



**General Certificate of Secondary Education  
June 2013**

**ICT**

**45201**

**(Specification 4520)**

**Unit 1: Systems and Applications in ICT**

**Final**

***Mark Scheme***

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Mark schemes are prepared by the Principal Examiner and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all examiners participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for standardisation each examiner analyses a number of students' scripts: alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, examiners encounter unusual answers which have not been raised they are required to refer these to the Principal Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

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Set and published by the Assessment and Qualifications Alliance.

1	(a)		<b>G</b> (Mouse)	<b>Correct answer only</b>	1
			<b>N</b> (Touch screen)	<b>Correct answer only</b>	1
			<b>O</b> (Tracker ball)	<b>Correct answer only</b>	1
		May just write the word which is OK. Order not important			

1	(b)		<b>E</b> (Laser printer)	<b>Correct answer only any 2 x 1 mark</b>	2
			<b>I</b> (Plotter)		
			<b>M</b> (Speaker)		
May just write the word which is OK. Order not important					

1	(c)		<b>A</b> (CD-RW drive)	<b>Correct answer only any 2 x 1 mark</b>	2
			<b>B</b> (Flash memory)		
			<b>C</b> (Hard disk drive)		
May just write the word which is OK. Order not important					

1	(d)		<b>H</b> (Netbook)	<b>Correct answer only</b>	1
			<b>K</b> (Smart mobile phone)	<b>Correct answer only</b>	1
May just write the word which is OK. Order not important					

1	(e)		<b>J</b> (RAM)	<b>Correct answer only</b>	1
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1	(f)		<b>P</b> (WAN)	<b>Correct answer only</b>	1
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2	(a)	(i)	<b>A</b> (Bar code reader)	<b>Correct answer only</b>	1
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2	(a)	(ii)	<b>C</b> (Chip and pin)	<b>Correct answer only</b>	1
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2	(a)	(iii)	<b>B</b> (Biometrics)	<b>Correct answer only</b>	1
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<b>2</b>	<b>(b)</b>	<p>Telephone number (day) at least 11</p> <p>Telephone number (evening) at least 11</p> <p>Contact tel. Number at least 11</p> <p>Mobile tel. Number at least 11</p> <p>Phone number (no.) at least 11</p> <p style="text-align: center;"><b>NOTE MAX TWO TELEPHONE NUMBERS</b></p> <p>Title at least 3</p> <p>Membership type at least 10 / memo / list</p> <p>E-mail address at least 20 / memo</p> <p>Gender at least 6 or M/F</p> <p>Photo box to fit</p> <p>Date of membership/expiry of membership at least 8(2-2-2/4)</p> <p>DOB at least 8(2-2-2/4)</p> <p>Health/medical/access issues (max 1) at least 15 / memo (also allow health problems / condition)</p> <p>Doctor info max 1 (suitable 'boxes') eg. name at least 12</p> <p>NB – could use the date at end of form <b>NOT NI NOT</b></p> <p><b>Age</b></p> <p>[ ] – open boxes are OK – boxes with small vertical lines are OK</p> <p>Dashes are OK but not just lines unless memos</p> <p>Memo = lines / boxes / dashes <b>IGNORE FILLING IN</b></p> <p><b>Mark only the first 3 fields</b></p> <p>Ignore correct duplicate fields eg more address lines / name lines – these do not count in the THREE. Class them as <b>repeats</b></p> <p>Tick correct field name – do not penalise lack of capitals</p> <p>Tick correct number of boxes / dashes / memo field for the corresponding field name.</p> <p>Count ticks - divide by 2 - round down</p>	<b>3</b>
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3	(a)	<p><b>Health problems</b></p> <p>Back / Neck – pain / ache / problems (allow bad back)</p> <p>Headaches</p> <p>Eye strain</p> <p>Wrist problems / Carpel Tunnel Syndrome / RSI(finger problems)</p> <p>Possible radiation from monitor</p> <p>Possible trigger of a fit for those with photo-sensitive epilepsy</p> <p>Overheating of the room – people getting too hot</p> <p><b>NOT</b> vague issues e.g. joint pain / muscle pain</p> <p><b>NB</b> – if problem wrong there is no follow on</p> <p style="text-align: right;"><b>Any 2 x 1 mark</b></p> <p><b>Steps to avoid</b></p> <p>Regular breaks / walk around / relaxation techniques / fresh air</p> <p><b>Chair</b> - correctly adjusted chair / suitable chair / back support / back rest in chair / ergonomically designed foot rest. As a minimum allow comfortable chair.</p> <p>Adjust monitor distance / brightness / adequate lighting</p> <p>Visit doctor / eye test</p> <p>Use wrist support / ergonomically designed keyboard</p> <p>Check radiation level/change type of monitor/possible “screen shield”</p> <p>Use of air conditioning / ventilation</p> <p>Allow the same step if appropriate for both issues</p> <p style="text-align: right;"><b>Any 2 x 1 mark for appropriate step</b></p>	2
3	(b)	<p><b>Safety issues (NOT repeat of any health issues)</b></p> <p>Electrical faults / exposed wires (<b>NOT</b> loose wires as in question)</p> <p>Plug sockets overloaded</p> <p>Drinks / liquids – near around computer</p> <p>Possible radiation from monitor</p> <p>Overheating of the room/equipment</p> <p style="text-align: right;"><b>Any 2 answers x 1 mark</b></p> <p><b>Appropriate steps (NB</b> – if problem wrong there is no follow on)</p> <p>Repair faults / report faults possibly</p> <p>Install additional sockets</p> <p>Don't bring / use liquids near computer</p>	2

