

**GENERAL CERTIFICATE OF SECONDARY EDUCATION  
INFORMATION AND COMMUNICATION TECHNOLOGY**

**B061**

Unit B061: ICT in today's world

Candidates answer on the Question Paper

**OCR Supplied Materials**

- None

**Other Materials Required:**

- None

**Duration:** 1 hour

Candidate Forename		Candidate Surname	
Centre Number		Candidate Number	

**INSTRUCTIONS TO CANDIDATES**

- Write your name in capital letters, your Centre Number and Candidate Number in the boxes above.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- Answer **all** the questions.
- Do **not** write in the bar codes.
- Do not write outside the box bordering each page.
- Write your answer to each question in the space provided, however additional paper may be used if necessary.

**INFORMATION FOR CANDIDATES**

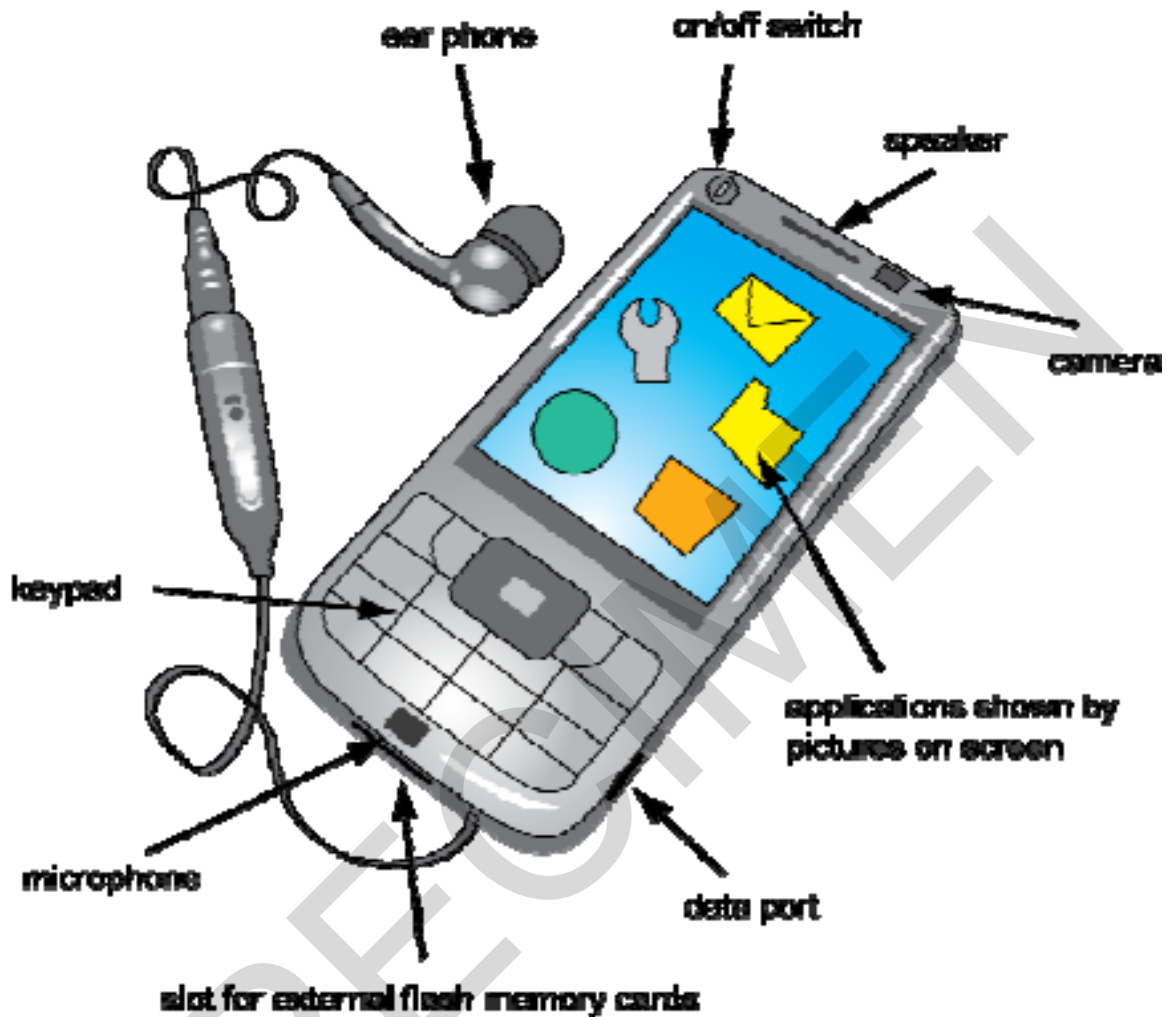
- The number of marks for each question is given in brackets [ ] at the end of each question or part question.
- The total number of marks for this paper is **60**.
- This document consists of **8** pages. Any blank pages are indicated.
- Your Quality of Written Communication is assessed in questions marked with an asterisk (\*).

