



Rewarding Learning

General Certificate of Secondary Education
2011

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Candidate Number

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StudentBounty.com

Information and Communication Technology

Full Course

Paper 1
Higher Tier



G5803

[G5803]

MONDAY 13 JUNE, AFTERNOON

For Examiner's use only	
Question Number	Marks
1	
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QWC	

TIME

1 hour 30 minutes.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

Write your answers in the spaces provided in this question paper.

Complete in blue or black ink only. **Do not write in pencil or with a gel pen.**

Answer **all fifteen** questions.

INFORMATION FOR CANDIDATES

The total mark for this paper is 140, including a maximum of 7 marks for the quality of written communication.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

Total Marks	
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6864

Examiner Number

[]



J U N 1 1 G 5 8 0 3

For question 1 insert the appropriate letter in the space provided.

Examiner Only	
Marks	Remark

1 (a) A virus is:

- A Software designed to protect the computer
- B Software designed to damage the computer
- C Hardware designed to damage the computer
- D Hardware designed to protect the computer

Answer _____ [1]

(b) The law designed to protect computers from unauthorised access is:

- A The Computer Management Act
- B The Computer Misuse Act
- C The Data Misuse Act
- D The Data Management Act

Answer _____ [1]

(c) The law designed to protect personal data and information is:

- A The Data Protection Act
- B The Data Security Act
- C The Information Protection Act
- D The Information Security Act

Answer _____ [1]



(g) E-commerce is:

- A Using ICT to manage sales and orders
- B Communicating with customers via the Internet
- C The buying and selling of goods and services via the Internet
- D Using networks to link stores electronically

Answer _____ [1]

(h) Text-wrapping is:

- A When text is placed behind images on a printed document
- B When text scrolls along the top of a web page when it is loaded
- C When animated text enters a slide on a presentation
- D When text flows automatically around a graphic

Answer _____ [1]

(i) Refining the search in a search engine will:

- A Increase the number of web pages returned in a search
- B Reduce the number of web pages returned in a search
- C Lead to web pages automatically being loaded onto the user's screen
- D Provide increased security for the user when they are using the Internet

Answer _____ [1]

Examiner Only

Marks

Remark



(j) TFT is a type of:

- A Keyboard
- B Printer
- C Monitor
- D Storage

Answer _____ [1]

Examiner Only	
Marks	Remark
Total Question 1	

6864

[Turn over



0 5

- 2 Mrs Maxwell is taking 15 pupils on a trip to London. She has prepared the following spreadsheet showing the costs.

Examiner Only	
Marks	Remark

	A	B	C	D	E	F	G
1	London Trip Costs						
2	ITEM	Quantity	Cost	Total Cost	% Discount	Discount £	Total Payable
3	Airporter Bus Ticket	15	£ 20.00	£ 300.00	10%	£ 30.00	£ 270.00
4	Flight Ticket	15	£ 45.00	£ 675.00	5%	£ 33.75	£ 641.25
5	Stansted Express Ticket	15	£ 20.00	£ 300.00	10%	£ 30.00	£ 270.00
6	Wizard of Oz Ticket	10	£ 46.00	£ 460.00	15%	£ 69.00	£ 391.00
7	National Museum Ticket	5	£ 5.00	£ 25.00	5%	£ 1.25	£ 23.75
8	Globe Theatre Ticket	12	£ 18.00	£ 216.00	10%	£ 21.60	£ 194.40
9	Hotel Cost	15	£150.00	£2,250.00	10%	£225.00	£2,025.00
10			£304.00	£4,226.00		£410.60	£3,815.40

- (a) Apart from the use of bold, how have the cells in *row 1* been formatted?

_____ [1]

- (b) Below is a section of the spreadsheet. Enter the **THREE** formulae you would expect to find in the spaces provided.

