

THE UNIVERSITY OF AUCKLAND

SECOND SEMESTER, 2020
Campus: City

COMPUTER SCIENCE

An Introduction to Practical Computing

(Time Allowed: TWO hours)

NOTE:

Calculators are NOT permitted.

You must answer **all** questions in this question/answer booklet.

There is space at the back for answers that overflow the allotted space.


Surname	
Forename(s)	
Preferred Name	
Student ID	
Login (UPI)	

	Question	Mark	Out Of
1 - 10	Short Answers		30
11	Programming using Python		15
12	Spreadsheets		15
13	HTML5/CSS		20
14	LaTeX		20
TOTAL			100

SECTION A – SHORT ANSWERS

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.

1. Artificial Intelligence (3 marks)



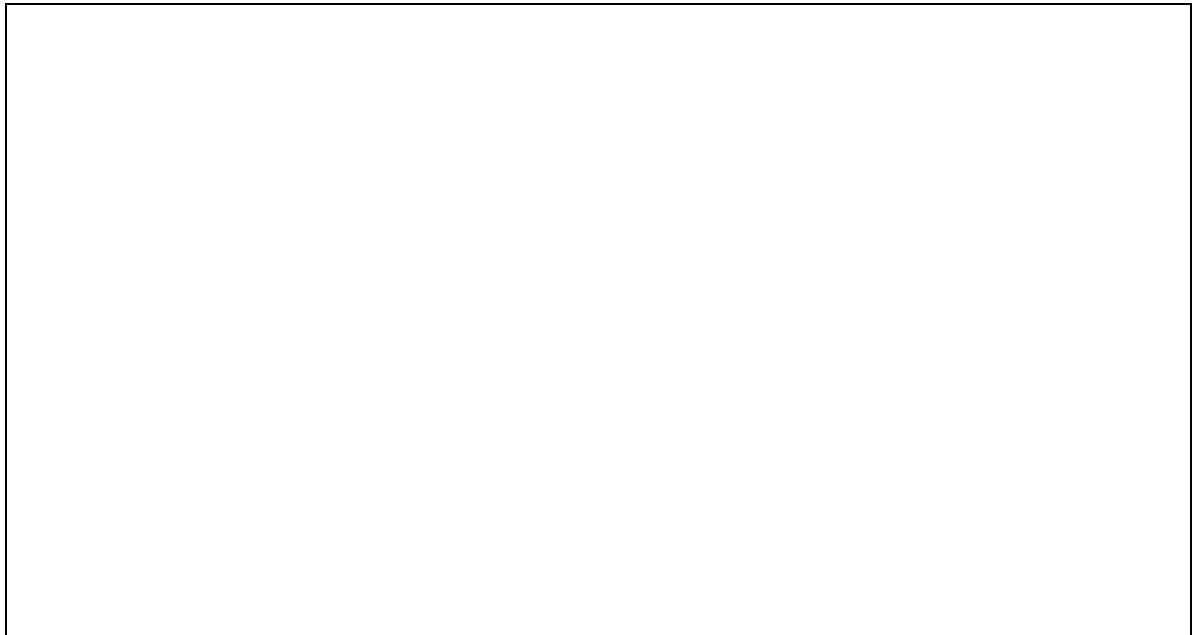
(3 marks)

