

THE UNIVERSITY OF AUCKLAND

FIRST SEMESTER, 2006
COMPUTER SCIENCE
 Mastering Cyberspace: An Introduction to
 Practical Computing

TEST
(Time allowed: 60 MINUTES)

Surname:	SOLUTIONS
Forenames:	
Student ID number:	
Login name (UPI):	

INSTRUCTIONS:

- Attempt **ALL** questions - write your answers in the box provided
- Calculators are **NOT** permitted

Question	Mark
Digital, Hardware, Software	(/25)
Internet	(/35)
Applications	(/40)

TOTAL:

(/100)

Digital Information, Hardware and Software (25 marks)

1. How many different numbers can be represented by 3 bits?

8

(2 marks)

2. How many bits are there in one byte?

8

(3 marks)

3. According to the official SI units, which is bigger, a KB or a KiB?

KiB

(2 marks)

4. State 2 differences between secondary storage devices and primary memory (RAM).

(i)

Secondary storage is slower

(3 marks)

(ii)

Secondary storage is cheaper per MB.
Secondary storage is persistent

(3 marks)

5. Give an example of an operating system that is not owned by Microsoft.

Linux, Mac OS

(2 marks)

6. Look at the specifications for the following computers and answer the questions below.

Computer A
Intel Celeron (2MB cache, 3.26 GHz, 533MHz FSB)
256MB DDR2-533MHz SDRAM
60GB 10000 rpm HDD
DVD writer, dual layer
17" XGA TFT Display (1440x900 res)

Computer B
Intel Celeron (1.6 GHz, 533MHz FSB)
512MB DDR2 SDRAM at 533MHz
160GB 5600 rpm Ultra DMA HDD
48x max CD-Writer Drive (48x32x48x)
56Kbps fax/data

Computer C
Intel Celeron (2.5 GHz, 256KB L2 cache, 533MHz FSB)
1GB DDR400 SDRAM
40GB HDD, 7200rpm
RADEON 9250 128MB AGP 8x VGA card
10/100 Mbps Fast Ethernet.

(i) Which of the computers listed above would you recommend for someone who played a lot of computer games?

C

(2 marks)

(ii) Why?

Graphics card required for most games.
RAM is important for games to run efficiently and this machine has the most RAM. It also has a network card which is important for LAN games.

(2 marks)

(iii) What is the speed of the fastest processor? Include the appropriate units of measurement.

3.26 GHz

(3 marks)

7. What is open source software?

Software for which the source code is distributed and permission is given to copy, modify and distribute the code. It is free.

(3 marks)

Internet (35 marks)

8. Give an example of a protocol used on the Internet, and state what the acronym stands for.

HTTP - Hypertext Transfer Protocol
FTP - File Transfer Protocol
TCP - Transport Control Protocol
IP - Internet Protocol

(4 marks)

9. Explain how a domain name is resolved into an IP address.

The domain name is sent to the Domain Name Server. The DNS looks up the name in a table and sends back the corresponding IP address. If the IP address cannot be found, then it passes the request on to a Domain Name Server that can resolve the name.

(3 marks)

10. What is the main difference between the way that IMAP and POP3 store email?

IMAP stores the email on the server
POP3 transfers the email to the client, where it is typically stored on the local computer

(2 marks)

11. State two guidelines of Netiquette

(i)