	A	B	C	D	E	F	G
1	London Trip Costs						
2	ITEM	Quantity	Cost	Total Cost	% Discount	Discount £	Total Payable
3	Airporter Bus Ticket	15	£20.00	[1]	10%	[1]	[1]

--	--

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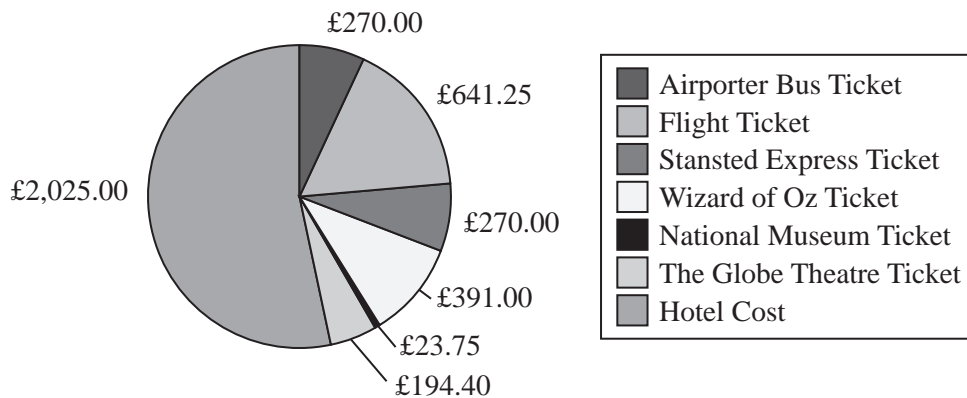
0 6

- (c) Mrs Maxwell decides to include validation on the % Discount column. In the table below tick (✓) the validation rule which will allow all values in the range 0 to 100.

Validation Rule	Tick
>0 and <100	
>=0 and <=100	
<0 and >100	

[1]

- (d) The following chart has been produced from the spreadsheet showing a summary of the costs for the London trip.



- (i) Circle the **legend** on the chart. [1]

- (ii) What is the purpose of a **legend** on any chart?

_____ [1]

- (iii) List the **cell references** of the two cell ranges used to produce the chart.

Cell range 1 _____

Cell range 2 _____ [2]

Examiner Only	
Marks	Remark

[Turn over]



(iv) How have **data labels** improved the chart?

_____ [1]

(v) List **ONE** piece of information that Mrs Maxwell could get from the chart above.

_____ [1]

Examiner Only

Marks Remark

Total Question 2



- 3 John is a Year 8 student. He is learning about email in the school. Below is part of an email.

Examiner Only	
Marks	Remark

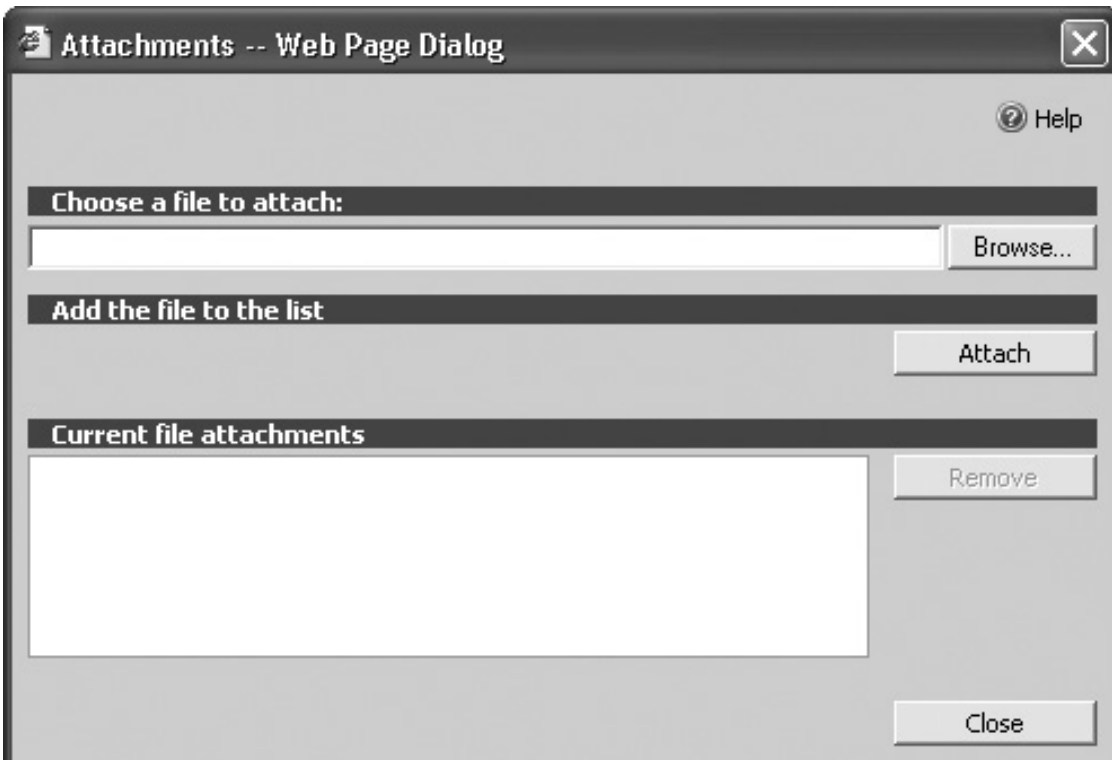
The screenshot shows an email client window with a menu bar (Send, Print, Reply, Reply All, Forward, Options..., Help) and several input fields: To..., Cc..., Bcc..., Subject:, and Attachments:. Below these fields is a rich text editor toolbar with options for font face (Times New Roman), size (12), bold (B), italic (I), underline (U), bulleted list, numbered list, indent, and outdent. The main body of the email is currently empty.