2. Software Licences (3 marks)



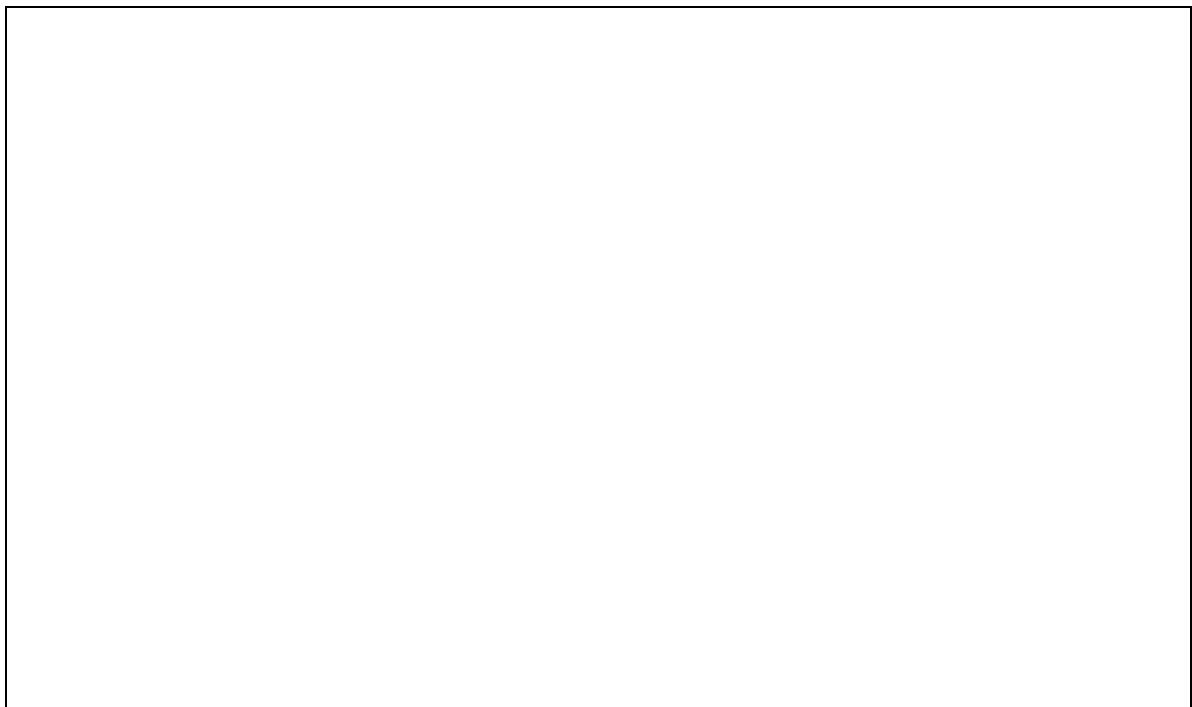
(3 marks)

3. Digital Games (3 marks)



(3 marks)

4. Computer Hardware (3 marks)



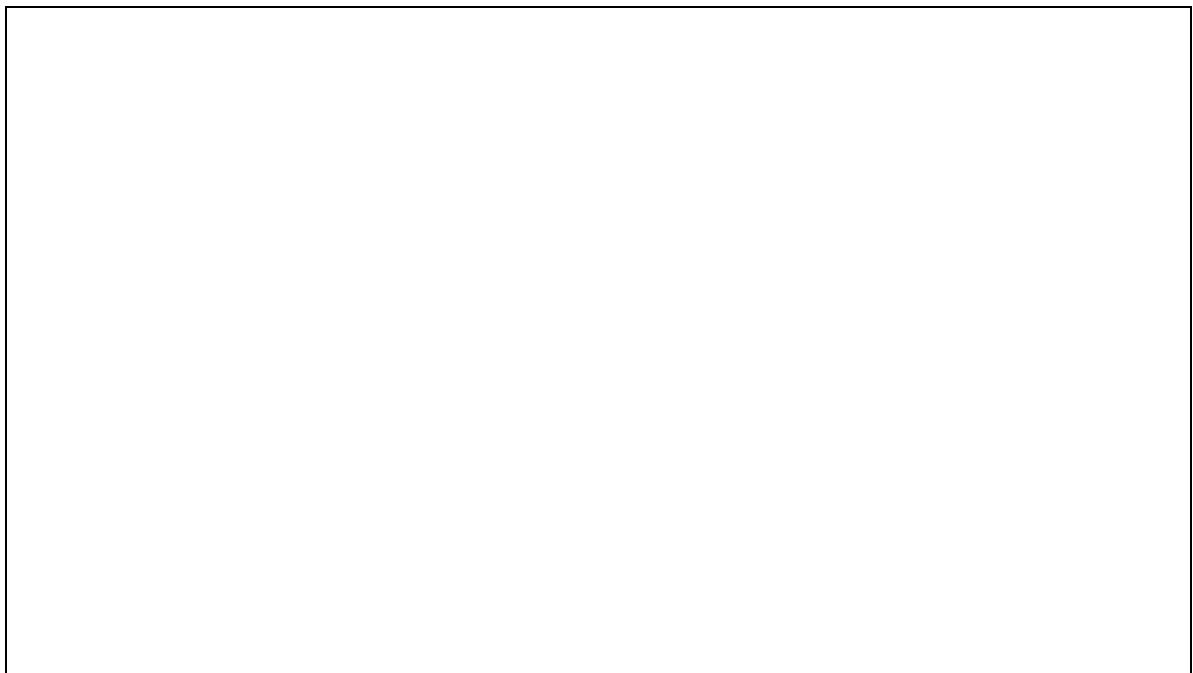
(3 marks)