Examiner's Use Only:			
1		9	
2		10	
3		11	
4		12	
5		13	
6		14	
7		15	
8			
<b>Total:</b>			

## Section A

Answer **all** questions.

- 1 A mobile phone is shown below. Some components are labelled.



Tick **one** box in each row to show whether the component is input, output or storage.

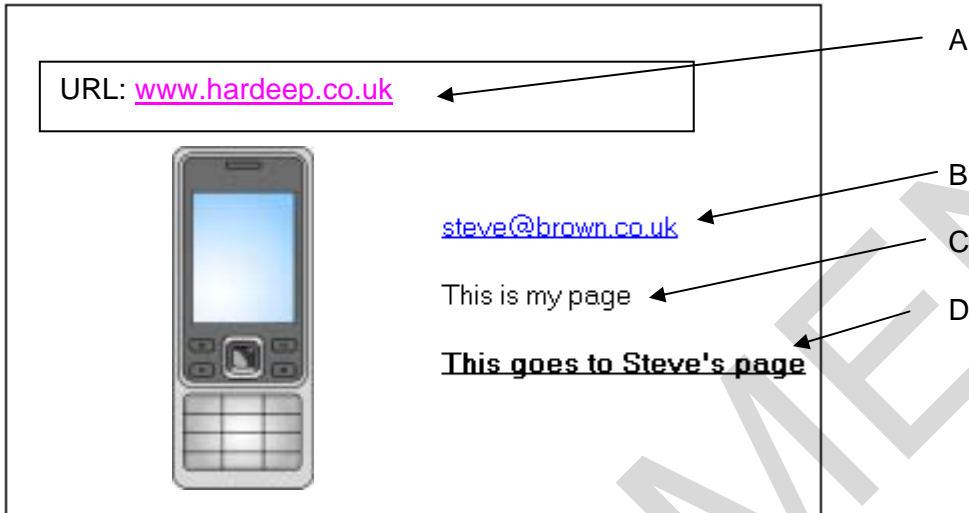
Component	Input (✓)	Output (✓)	Storage (✓)
camera			
ear phone			
flash memory card			
keypad			
microphone			
speaker			

- 2 Email, web browsers and other applications are stored on a mobile phone. Hardeep accesses these by touching the pictures on the screen.

State the correct term for these pictures.

..... [1]

- 3 Hardeep accesses the web browser to display a page which is shown below.



In the table below, write down the letter for each of the labelled items. The first one has been done for you.

Item	Letter
email address	<b>B</b>
address of the page being shown	
hyperlink to another webpage	
plain text	

[3]