			Regular service and checks / PAT tests Air conditioning / cooling system <b>Any 2 x 1 mark for appropriate step</b>	
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4	(a)	(i)	I (Sensor) <b>Correct answer only</b>	1
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4	(a)	(ii)	C (Data logging) <b>Correct answer only</b>	1
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4	(a)	(iii)	E (Logging Interval) <b>Correct answer only</b>	1
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4	(b)	(i)	<p><b>Human comfort / safety</b> for employees – cold / raining outside, spoil meal times, unsociable hours, less dangerous, cannot work 24/7 etc.</p> <p><b>More Accurate / more precise readings</b> (not just accurate) Reduced(no) <b>human error</b></p> <p><b>Cheaper</b> (with a sensible reason) – save on wages etc</p> <p><b>Consistent</b> – time after time / day after day</p> <p><b>Faster / Quicker</b> – NOT just fast as comparison</p> <p><b>Any 2 answers x 1 mark each</b></p>	2
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4	(b)	(ii)	<p><b>Equipment failure</b> - data logging equipment / transmitting of data / ICT equipment failure / lose data / computer crash / computer break etc</p> <p><b>Costs</b> – high initial cost / expensive to set up / more expensive to buy equipment and set up</p> <p><b>Any 1 answer x 1 mark</b></p>	1
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5	(a)		D This mark is for the first stage being correct	1
			A, B, E, C This mark is for ALL FOUR being in the correct order	1
			F This mark is for the last stage being correct	1

5	(b)		Data from the test plan are input to check the system works as expected <b>Correct answer only</b>	1
			The actual outcomes are compared with the expected results in the test plan <b>Correct answer only</b>	1