- (a) Explain to John the difference between **Cc** and **Bcc**.

[2]



- (b) John wants to make use of attachments. Describe how he can do this by referring to the **Browse** and **Attach** buttons in the window below.



Browse _____

Attach _____

_____ [2]

Examiner Only	
Marks	Remark



(c) John wants to email a folder containing ten files to his teacher.
Describe **TWO different** ways in which John can send the ten files.

1. _____
_____ [1]

2. _____
_____ [1]

Examiner Only	
Marks	Remark
Total Question 3	

[Turn over



4 Eamon is going to use software to edit a photograph which he will upload to a website.

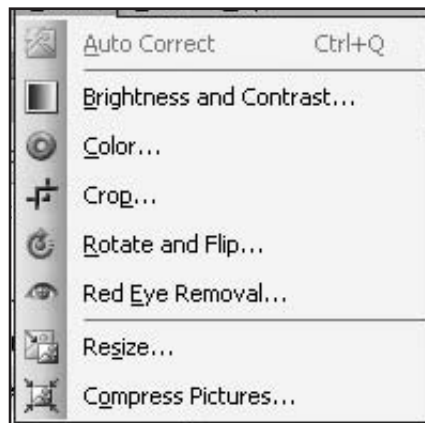
(a) The photograph is a **bitmap**. List **TWO** features of a bitmap file.

Feature 1: _____

Feature 2: _____

_____ [2]

(b) Below is a menu from the software package Eamon will use.



Examiner Only	
Marks	Remark



In the table below, tick (✓) the **TWO** statements that are **TRUE** about the **Resize** and **Compress Pictures** options.

Statement	Tick (✓)
Resize allows the user to change the height and width of the picture.	
Compress Pictures will increase the storage space required for the pictures.	
Compress Pictures will decrease the storage space required for the pictures.	
Resize allows the user to delete part of the picture.	

[2]

- (c) The software package allows pictures to be saved in **jpeg** format. Give **ONE** reason why Eamon should save the photograph in this format if he is going to use it on a website.

[1]

Examiner Only	
Marks	Remark
Total Question 4	

[Turn over]



5 An accountancy firm has bought software for its new networked computers.

(a) In the table below, tick (✓) **ONE** piece of **Software** which would be most appropriate to carry out the **Task** stated.