5. History of Computing (3 marks)



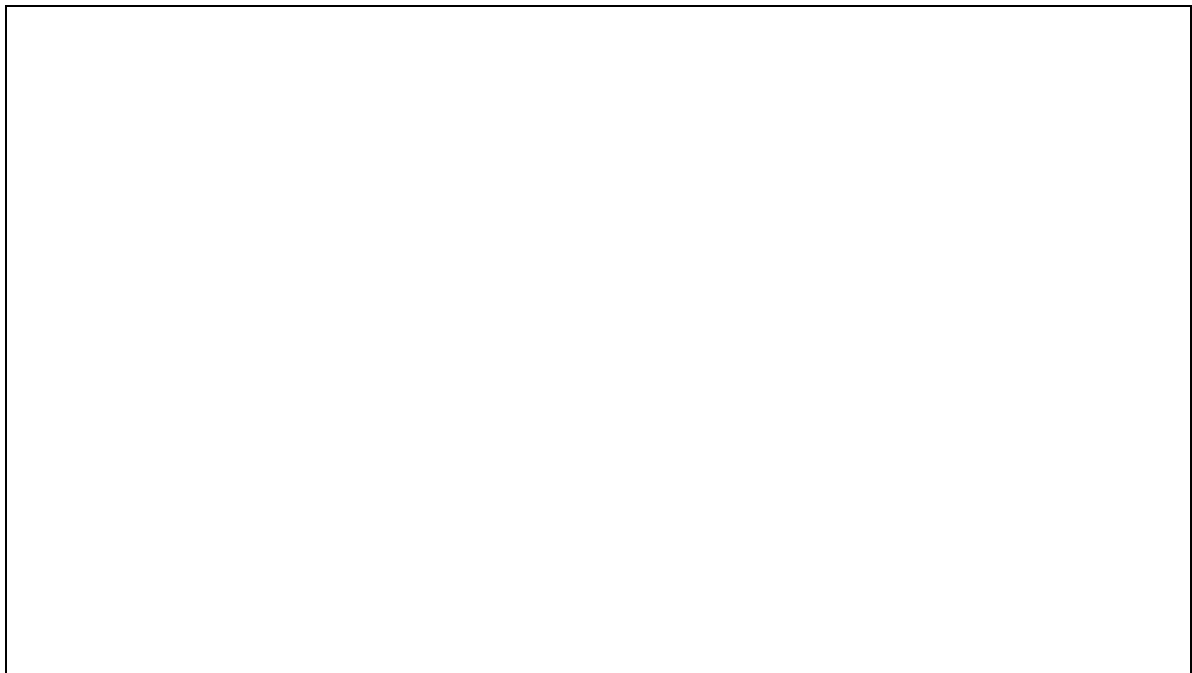
(3 marks)

