Your answer must use the **VLOOKUP** function …. The VLOOKUP function has the following syntax:

```
VLOOKUP(lookup_value, table_array, col_index_num, range_lookup)
```

Note: Your formula must be able to be filled down from **…** to **…** correctly.

```
=VLOOKUP(_____,_____,_____,_____)
```

(4 marks)

(d) … What is the best formula to use in Cell **…**? Your answer must use an **IF** function.

Note: Your formula must be able to be filled down from **…** to **…** correctly.

```
=IF(_____,_____,_____)
```

(3 marks)

27. Databases (10 marks)

… Use this database, as shown in the following Relationships diagram, to answer the questions.

(a) State the … field(s) in…

(1 mark)

(b) What is the most appropriate data type…?

(1 mark)

(c) …Explain why these relationships were set up in this way.

(2 marks)

(d) Complete the Query By Example (QBE) form below…

Field:				
Table:				
Sort:				
Show:	☐	☐	☐	☐
Criteria:				

(3 marks)

(e) Write an SQL query that displays …

(3 marks)

28. LaTeX (10 marks)

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

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{}`
`\section{}`
`\subsection{}`
`\subsubsection{}`
`\large`
`\textbf{}`
`\title{}`
`\author{}`
`\date{}`
`\maketitle`
`\item`
	`itemize`
	`enumerate`
	`verbatim`
	`flushright`
	`center`
	`quote`
	`displaymath`
	`equation`
	`quotation`
		`$`
		`\sqrt{}`
		`\infty`
		`\frac{}{}`
		`\rho`
		`\pi`
		`\geq`
		`\sum_{}^{}`
		`^`
		`_`

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









\end{document}
```

(10 marks)

29. HTML5 and CSS (10 marks)

The following screenshot shows the body of a web page created using HTML5 and CSS:

Complete the HTML5 code below so that it produces the output shown above.

You **must** use the styles defined in the internal style sheet in the head section below, and **must not** define any new styles.

Note: The URL for…

```
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
```

```
<title>HTML5 Exam Question</title>
<style type="text/css">



</style>
</head>
```

```
<body>
<!-- … Heading -->
```

(0.5 marks)

```
<!-- … Paragraph -->
```

(1.5 marks)

```
<!-- … Section -->
```

(2 marks)

```
<!—- … Section -->
```

(2 marks)

```
<!-- … Section -->
```

(4 marks)

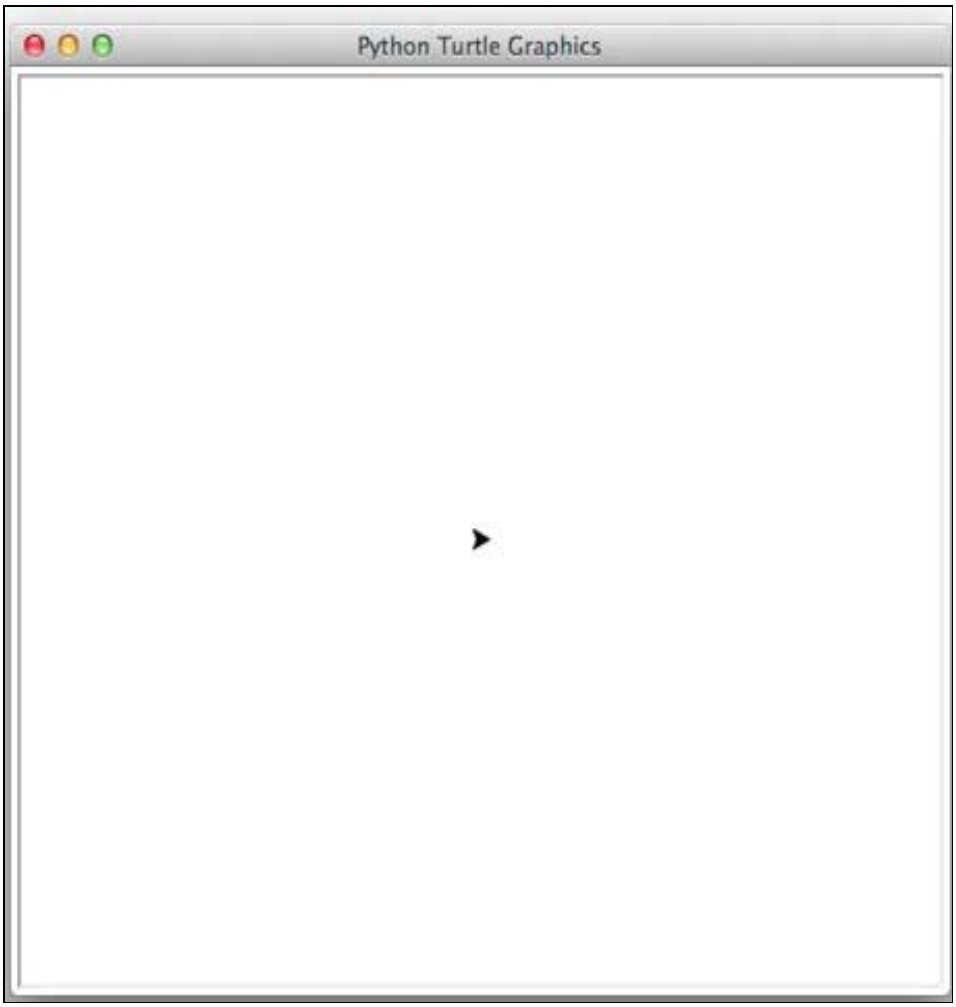
```
</body>
</html>
```

30. Programming Using Python (10 marks)

(a) Show the output from the following Python program.

(3 marks)

(b) Use the Python window below to draw the output produced by the turtle in the following Python program.



(3 marks)

(c) Write a Python program that prompts the user to enter…

Example:

(4 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.

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