Task	Software
Perform financial calculations on customer data.	Select ONE only <input type="checkbox"/> Database <input type="checkbox"/> Spreadsheet <input type="checkbox"/> Desktop Publishing <input type="checkbox"/> Email
Store customer records without repeating data.	Select ONE only <input type="checkbox"/> Database <input type="checkbox"/> Spreadsheet <input type="checkbox"/> Desktop Publishing <input type="checkbox"/> Email
Create a flyer to advertise the company.	Select ONE only <input type="checkbox"/> Database <input type="checkbox"/> Spreadsheet <input type="checkbox"/> Desktop Publishing <input type="checkbox"/> Email

[3]

Examiner Only

Marks

Remark



(b) One accountant has to give a talk at a conference. He has decided to create a multimedia presentation.

(i) Explain the term **multimedia**.

_____ [2]

(ii) List **TWO** features of a multimedia package that the accountant could use to make the presentation run automatically.

1. _____ [2]
2. _____

The accountant has used a **wizard** to help prepare the presentation.

(iii) What is a **wizard**?

_____ [2]

Examiner Only

Marks

Remark

Total Question 5

[Turn over



- 6 Catriona has bought a new computer. Some of the details about the computer are listed below.

Examiner Only	
Marks	Remark

Processor	Intel® Pentium® Processor E5300 – 2.6 GHz – 800 MHz
Operating System	Genuine Windows® 7 Home Premium 64-bit
RAM	2 GB
Screen resolution	1366 × 768
Screen size	18.5"
Hard drive	320 GB 7200 rpm
Optical disk drive	DVD writer
Memory card reader	Yes
USB	6 USB 2.0 ports (2 in front)
Modem/Ethernet	Ethernet RJ-45 port
Wi-Fi	Yes
Bluetooth	No

- (a) The Operating System Genuine Windows® 7 Home Premium is a **GUI**.

- (i) Expand the acronym **GUI**.

_____ [1]



(ii) List and explain **TWO** features associated with a **GUI**.

Feature 1 _____

Explanation: _____

Feature 2 _____

Explanation: _____

_____ [4]

(b) The screen resolution of the computer is 1366×768 . Explain the term **resolution** in relation to a computer screen.

_____ [2]

(c) The computer has 6 USB ports. What is the purpose of a USB port on any computer?

_____ [1]

(d) What is the advantage of having a **memory card reader** on the computer?

_____ [1]

Examiner Only

Marks Remark



(e) When a computer is switched on the *boot up* sequence starts. List **THREE** things which happen during the *boot up* sequence on a computer.

1. _____
2. _____
3. _____ [3]

Examiner Only	
Marks	Remark
Total Question 6	

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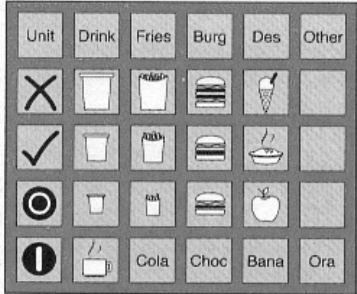




1 8

7 Input and output devices are important parts of any computer system.

(a) Name the **input** devices shown below and explain **ONE** way in which they can be used to input data into a computer system.

Examiner Only	
Marks	Remark

Device	Device Name	Use
<p>(i)</p>  <p>© http://www.teach-ict.com</p>	[1]	[1]
<p>(ii)</p>  <p>©iStockphoto/Thinkstock</p>	[1]	[1]
<p>(iii)</p>  <p>©Hemera/Thinkstock</p>	[1]	[1]



(b) Fill in the blank spaces using the most appropriate words from the list below to complete the information about printers. (Not all words will be used.)

- IMPACT** **NON IMPACT** **HIGH** **POOR**
TONER **INK CARTRIDGES** **DOT MATRIX**
INK JET

A laser printer is a type of _____ printer. It produces _____ quality printouts and uses _____ to print onto paper. A _____ printer can produce carbon copies because the print head makes contact with the paper. [4]

Examiner Only	
Marks	Remark
Total Question 7	



8 Jack's English teacher has set up a video conference with an international poet and the class.

(a) Apart from a computer, list **TWO** pieces of hardware that his teacher will require for the video conference.

1. _____

2. _____ [2]

(b) State **TWO** advantages of using video conferencing in this situation.