5	(c)		Monitoring (User) documentation (User) training  <b>Any 1 answer x 1 mark</b>	1
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5	(d)		Interviews Questionnaires / survey Observation Looking at existing documentation <b>NOT</b> Data Capture Form  <b>Any 1 answer x 1 mark</b>	1
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6	(a)	(i)	<p><b>Cheaper / free</b></p> <p><b>Can download</b> books quickly / instantly on demand / from abroad</p> <p><b>More portable / mobile / easier to carry around / take with you</b> thousands / many of your books / all your books</p> <p>Can <b>change font (text)</b> size / style to help <b>readability</b></p> <p><b>Less space</b> (in house / suitcase) needed to <b>store</b> books</p> <p><b>Environmental</b> friendly – saves paper / saves trees</p> <p><b>Transferability</b> between electronic devices becoming possible.</p> <p>Most can be <b>read in the dark</b></p> <p><b>Can read</b> to you / turn text into spoken speech</p> <p>Less likely to lose pages</p> <p>Extra <b>privacy</b> – cannot see what is being read</p> <p>Automatic access to dictionary</p> <p><b>Any 2 answers x 1 mark each</b></p> <p><b>NOT</b> – just store more than one book / many books/thousands of books <b>without an explanation</b></p>	2
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<b>6</b>	<b>(a)</b>	<b>(ii)</b>	<p>Original <b>cost of buying</b> the e-reader / cost of recharging</p> <p>Some books still <b>not available</b> for the e-reader</p> <p>If e-reader <b>breaks</b>, no books can be read</p> <p>More likely / easier to <b>damage</b> an e-reader</p> <p><b>Readability</b> in direct sunlight still an issue for some models</p> <p><b>Battery</b> issues/runs out / needs charging etc</p> <p>More likely to be <b>stolen</b> / could <b>lose all</b> of the books if stolen</p> <p><b>Technophobe</b> or prefers the 'feel' of paper books</p> <p>Don't always own the book (right to read)</p> <p style="text-align: right;"><b>Any 1 answer x 1 mark</b></p>	<b>1</b>
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<b>6</b>	<b>(b)</b>	<b>(i)</b>	<p>A website where users can add, modify, or delete its content</p> <p style="text-align: right;"><b>Correct answer only</b></p>	<b>1</b>
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<b>6</b>	<b>(b)</b>	<b>(ii)</b>	<p>Information can be <b>wrong / unreliable / incorrect / false</b></p> <p>Information can be updated by anyone so <b>bias</b> as well as errors creep in</p> <p>Worry about the '<b>expertise</b>' of the people who update the wiki / anyone can write to it.</p> <p>Not from a trusted source</p> <p><b>NB-</b> not just change / modify without clarification</p> <p style="text-align: right;"><b>Any 1 answer x 1 mark</b></p>	<b>1</b>
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<b>6</b>	<b>(c)</b>		<p>A series of digital <b>media</b> files (<b>audio or video</b>)</p> <p>Often released <b>episodically (daily / weekly / monthly etc)</b></p> <p>Often downloaded through <b>web syndication/website/Internet</b> /downloaded to a computer/mobile device to watch/listen to.</p> <p style="text-align: right;"><b>Any 2 answers x 1 mark each</b></p>	<b>2</b>
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<b>7</b>	<b>(a)</b>	<b>(i)</b>	<p>Any <b>two</b> from Essay, Letter, Memo    <b>Correct answer only</b></p> <p>Close spelling / obviously the correct word OK</p> <p>Need <b>both</b> for 1 mark, either order</p>	<b>1</b>
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<b>7</b>	<b>(a)</b>	<b>(ii)</b>	<p>These documents are about <b>processing text / creating text / editing text</b> (allow writing)</p> <p>Only text needed / only need to type in</p> <p>No pictures / images needed</p> <p style="text-align: right;"><b>Any 1 answer x 1 mark</b></p>	<b>1</b>
<b>7</b>	<b>(b)</b>	<b>(i)</b>	<p>Any <b>two</b> from Catalogue, Magazine, Poster</p> <p style="text-align: right;"><b>Correct answer only</b></p> <p>Close spelling / obviously the correct word OK</p> <p>Need <b>both</b> for 1 mark, either order</p>	<b>1</b>
<b>7</b>	<b>(b)</b>	<b>(ii)</b>	<p>These documents are about <b>text / writing and graphics publications</b></p> <p>Pictures / images needed (add pictures / edit position of pictures)</p> <p>Layout templates available</p> <p style="text-align: right;"><b>Any 1 answer x 1 mark</b></p>	<b>1</b>
<b>7</b>	<b>(c)</b>		<p><b>First mark (both needed) - takes a</b></p> <ul style="list-style-type: none"> <li>• word processed <b>document</b> (eg a letter) and</li> <li>• <b>data file / from a database / spreadsheet</b> (often a <b>list of people's names</b> and addresses)</li> </ul> <p><b>Second mark (any one x 1 mark) – to produce</b></p> <p>Used to produce <b>integrated / combined</b> document / details from database put into the word processed document.</p> <p>Personalised / separate / different letters produced.</p>	<p><b>1</b></p> <p><b>1</b></p>
<b>7</b>	<b>(d)</b>		<p>Slide transition</p> <p>Timing</p> <p style="text-align: right;"><b>Correct answer only</b></p> <p style="text-align: right;"><b>Correct answer only</b></p>	<b>2</b>