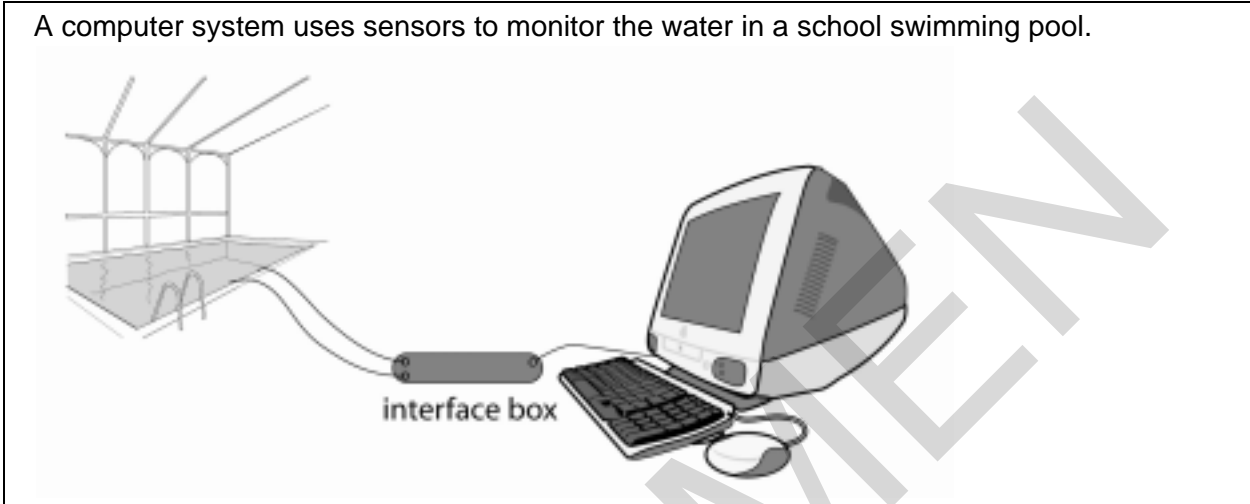
[Turn over



6 What is a computer virus?

.....  
.....  
.....  
..... [2]

Questions 7 to 9 refer to the information in the box below.



7 (a) Explain why the sensors are connected to the interface box and not directly to the computer.

.....  
.....  
..... [2]

(b) State **one disadvantage** of using a computer system to monitor the water.

..... [1]

8 The data from the sensors is collected and stored by the computer.

Describe how the collected data could be used to improve the cleanliness of the pool.

.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
..... [5]

[Turn over

9 A robot is used to clean the bottom of the pool.

Name **one** suitable sensor that could be placed on the robot and explain how it could be used to help guide the robot around the pool.

Sensor ..... [1]

Use of sensor ..... [1]

**Questions 10 to 12 refer to modelling.**

10 John has decided to see some of the world before starting university. The following table shows the exchange rates for some of the countries John plans to visit.

Currency	Rates to the pound (£)
Turkish Lira	2.63
Chinese Yuan	13.56
Icelandic Krona	121.37
Jamaican Dollar	113.93

State how a computer model could be used to help John work out the cost of his trip in pounds (£).

..... [1]

11 The chart below shows the UK Pound relative to the Singapore Dollar (SGD). In April you could only buy 2.79 dollars with a pound, in August you could buy 3.00 dollars with a pound.



Predicting future exchange rates is vital to John's trip.

State what a computer model could be based upon to help predict future exchange rates.

..... [1]







**OXFORD CAMBRIDGE AND RSA EXAMINATIONS**

**General Certificate of Secondary Education**

**INFORMATION AND COMMUNICATION  
TECHNOLOGY**

**B061**

Unit B061: ICT in today's world

**Specimen Mark Scheme**

The maximum mark for this paper is **60**.

SPECIMEN

Question Number	Answer	Max Mark																												
1	<p>Tick <b>one</b> box in each row to show whether the component is input, output or storage.</p> <p>Ticks as shown:</p> <p>If the candidate has ticked more than one box in a row, then do not award the mark for that row.</p> <table border="1"> <thead> <tr> <th>Device</th> <th>Input (✓)</th> <th>Output (✓)</th> <th>Storage (✓)</th> </tr> </thead> <tbody> <tr> <td>camera</td> <td>✓</td> <td></td> <td></td> </tr> <tr> <td>ear phone</td> <td></td> <td>✓</td> <td></td> </tr> <tr> <td>flash memory card</td> <td></td> <td></td> <td>✓</td> </tr> <tr> <td>keypad</td> <td>✓</td> <td></td> <td></td> </tr> <tr> <td>microphone</td> <td>✓</td> <td></td> <td></td> </tr> <tr> <td>speaker</td> <td></td> <td>✓</td> <td></td> </tr> </tbody> </table>	Device	Input (✓)	Output (✓)	Storage (✓)	camera	✓			ear phone		✓		flash memory card			✓	keypad	✓			microphone	✓			speaker		✓		[6]
Device	Input (✓)	Output (✓)	Storage (✓)																											
camera	✓																													
ear phone		✓																												
flash memory card			✓																											
keypad	✓																													
microphone	✓																													
speaker		✓																												
2	<p>Email, web browsers and other applications are stored on a mobile phone. Hardeep accesses these by touching the pictures on the screen.</p> <p>State the correct term for these pictures.</p> <p>Icon</p>	[1]																												
3	<p>In the table below, write down the letter for each of the labelled items. The first one has been done for you.</p> <p>Letters as shown:</p> <table border="1"> <thead> <tr> <th>Item</th> <th>Letter</th> </tr> </thead> <tbody> <tr> <td>(email address)</td> <td>(B)</td> </tr> <tr> <td>address of the page being shown</td> <td>D</td> </tr> <tr> <td>hyperlink to another webpage</td> <td>A</td> </tr> <tr> <td>plain text</td> <td>C</td> </tr> </tbody> </table>	Item	Letter	(email address)	(B)	address of the page being shown	D	hyperlink to another webpage	A	plain text	C	[3]																		
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plain text	C																													