1. _____

2. _____

_____ [2]

(c) The school's network manager asks the teacher to run the video conference after school.

What impact could running the video conference during school time have on other users of the school network?

_____ [1]

Examiner Only

Marks Remark

Total Question 8

[Turn over



9 Aislinn has created a database for her teacher to hold details of all of the pupils being awarded prizes at her school Prize Day.

(a) Use the most appropriate words from the list below to complete the information about databases. (Not all words will be used.)

fields form record file
report structured updated

A database is a _____ collection of information.

Each entry about a person or item in a database is called a

_____.

Data can be input into a database using a _____. [3]

Part of the database Aislinn created is shown below.

Prize ID	Prize Name	Surname	First Name	Year Group	Attending?
1	ICT Prize	Irwin	Jane	8	<input checked="" type="checkbox"/>
2	Maths Prize	Baird	Jake	8	<input checked="" type="checkbox"/>
3	English Prize	Coleman	Brian	8	<input type="checkbox"/>
4	Science Prize	Groves	Simon	8	<input checked="" type="checkbox"/>
5	Excellent Attendance	Smith	Leisa	8	<input checked="" type="checkbox"/>
6	Music Prize	Brown	Emily	8	<input checked="" type="checkbox"/>
7	Athletics Prize	Phillips	Alexander	8	<input checked="" type="checkbox"/>
8	Best Grades	Thomas	Cathy	8	<input type="checkbox"/>
9	Effort	Stanley	Peter	8	<input type="checkbox"/>
10	ICT Prize	Hicks	Myles	9	<input type="checkbox"/>
11	Maths Prize	Dunlop	Molly	9	<input checked="" type="checkbox"/>
12	English Prize	Irwin	Charlie	9	<input checked="" type="checkbox"/>
13	Science Prize	Morris	Joseph	9	<input checked="" type="checkbox"/>
14	Excellent Attendance	Mains	John	9	<input type="checkbox"/>
15	Music Prize	Knowles	Michael	9	<input checked="" type="checkbox"/>
16	Athletics Prize	Peters	Petra	9	<input type="checkbox"/>
17	Best Grades	McDowell	Chris	9	<input checked="" type="checkbox"/>
18	Effort	Cowan	Eimer	9	<input type="checkbox"/>

(b) Aislinn has made Prize ID the key field.

Give **ONE** reason why *Prize Name* would **NOT** make a suitable key field.

_____ [1]



Examiner Only	
Marks	Remark

Aislinn has used the following structure to set up her database.

Field	Data Type
Prize ID	Number
Prize Name	Text
Surname	Text
First Name	Text
Year Group	Number
<i>Attending?</i>	

(c) Suggest a suitable data type for the Field *Attending?*

_____ [1]

Aislinn wants to search the database for all of the pupils in Year 8 who are attending Prize Day.

(d) Place a tick (✓) in the table below beside the criteria that will return the correct results.

Criteria	Tick (✓)
Year Group = 8 OR Attending = Yes	
Year Group <> 8 AND Attending = Yes	
Year Group = 8 AND Attending = Yes	
Year Group > = 8 OR Attending = Yes	

[1]

Examiner Only	
Marks	Remark

[Turn over



Aislinn creates the following report for her teacher.