6. Computer Networks (3 marks)



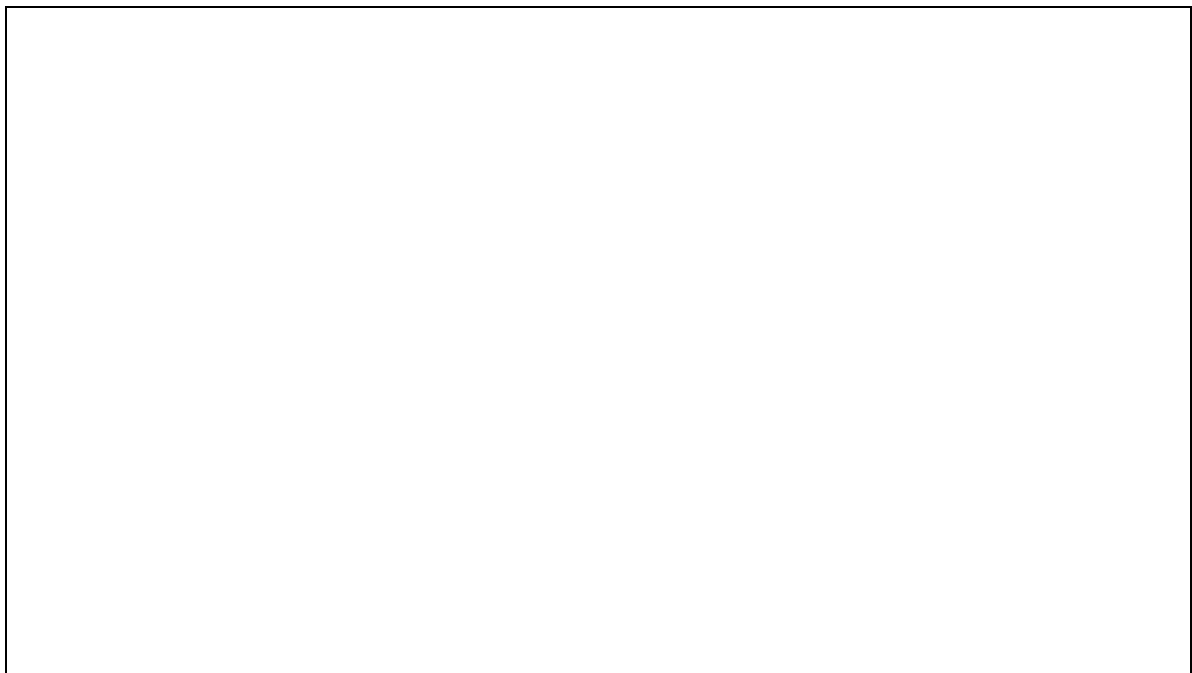
(3 marks)

7. WWW (3 marks)



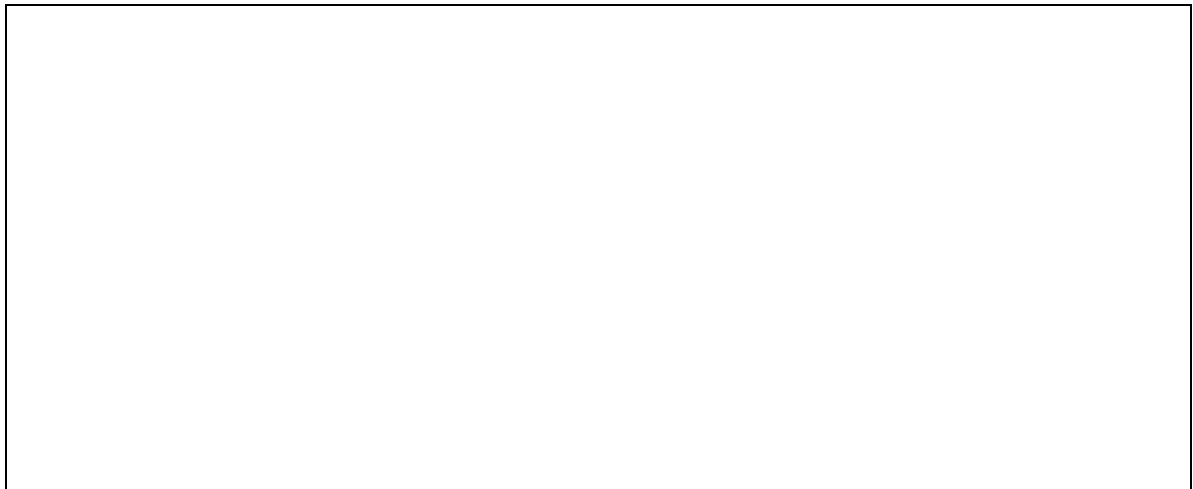
(3 marks)