Remember the human

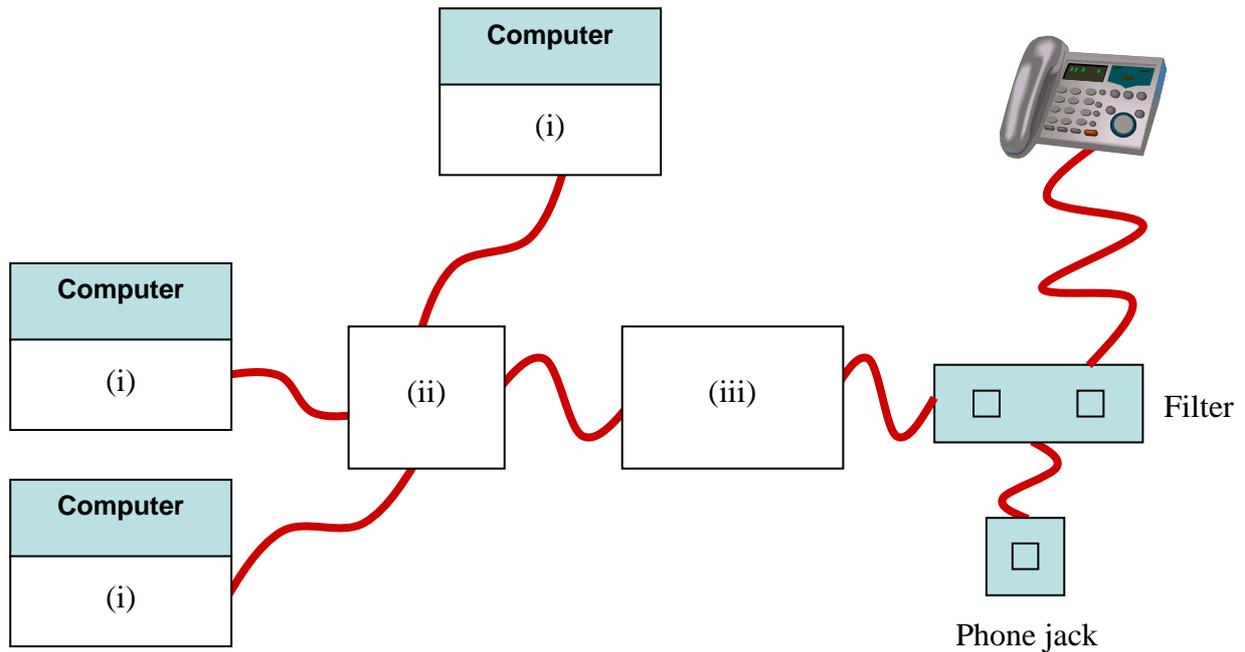
(3 marks)

(ii)

Don't Flame anyone

(3 marks)

12. Given the following diagram, label the hardware that you would need to connect the home network to the Internet.



Write the labels for the diagram in the spaces provided below:

(i)

Network Card

(2 marks)

(ii)

Router / Switch

(2 marks)

(iii)

Broadband Modem

(2 marks)

13. What does BCC stand for?

Blind Carbon Copy

(2 marks)

14. What does BCC do?

Sends a copy of the email to the address listed as BCC. The person that receives the message is not informed that a copy was sent.

(2 marks)

15. State one potential danger for society that comes from Blogs.

Personal details that are posted on the Blog can be used by people for unintentional purposes.

(2 marks)

16. What prevents wikis from being vandalized by people?

Community has tools to track recent changes and revert to an older version.

(2 marks)

17. What is the wiki markup to display the following content? You can assume that the link is an internal link to a page entitled “revision”.

The most **important** page on this wiki is about revision

The most ``important`` page on this wiki is about [[revision]]

(4 marks)

18. Who created the WWW?

Tim Berners Lee

(2 marks)

Applications (40 marks)

19. Give two advantages of using “user-defined” styles (logical styles) in MS Word.

(i)

Consistency

(2 marks)

(ii)

Ease of application (can apply multiple style at once)

(2 marks)

20. What is a pixel?

Picture element. A single dot that makes up a picture

(2 marks)

21. What format would you use to save a photo that was displayed on the WWW?

JPEG

(2 marks)

22. State a criticism that has been made against PowerPoint.

Constrains the style of presentation.
Encourages style over content/

(3 marks)

23. Consider the use of colour in the design of a presentation. Give two pieces of advice about the use of colour to someone who was developing a presentation.