Examiner Only	
Marks	Remark

Prize Day 2011

<i>Year Group</i>	<i>Surname</i>	<i>First Name</i>	<i>Prize ID</i>	<i>Prize Name</i>	<i>Attending?</i>
8	Baird	Jake	2	Maths Prize	<input checked="" type="checkbox"/>
	Brown	Emily	6	Music Prize	<input checked="" type="checkbox"/>
	Coleman	Brian	3	English Prize	<input type="checkbox"/>
	Groves	Simon	4	Science Prize	<input checked="" type="checkbox"/>
	Irwin	Jane	1	ICT Prize	<input checked="" type="checkbox"/>
	Phillips	Alexander	7	Athletics Prize	<input checked="" type="checkbox"/>
	Smith	Leisa	5	Excellent Attendance	<input checked="" type="checkbox"/>
	Stanley	Peter	9	Effort	<input type="checkbox"/>
	Thomas	Cathy	8	Best Grades	<input type="checkbox"/>
9	Cowan	Eimer	18	Effort	<input type="checkbox"/>
	Dunlop	Molly	11	Maths Prize	<input checked="" type="checkbox"/>
	Hicks	Myles	10	ICT Prize	<input type="checkbox"/>
	Irwin	Charlie	12	English Prize	<input checked="" type="checkbox"/>
	Knowles	Michael	15	Music Prize	<input checked="" type="checkbox"/>
	Mains	John	14	Excellent Attendance	<input type="checkbox"/>
	McDowell	Chris	17	Best Grades	<input checked="" type="checkbox"/>
	Morris	Joseph	13	Science Prize	<input checked="" type="checkbox"/>
	Peters	Petra	16	Athletics Prize	<input type="checkbox"/>



- (e) In the table below, tick (✓) **TWO** statements that are **TRUE** about the formatting of this report.

Formatting	Tick (✓)
The report is grouped according to Attending	
The report is grouped according to Year Group	
The report is sorted according to Prize Name	
The report is sorted according to Attending	
The report is sorted according to First Name	
The report is sorted according to Surname	

[2]

- (f) List **TWO** ways (apart from changing font or text colour) in which Aislinn could improve the appearance of the report on page 24.

1. _____ [1]

2. _____ [1]

Some of the data Aislinn needs for the database has been entered into a text file. She can import this into her database as a **csv** file.

- (g) Expand the acronym **csv**.

_____ [1]

Examiner Only	
Marks	Remark
Total Question 9	

[Turn over



10 A local supermarket is trying to decide if they should install a new **EFTPOS** system.

(a) Expand the acronym **EFTPOS**.

_____ [1]

(b) Name **TWO** output devices used with an EFTPOS system.

1. _____ [1]

2. _____ [1]

(c) (i) List **TWO** advantages **to the customer** of installing an EFTPOS system.

1. _____ [1]

2. _____ [1]

(ii) List **TWO** disadvantages **to the supermarket** of installing an EFTPOS system.

1. _____ [1]

2. _____ [1]

Examiner Only

Marks

Remark



EFTPOS systems scan barcodes on products when purchases are made.

(d) In the table below, tick (✓) **TWO** statements that are **TRUE** about barcodes on supermarket products.

EFTPOS at a typical supermarket	Tick (✓)
The product barcode is used to search a database for the price of the item	
The product barcode contains details about the sell-by date of the item being purchased	
Barcodes use check digits to validate that they have been entered correctly	
Barcodes contain a description of the product so it can be added to your itemised receipt	

[2]

Examiner Only	
Marks	Remark
Total Question 10	

[Turn over



11 Banks make widespread use of ICT today.

Customers can manage their accounts online or using telephone banking.

(a) List **TWO** advantages **to banks** of allowing customers to use online and telephone banking accounts.

1. _____ [1]

2. _____ [1]

(b) Give **ONE** reason why some customers may not want to use online banking.

_____ [1]

Customers can withdraw cash from their accounts using ATM (Automated Teller Machines).

(c) List **TWO** methods of security used at an **ATM**.

1. _____ [1]

2. _____ [1]

Banks can use a magnetic stripe or a micro chip to store details on customers' bank cards.

(d) List **TWO** differences between **magnetic stripe** cards and cards using **micro chips**.

1. _____ [1]




2. _____ [1]

Examiner Only	
Marks	Remark
Total Question 11	



12 Sarah has bought a new PC but wants to know more about the different storage media she can use.

(a) State whether each of the media in the table below is **Magnetic** or **Optical** storage media. The first is completed for you.

Media	Magnetic or Optical?
 <p data-bbox="392 719 612 741">©iStockphoto/Thinkstock</p>	Magnetic
 <p data-bbox="392 1025 612 1048">©iStockphoto/Thinkstock</p>	
 <p data-bbox="392 1339 612 1361">©iStockphoto/Thinkstock</p>	

[2]

Examiner Only

Marks

Remark



- (b) List the following storage devices in order of speed of data retrieval from fastest to slowest.

	hard disc	main memory	CD ROM
Fastest	1. _____		[1]
↓	2. _____		[1]
Slowest	3. _____		[1]

Sarah's PC has a 160 GB hard disc, 2 GB of RAM and 1 GB of **cache memory**.