8. Malware (3 marks)



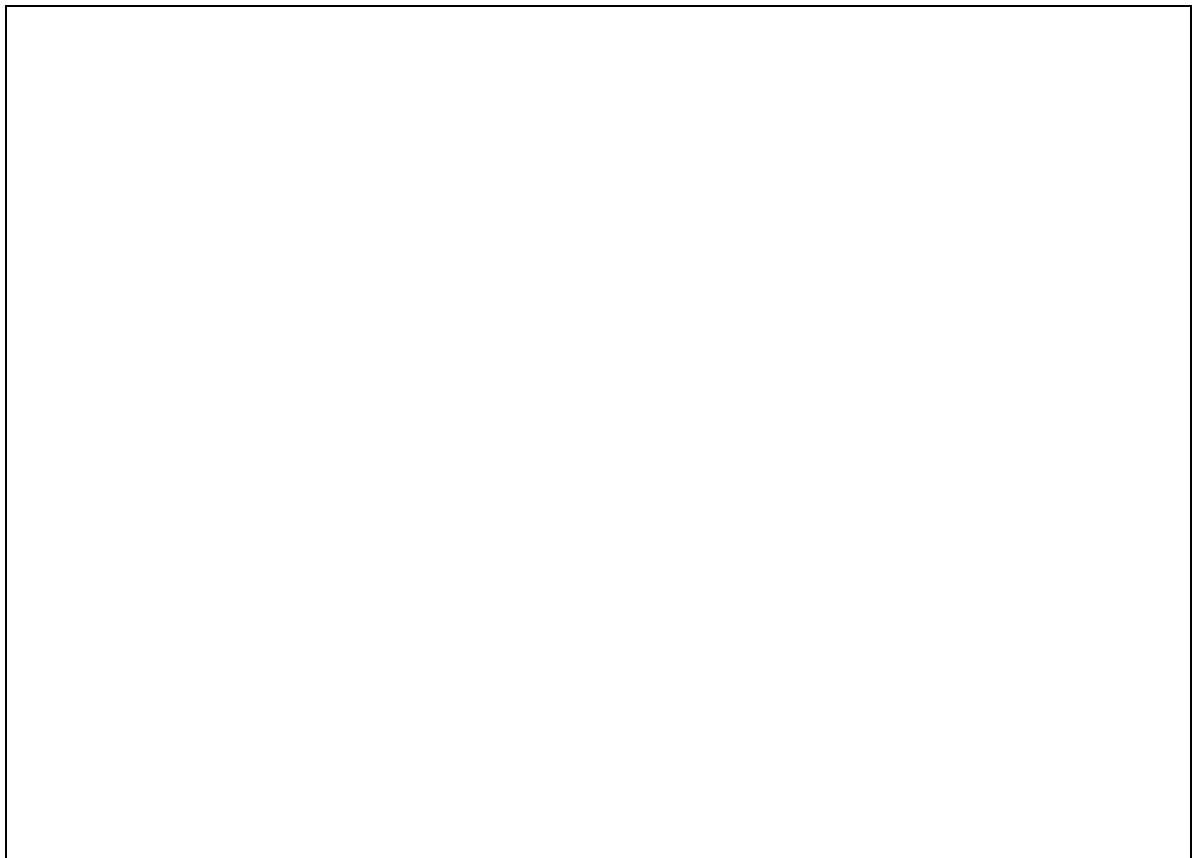
(3 marks)

9. Bits and Bytes (3 marks)



(3 marks)

10. Digital Images (3 marks)



(3 marks)

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.