8	(a)		<b>Storage full</b> – (Internal) storage / memory <b>has not got enough room</b> to store / download a file.	1
			<b>NOT</b> – just repeat the question <b>Fix problem</b> Delete / remove / uninstall <b>unwanted / not needed</b> files or programs (NOT just delete) Compress file Increase the size of the storage / buy additional storage / use online storage <p style="text-align: right;"><b>Any 1 x 1 mark</b></p> <b>Second mark</b> - possible without a clear definition of the problem	1

8	(b)		<b>Software freeze</b> – Computer / software stops working / locks up / won't allow access / is not responding / stuck on the same screen	1
			<b>NOT</b> – just repeat the question <b>Fix problem</b> Follow any onscreen instructions (End program now) Switch <b>off / on</b> computer / reboot / restart the computer / reinstall software Use task manager / Ctrl+Alt+Delete <p style="text-align: right;"><b>Any 1 x 1 mark</b></p> <b>Second mark</b> - possible without a clear definition of the problem	1

9	(a)		Hacking and the introduction of viruses are criminal offences <b>Correct answer only</b>	1
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9	(b)	(i)	Attempting / gaining <b>unauthorised / illegal access / without permission</b>	1
			to a <b>computer</b> / computer system / ICT system (allow data / files / account)	1

9	(b)	(ii)	Firewalls, intrusion detection Allow encryption, passwords <b>Any 1 x 1 mark</b>	1
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<b>9</b>	<b>(c)</b>	<b>(i)</b>	It replicates itself between and within computers  <b>Correct answer only</b>	1
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<b>9</b>	<b>(c)</b>	<b>(ii)</b>	From an e-mail / memory stick (any equivalent) / downloaded from the Internet / website / pop-up	1
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<b>9</b>	<b>(c)</b>	<b>(iii)</b>	Anti-virus software / anti-spyware software / Internet security software. <b>Needs to be clear it is software</b>  Treating files from unknown sources with caution / unknown (not trusted) e-mails / websites  <b>Any 1 x 1 mark</b>	1
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<b>9</b>	<b>(d)</b>		Any <b>suitable example</b> that shows <b>permission</b> is needed or money has to be paid (or both) to use <b>software, music, films or images</b> etc. For example, <ul style="list-style-type: none"> <li>• download music / films illegally / without paying / owner's permission</li> <li>• download / distribute material (films, music) with the copyright symbol</li> </ul> <p style="text-align: right;"><b>Any 1 x 1 mark</b></p>	1
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10	(a)		A fast broadband connection	<b>Correct answer only</b>	1
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10	(b)		<b>Advantages</b>		1
			Can <b>see</b> the staff at the other university (built relationships) / <b>'face to face'</b> Communication is <b>interactive / real time</b> Can <b>show objects / documents</b> etc. found during the project Can see presentations / displays by the other university <b>Any 1 answer x 1 mark</b>		1
			<b>Disadvantages</b>		
			<b>Time</b> difference issues Meetings need to be <b>scheduled</b> and <b>synchronised</b> – timetable issues More likely to have <b>technical issues</b> – loss of Internet / broken equipment / poor connection / poor quality sound <b>Cost</b> - more expensive equipment needed Cannot directly send files <b>Any 1 answer x 1 mark</b>		