Question Number	Answer	Max Mark
4	<p><b>Julian, a Geography teacher, writes a field trip report and saves it as a file. He wants to send the report and images from the field trip to his students.</b></p> <p><b>Describe how Julian would send these documents by email.</b></p> <p>A description which may include:            Start email application/tap on email icon (1), write message (1), enter email address/use address book/lookup address/mailmerge addresses (1) attach file (1), connect to internet (1), send email (1)</p>	[5]
5	<p><b>Explain <u>two</u> advantages of sending documents by email rather than printing and posting them.</b></p> <p>Two from:</p> <ul style="list-style-type: none"> <li>• Can send to multiple recipients simultaneously (1)...rather than having to send several letters/packs(1)</li> <li>• Can attach multiple/many files easily/quickly(1)...rather than having to print each one and put into pack(1)</li> <li>• Can send video/sound files(1)...rather than having to include media such as CD or flash memory(1)</li> <li>• Copy of email can be electronically stored by sender(1)...rather than in hard copy(1)</li> <li>• Files can be edited electronically by recipient (1)...rather than needing to reproduce document(1)</li> <li>• Documents arrive speedily(1)...rather than slowly by traditional post(1)</li> <li>• Documents transported cheaply(1)...rather than entailing postage costs(1).</li> </ul> <p>Max 2 marks per bullet</p>	[4]

Question Number	Answer	Max Mark
6	<p><b>What is a computer virus?</b></p> <p>A computer virus is:  A (computer) program/code (1), (or similar: malicious software, key logging software, malware) which deletes/damages/corrupts/alters files (1), and affects the performance of a computer (1) or results in the loss/disclosure of personal data to unauthorised users</p> <p>Max 2</p>	[2]
7(a)	<p><b>Explain why the sensors are connected to the interface box and not directly to the computer.</b></p> <p>eg:</p> <ul style="list-style-type: none"> <li>• sensors send analogue data but computers only use digital data (2)</li> <li>• sensors protect the computer input circuitry to prevent damage to the computer (2).</li> </ul> <p><b>Point only, max 1 mark.</b>  <b>Do not allow</b> water damage to computers</p>	[2]
7(b)	<p><b>State <u>one</u> disadvantage of using a computer system to monitor the water.</b></p> <p>One from:</p> <ul style="list-style-type: none"> <li>• must have a dedicated computer</li> <li>• need for trailing wires</li> <li>• sensors/wiring have to be waterproof</li> <li>• maintenance of the system</li> <li>• data needs to be secure and protected</li> <li>• (data can be lost if) breakdowns/faulty components occur</li> <li>• staff employment/training issues</li> </ul>	[1]

Question Number	Answer	Max Mark
8	<p><b>The data from the sensors is collected and stored by the computer.</b></p> <p><b>Describe how the collected data could be used to improve the cleanliness of the pool.</b></p> <ul style="list-style-type: none"> <li>• data exported</li> <li>• to a data handling package/spreadsheet/database</li> <li>• put into table/graphs/charts</li> <li>• legends/titles/notes/comments added</li> <li>• (table/graphs/charts) exported to report in eg DTP or WP package</li> <li>• displayed on screens/printed out</li> </ul> <p>Max 3 marks for process</p> <ul style="list-style-type: none"> <li>• data used to control conditions in pool</li> <li>• control temperature</li> <li>• by turning on/off heaters</li> <li>• control cleanliness</li> <li>• by adjusting filters/chemicals/fresh water</li> <li>• predictions/"what if" scenarios</li> <li>• automatic alerts (to pool staff of changes in conditions)</li> </ul> <p>Max 2 marks for how technology would be used in solution</p>	[5]
9	<p><b>A robot is used to clean the bottom of the pool.</b></p> <p><b>Name <u>one</u> suitable sensor that could be placed on the robot and explain how it could be used to help guide the robot around the pool.</b></p> <p><b>Type of sensor (1)</b></p> <ul style="list-style-type: none"> <li>• light</li> <li>• pressure/touch/contact</li> </ul> <p><b>Use of sensor (1)</b></p> <ul style="list-style-type: none"> <li>• detect a change of light intensity</li> <li>• detects contact with the wall</li> <li>• stops robot/alters direction</li> <li>• data sent to on-board/remote computer/microprocessor</li> <li>• computer/microprocessor uses data to make decisions/compare with inbuilt data</li> </ul>	[2]