11. Programming Using Python (15 marks)

- (a) Write a Python program that

(4 marks)

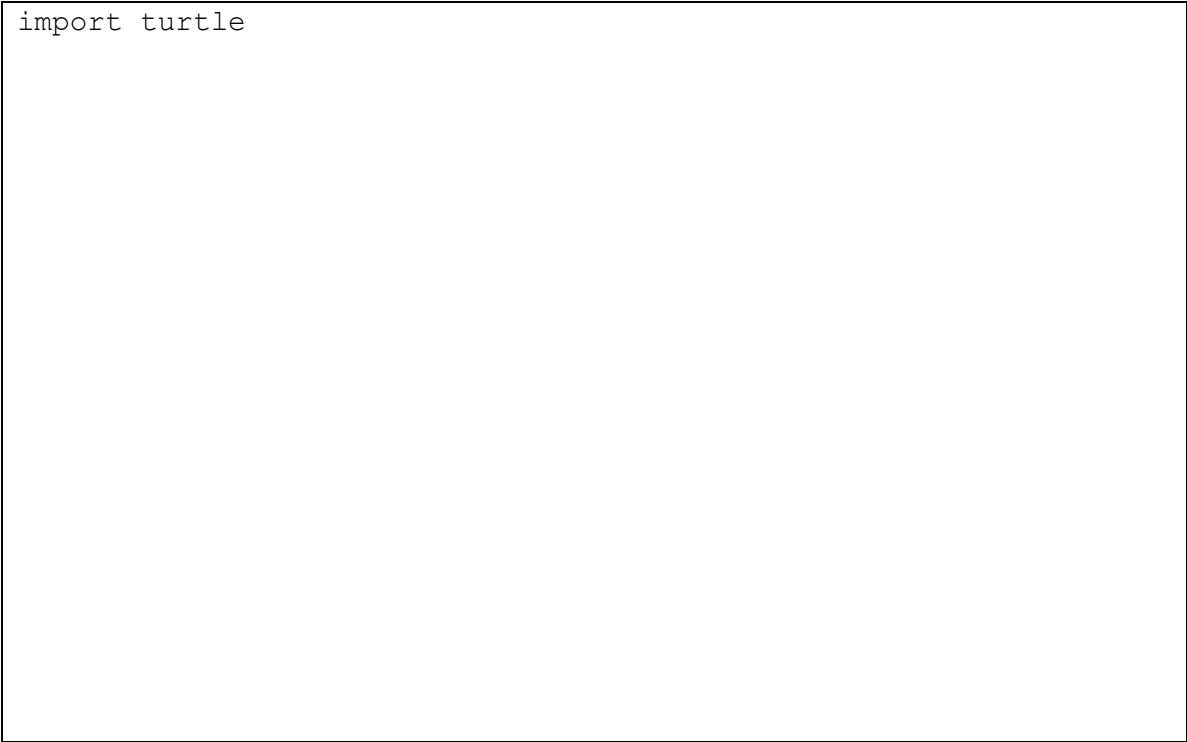
- (b) Write a piece of code that



(5 marks)

(c) In the box below, complete the code that will make the following picture

```
import turtle
```



(5 marks)

12. Spreadsheets (15 marks)

The following spreadsheet displays information about

(a) Columns C to G of Rows 4 to 10 contain information about

=

(6 marks)

(b) Cell **G4** indicates

=

(2 marks)

(c) Cell **E11** shows the

=

(2 marks)

(d) Cell **E13** shows the

=

(2 marks)

(e) Cell **G13** indicates whether

=

(3 marks)

Question 13. HTML5 and CSS (20 marks)

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

Complete the HTML5 code on the following pages so that it produces the output shown above.

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

Note:

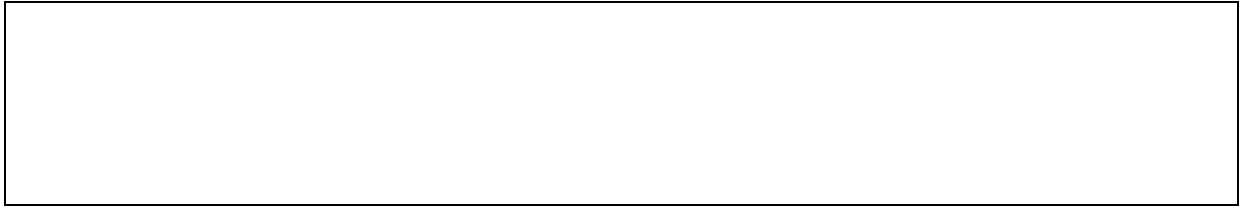
- (1) The URL for the University of Auckland Online Learning Resources is: "https://www.online.auckland.ac.nz/".
- (2) The image is stored in a file called "AucklandOnlineImage.png" in the same folder as the HTML file.
- (3) There are two sections (the "Statistics" section and the "Slang Glossary" section).