- (c) (i) Explain to Sarah why **backup** is important and suggest **ONE** device which she could use to back up her system.

_____ [2]

- (ii) RAM and cache memory are both **volatile**. What is meant by the term **volatile**?

_____ [1]

- (iii) Give **ONE** way in which **RAM** is used when you are operating a PC.

_____ [1]

- (iv) State the meaning of the term **cache memory**.

_____ [1]

Examiner Only	
Marks	Remark
Total Question 12	



13 David needs to record data on weather change over a period of three weeks. He sets up a data logging experiment to record temperature and rainfall.

- (a) Apart from a temperature sensor, name **ONE** other sensor he would need to use in this experiment.

_____ [1]

David's data logging experiment uses an **interface** to connect the sensors to the computer.

- (b) Why is an **interface** necessary?

_____ [1]

- (c) Give **ONE** advantage of using a computer to log data instead of a human.

_____ [1]

David's greenhouse uses a computerised control system with feedback to help maintain temperature and humidity levels.

- (d) In the table below, tick (✓) the correct explanation of how feedback is used in this example.

Feedback in greenhouse system	Tick (✓)
Sensors record changes in temperature and humidity and if necessary the sensors turn on the heating or the sprinklers	
Sensors record changes in temperature and humidity and if necessary the user will turn on the heating or the sprinklers	
Sensors record changes in temperature and humidity and if necessary the interface will turn on the heating or the sprinklers	
Sensors record changes in temperature and humidity and if necessary the processor will turn on the heating or the sprinklers	

[1]



(e) Explain how control systems are used to manage traffic at busy junctions.

_____ [2]

(f) List **TWO** ways data logging systems are different from control systems.

1. _____ [1]

2. _____ [1]

Examiner Only	
Marks	Remark
Total Question 13	

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3 2

14 A national newspaper uses a LAN (Local Area Network) with an Intranet and Internet connection.

(a) List **TWO** advantages to the newspaper of using a **LAN**.

1. _____

2. _____ [2]

Staff at the newspaper can also use the WWW (World Wide Web) to research articles they are writing.

(b) Explain the difference between the **Internet** and the **WWW**.

 _____ [2]

(c) (i) List **TWO** differences between a **LAN** and a **WAN**.

1. _____

2. _____ [2]

(ii) *Apart from a computer*, name **ONE** item of hardware needed for Internet connection.

_____ [1]

(iii) Name **ONE** piece of software needed for Internet connection.

_____ [1]

Examiner Only

Marks Remark



(d) Describe **ONE** way the editor of the newspaper could make use of the **Intranet**.

_____ [1]

The newspaper also uses the LAN to store personal details about employees.

(e) Name **ONE** method of security they might employ to ensure data on the LAN is kept secure from internal users.

_____ [1]

Examiner Only	
Marks	Remark
Total Question 14	



- 15 Using the terms in the list below, choose **ONE** term that best matches the definition in the left-hand column (not all words in the list will be used).

Backup **Font size** **Modelling** **Template**
Cursor **Zoom** **Scanner** **Pixel**
Export **Absolute** **Digital** **History**
Mail-merge **URL**

Definition	Term
A web address which when typed into the address bar of a browser will take the user to a website	
A document that can be edited and reused over and over again	
The smallest element on a VDU that can be edited	
Allows an area of the screen to be seen more closely	
Data in a format known as binary, which consists of two digits 0 and 1	
An object which tracks the user's screen position	
A spreadsheet cell reference that does not change when copied	
A button on a web browser which shows the websites that have been visited	
Using a database and word processor to create personalised documents	
To convert a document into a format for use in another package	

[10]

Examiner Only	
Marks	Remark
Total Question 15	
Quality of Written Communication	



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