Question Number	Answer	Max Mark
10	<p><b>State how a computer model could be used to help John work out the cost of his trip in pounds (£).</b></p> <p>One mark for stating how a computer model can be used. For example:</p> <ul style="list-style-type: none"> <li>• The exchange rates could be put into spreadsheet model where the formulae calculates the overall costs (1)</li> </ul>	[1]
11	<p><b>Predicting future exchange rates is vital to John's trip. State what a computer model could be based upon to help predict future exchange rates.</b></p> <p>One mark for an answer of how the model could predict the future. For example:</p> <ul style="list-style-type: none"> <li>• Could be based upon past trends (1)</li> <li>• Estimated future values of currency (1)</li> </ul>	[1]
12	<p><b>Describe the main <u>drawbacks</u> of a computer model used to predict exchange rates.</b></p> <p><b>This question to be marked as levels of response:</b></p> <p><b>Level 1 (0-2 marks)</b>  Candidates will give basic descriptions of one or two drawbacks. Answers may be simplistic with little or no relevance and may be in the form of a list.  There will be little or no use of specialist terms.</p> <p><b>Level 2 (3-4 marks)</b>  Candidates give descriptions of the main drawbacks, making reference to the components of a computer model.  For the most part the information will be relevant and presented in a structured and coherent format.  Specialist terms will be used appropriately and for the most part correctly.</p> <p><b>Level 3 (5-6 marks)</b>  Candidates give detailed descriptions of the main drawbacks of a computer model used to predict exchange rates.  The information will be relevant, clear, organised and presented in a structured and coherent format.  Specialist terms including 'rules' and 'variables' will be used correctly and appropriately.</p>	

Question Number	Answer	Max Mark
12 Cont'd	<p><b>Answers may include</b></p> <ul style="list-style-type: none"><li>• Computers can never run a perfect model to predict exchange rates.</li><li>• Computer models are nothing more than computer programs accompanied by numerical data to simulate a system or a part of it.</li><li>• Computer models can produce wrong results, for many different reasons. "Bugs", i.e. small errors in the computer codes in the system can produce wrong results.</li><li>• Sometimes errors stem from transcribing the equation into its software form, or "algorithm".</li><li>• Sometimes the program is perfect but still the results are wrong as the model does not reflect all that happens in reality (in most cases it is just oversimplified).</li><li>• a good model of a complex system may well be too demanding on the computer hardware, requesting far too much time to run and far too much memory to carry out what is required.</li></ul>	[6]

Question Number	Answer	Max Mark
13*	<p><b>“Using the internet is a convenient and secure way to buy and sell goods.”</b></p> <p><b>Discuss this statement.</b></p> <p><b>This question to be marked as levels of response:</b></p> <p><b>Level 1 (0-3 marks)</b></p> <p>Candidates will only address some aspects of the question, and give basic descriptions of using the internet for buying or selling and may not refer to convenience and/or security.</p> <p>Answers may be simplistic with little or no relevance and may be in the form of a list.</p> <p>There will be little or no use of specialist terms.</p> <p>Errors of grammar, punctuation and spelling may be intrusive.</p> <p><b>Level 2 (4-6 marks)</b></p> <p>Candidates will address all aspects of the question and discuss/consider different implications although development of some of the points/implications/advantages/disadvantages/benefits/drawbacks relating to using the internet for buying and selling may be one sided or limited. Although it is expected that there will be a reference to convenience and security, this may be by implication rather than specifically.</p> <p>There will be an attempt at a conclusion.</p> <p>For the most part the information will be relevant and presented in a structured and coherent format.</p> <p>Specialist terms will be used appropriately and for the most part correctly.</p> <p>There may be occasional errors in grammar, punctuation and spelling.</p> <p><b>Level 3 (7-8 marks)</b></p> <p>Candidates will address all aspects of the question and discuss different points/implications/advantages/disadvantages/benefits/drawbacks relating using the internet for buying and selling. Both convenience and security will be discussed. The issues raised will be justified.</p> <p>There will be a reasoned conclusion.</p> <p>The information will be relevant, clear, organised and presented in a structured and coherent format.</p> <p>Specialist terms will be used correctly and appropriately.</p> <p>There will be few, if any, errors in grammar, punctuation and spelling.</p>	