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<title>HTML/CSS Exam Question</title>
<style>
  body {background-color: pink;
        font-family: "Arial", "Calibri", Sans-Serif}
  h1 {background-color:rgb(0,0,0); color:#E6FFE6;
      text-transform:uppercase; text-align:center}
  h2 {background-color:rgb(0,0,0); color:#E6FFE6;
      font-variant:small-caps}
  table, tr, td { border: 2px solid black;}
  #emphasis{font-size:large; color:red}
  #center {text-align:center}
  #tablehead {background-color:rgb(0,0,0); color:#E6FFE6;
              font-weight:bold; text-align:center}
  .glossary{font-style:italic; font-weight:bold}
  .stat{text-align:right; font-weight:bold}
</style>
</head>
<body>
```

```
<!-- Main Heading -->
```

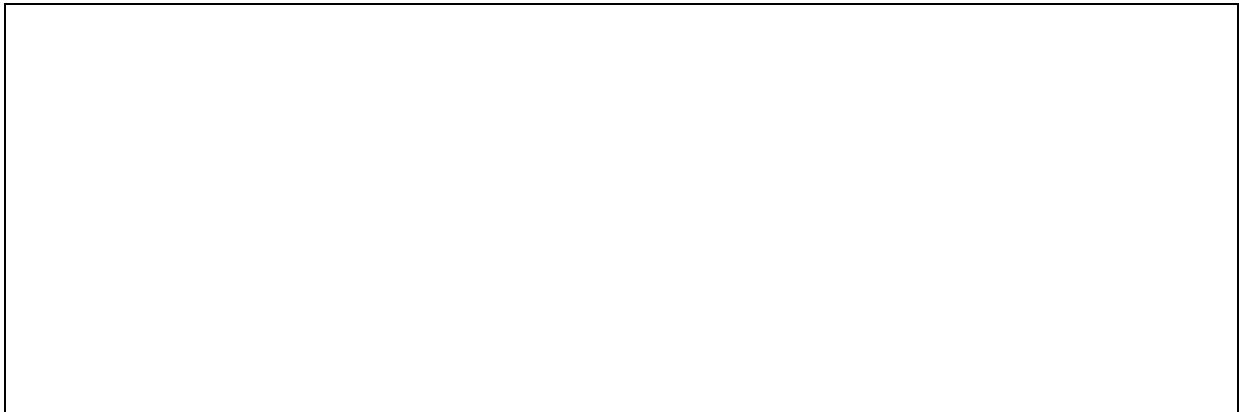
(1 mark)

`<!-- Image -->`



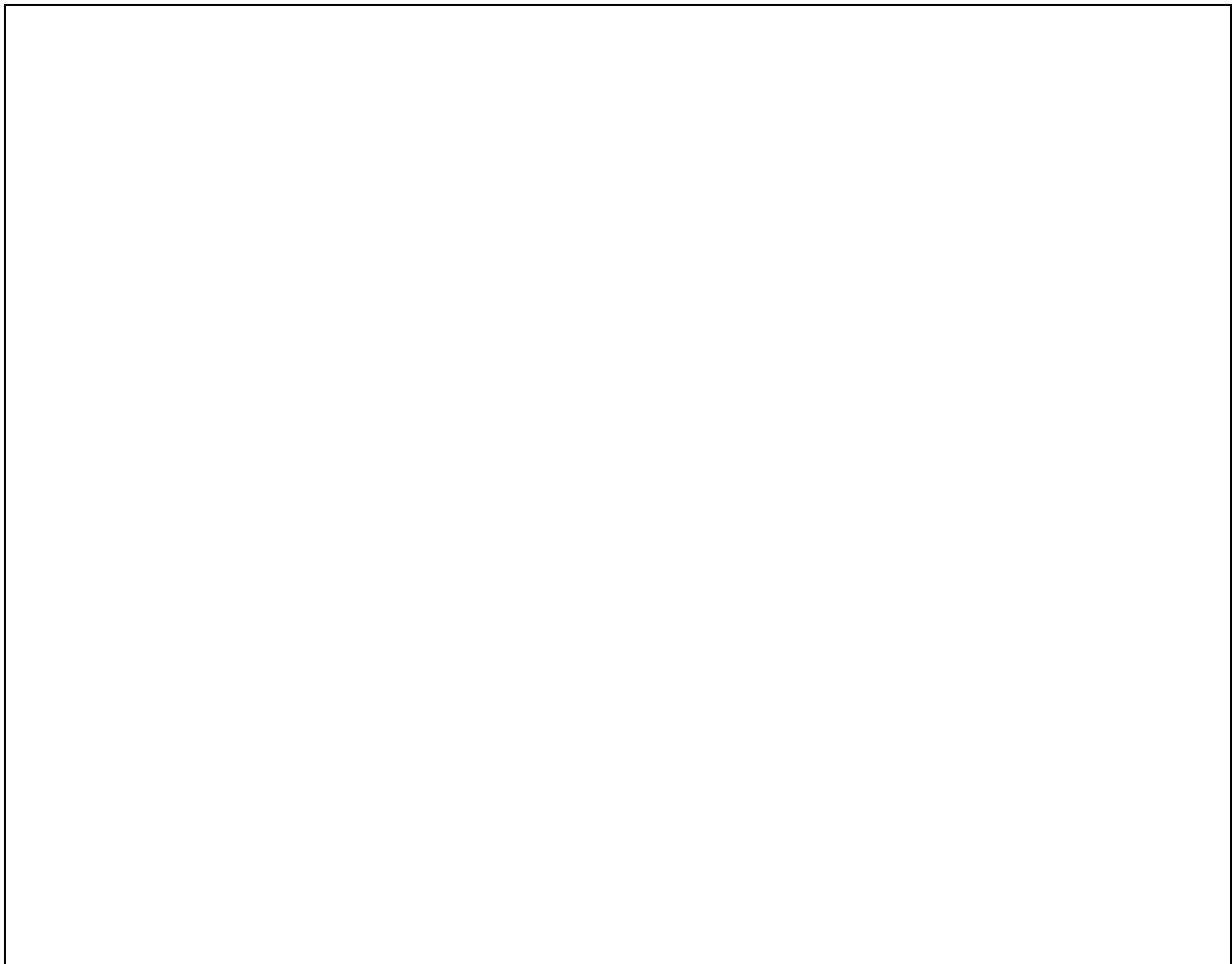
(2 marks)

`<!-- First Paragraph -->`



(2 marks)

`<!-- "Student Statistics" Section -->`



(7 marks)

<!-- "Slang Glossary" Section -->

(8 marks)

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

14. LaTeX (20 marks)

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

The image is stored in a file called **Covid.png** and is in the same folder as the LaTeX code. When inserted into the document, the image should be **centred** and **6 cm wide**.

The following LaTeX commands have been included as a reference. You will not need to use all of these commands.

<i>Normal commands</i>	<i>Environments</i>	<i>Math mode commands</i>
<code>\usepackage{graphicx}</code>	itemize	$\$$
<code>\section{}</code>	enumerate	$\sqrt{\quad}$
<code>\subsection{}</code>	verbatim	$\frac{\quad}{\quad}$
<code>\title{}</code>	flushright	\leq
<code>\author{}</code>	center	\sum_{\quad}^{\quad}
<code>\date{}</code>	quote	∞
<code>\maketitle</code>	displaymath	σ
<code>\item</code>	equation	\wedge
<code>\textbf{}</code>	quotation	$-$
<code>\emph{}</code>		
<code>\includegraphics{}</code>		$\left($
<code>\footnote{}</code>		$\right)$

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

```
\begin{document}
```

\end{document}

(20 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.

Rough Working – This page will not be marked

Rough Working – This page will not be marked