(i)

Use a high contrast foreground colour (compared to background)

(3 marks)

(ii)

Be aware of the cultural implications of the colours you choose.

(3 marks)

ID Number

The following spreadsheet is used to calculate the cost of purchasing a number of items. The **Product** table (cells A2:C7) contains the information about the different products available. The **Bulk Buying Discounts** table shows the price at which a buyer is eligible for a discount (in this case, if they spend 1000 or more then they are eligible), and it shows the discount which is given for buying in bulk (in this case, the discount is 10 percent).

The **Invoice** is shown in cells A9:E21.

- The number of items to be purchased (**Quantity**) is entered in cells A11:A13.
- The **ID** code of each product to be purchased is entered in cells B11:B13.
- The **Name** and **Price** of the product is obtained by looking up the ID code in the Product table.
- The **Subtotal** (cells E11:E13) is calculated by multiplying the Quantity by the Price.
- The **Total cost of products** is the sum of the Subtotals (cells E11:E13).
- Cell E18 is used to show if the order is eligible for a discount. If the total cost is equal to or greater than the Discount Threshold in cell G2, then this cell should contain "YES", otherwise it should contain "NO".
- Cell E19 is used to hold the amount of the discount given. If the order is eligible for the discount, then the cell should contain the Total cost of products multiplied by the Discount Given in cell G3. If the order is not eligible for a discount, then the cell should contain 0.
- Cell E21 is used to hold the amount due to be paid. This is simply the total cost of products less any Discount amount.

	A	B	C	D	E	F	G
1	Product				Bulk Buying Discounts		
2	ID	Name	Price		Discount Threshold		1000
3	518	Widget	\$6.99		Discount Given		0.1
4	802	Gismo	\$3.00				
5	771	Thingimibo	\$5.75				
6	462	Gadget	\$8.99				
7	893	Whatzit	\$2.50				
8							
9	Invoice						
10	Quantity	ID	Name	Price	Subtotal		
11	100	462	Gadget	\$8.99	\$899.00		
12	100	802	Gismo	\$3.00	\$300.00		
13	50	893	Whatzit	\$2.50	\$125.00		
14							
15							
16			Total cost of products:		\$1,324.00		
17							
18			Eligible for discount:		YES		
19			Discount amount:		\$132.40		
20							
21			Amount Due:		\$1,191.60		
22							

All formulae that you write should be able to be filled down by making appropriate use of relative and absolute references.

24. What formula should be used in cell E11?

```
=A11*D11
```

(4 marks)

25. What formula should be used in cell C11?

```
=VLOOKUP(B11, $A$3:$C$7, 2, FALSE)
```

(4 marks)

26. What formula should be used in cell E18?

```
=IF(E16 > G2, "YES", "NO")
```

(4 marks)

27. What formula should be used in cell E19?

```
=IF($E$18 = "Yes", $G$3*$E$16, 0)
```

(4 marks)

28. What is a master slide used for in PowerPoint?

Used as a template to provide consistency.

(2 marks)

29. What is the three-click rule of web site design?

You should be able to reach any page of the site from any other page by following only 3 links (i.e. using only three clicks of the mouse).

(2 marks)

30. Write the HTML source code required to display the text “My first web page” as a first-level heading (the most important heading) on a web page. Complete the web page listed below:

```
<?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>
<head>
<title>A simple web page example for the test</title>
</head>
<body>
<!-- add your code in the space provided below -->

<h1>My first web page</h1>

</body>
</html>
```

(3 marks)

ID Number

OVERFLOW PAGE

(If you have used this page, please indicate clearly under the relevant question that you have overflowed to this page)

ID Number

OVERFLOW PAGE

(If you have used this page, please indicate clearly under the relevant question that you have overflowed to this page)

ID Number

ROUGH WORKING

(You may detach this sheet from the test script and use it for working.

This sheet will not be marked)

ID Number

ROUGH WORKING

(You may detach this sheet from the test script and use it for working.
This sheet will not be marked)