Question Number	Answer	Max Mark	
<p><b>13*</b> <b>Cont'd</b></p>	<p><b>Answers may include</b></p>	<p><b>[8]</b></p>	
	<p><b>Positive/advantages</b></p>		<p><b>Negative/disadvantages</b></p>
	<p>Time/expense/convenience/practicalities involved in travel</p>		<p>Somebody has to sign for/accept delivery</p>
	<p>Can buy/sell 24/7</p>		<p>Cost of post and packaging</p>
	<p>More choice/greater choice of goods/service</p>		<p>Must have computer access</p>
	<p>Large/global market to buyers/sellers</p>		<p>Cannot examine goods before purchase</p>
	<p>No high street overheads/better discounts</p>		<p>Lack of personal contact</p>
	<p>Secure way, not having to carry money/credit cards</p>		<p>Hackers may intercept data <u>and</u> defraud customers/shops</p>
	<p>Use of secure sites</p>		<p>More vulnerable to phishing</p>
<p><b>14</b></p>	<p><b>WiFi and Bluetooth are both wireless technologies used to connect devices.</b></p> <p><b>Compare WiFi and Bluetooth wireless technologies.</b></p> <p>WiFi and Bluetooth both use radio waves (1) and are both short range connections(1). WiFi speeds are greater than Bluetooth speeds (128Mbits/s as opposed to 3Mbits/s) (1). WiFi is used to connect to the internet via hot spots/access points/distribution boxes (1) while Bluetooth is used to connect between devices, such as mobile phones (1) Bluetooth is unlicensed, so anyone can set up a bluetooth connection (1).</p> <p>Must be a comparison.</p>	<p><b>[5]</b></p>	

Question Number	Answer	Max Mark
15*	<p><b>Discuss why social networks should be used with caution.</b>  <b>This question to be marked as levels of response:</b></p> <p><b>Level 1 (0-3 marks)</b>  Candidates may only address some aspects of the question, and give basic descriptions of what social networks are and how they are used. Answers may be simplistic with little or no relevance. There will be little or no use of specialist terms. Errors of grammar, punctuation and spelling may be intrusive.</p> <p><b>Level 2 (4-6 marks)</b>  Candidates will address all aspects of the question and discuss/consider different implications although development of some of the points/implications/disadvantages/drawbacks of using social networks may be one sided or limited. There will be an attempt at a conclusion. For the most part the information will be relevant and presented in a structured and coherent format. Specialist terms will be used appropriately and for the most part correctly. There may be occasional errors in grammar, punctuation and spelling.</p> <p><b>Level 3 (7-8 marks)</b>  Candidates will address all aspects of the question and discuss different points/implications/disadvantages/drawbacks of using social networks. The issues raised will be justified. There will be a reasoned conclusion. The information will be relevant, clear, organised and presented in a structured and coherent format. Specialist terms will be used correctly and appropriately. There will be few, if any, errors in grammar, punctuation and spelling.</p> <p><b>Answers may include</b>  A social network service is an online community using web-based services, email or instant messaging services with interaction between users to exchange information/ideas/news. There are usually category divisions, for example school friends/year group/family members.</p> <p><b>Privacy issues</b>  Too much personal information may be given out by individuals. Companies running the sites may hold large/vast amounts of personal information.  Data used for profiling/behaviour mapping.</p>	

Question Number	Answer	Max Mark
<p><b>15*</b> <b>Cont'd</b></p>	<p><b>Control of data</b> Data/information may be deleted/edited/changed by user but retained by company/site and passed to third parties without reference to user</p> <p>Researchers using data from social networking site may not be subject to same laws as those using data gathered in other ways.</p> <p>Misuse of social network. Fake sites used to mislead users and users may not be who they claim. Abuse from other users for example bullying.</p>	<p>[8]</p>
	<p><b>Paper Total</b></p>	<p><b>[60]</b></p>

SPECIMEN

## Assessment Objectives Grid (includes QWC)

Question	AO1	AO2	AO3	Total
1	6	0	0	6
2	1	0	0	1
3	0	3	0	3
4	5	0	0	5
5	3	1	0	4
6	2	0	0	2
7a	2	0	0	2
7b	1	0	0	1
8	3	2	0	5
9	1	1	0	2
10	0	1	0	1
11	0	1	0	1
12	2	4	0	6
13*	2	3	3	8
14	2	1	2	5
15*	1	4	3	8
<b>Totals</b>	<b>31</b>	<b>21</b>	<b>8</b>	<b>60</b>