10	(c)		Two or more people working together towards a common target	<b>Correct answer only</b>	1
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10	(d)		<b>Share expertise / ideas</b> – variety of inputs / share ideas / more ideas More <b>detailed evidence</b> may be available in one of the countries Learn more than just about the research (culture, related 'fields' etc) See other research/teaching <b>methods / styles / team working skills</b> <b>Any 1 answer x 1 mark each</b> <b>NOT</b> just faster		1
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10	(e)	<p><b>Advantages</b></p> <p><b>Saves time travelling</b> to the university</p> <p>Saves money / <b>cheaper because.....</b></p> <ul style="list-style-type: none"> <li>• No travelling costs / uses less fuel</li> <li>• Cheaper for lunches / meals etc.</li> </ul> <p>Increase flexibility / improve work / life balance</p> <p style="text-align: right;"><b>Any 1 answer x 1 mark</b></p> <p><b>Disadvantages</b></p> <p>Less focused / more easily distracted</p> <p>Miss social contact</p> <p>Lose part of the ‘collaborative’ process / No one to discuss issues with</p> <p>Maybe less resources at home</p> <p>Added cost / <b>more expensive because</b></p> <ul style="list-style-type: none"> <li>• Extra heating</li> <li>• Telephone calls / download costs</li> </ul> <p style="text-align: right;"><b>Any 1 answer x 1 mark</b></p>	1
		<p><b>Disadvantages</b></p> <p>Less focused / more easily distracted</p> <p>Miss social contact</p> <p>Lose part of the ‘collaborative’ process / No one to discuss issues with</p> <p>Maybe less resources at home</p> <p>Added cost / <b>more expensive because</b></p> <ul style="list-style-type: none"> <li>• Extra heating</li> <li>• Telephone calls / download costs</li> </ul> <p style="text-align: right;"><b>Any 1 answer x 1 mark</b></p>	1

## Section B

11	(a)		<p>The checking of data by <b>software / program</b>  on <b>entry / input / before processing</b> to see if it is <b>reasonable / sensible / with a given rule (NOT CORRECT)</b>  <b>NOT</b> just an example</p> <p style="text-align: right;"><b>Any 2 answer x 1 mark</b></p>	2
11	(b)	(i)	<p>One / Ann Baker entry missed out  0006 is missing  One is blank</p>	1
11	(b)	(ii)	<p>Presence check</p> <p style="text-align: right;"><b>Correct answer only</b></p>	1
11	(c)		<p>Look-up list</p> <p style="text-align: right;"><b>Correct answer only</b></p>	1
11	(d)		<p>Name 'range check'  Check that the mark is less than (or equal) to 100  Check that the mark is greater than (or equal) to 0</p> <p style="text-align: right;"><b>Any 2 answers x 1 mark each</b></p> <p><b>NB</b> – Check to see if all the numbers are between 0 and 100  (0-100) – <b>scores two marks</b></p>	2

11	(e)	<table border="1"> <tr> <td><b>Read the full answer first before you start to mark it.</b></td> </tr> <tr> <td> <p><b>No rewardable material 0 marks</b></p> <p>Very vague statements that do not relate to either data or information.</p> </td> </tr> <tr> <td> <p><b>Lower mark range 1 – 2 marks</b></p> <p>At one or two simple <b>statement(s)</b> or sensible examples relating to information or data. Statement(s) relate to the ideas below.</p> </td> </tr> <tr> <td> <p><b>Mid mark range 3 – 4 marks</b></p> <p>There is evidence of <b>some understanding</b> shown through the use of <b>mostly correct</b> descriptions and examples of the differences between information and data.</p> <p>At the top end there will be some understanding shown of both data and information and their differences.</p> </td> </tr> <tr> <td> <p><b>High mark 5 marks</b></p> <p>There is evidence of a <b>good understanding</b> shown through the use of a <b>correct</b> descriptions and examples of the differences between information and data.</p> </td> </tr> <tr> <td> <p><b>Key Issues</b></p> <ul style="list-style-type: none"> <li>• Data has no context/no meaning/not interpreted</li> <li>• Data is raw / unorganised facts/just characters</li> <li>• When data is processed, organised or presented in a context, so as to make it useful it becomes information</li> <li>• Suitable examples of data (where the meaning/context is not clear) <b>73, 56, 47, 33, 12</b></li> <li>• Information has a context and therefore meaning (i.e. data with a context)</li> <li>• Information is interpreted data</li> <li>• Suitable examples of information The ages of five people in a house are <b>73, 56, 47, 33, 12</b></li> </ul> </td> </tr> </table>	<b>Read the full answer first before you start to mark it.</b>	<p><b>No rewardable material 0 marks</b></p> <p>Very vague statements that do not relate to either data or information.</p>	<p><b>Lower mark range 1 – 2 marks</b></p> <p>At one or two simple <b>statement(s)</b> or sensible examples relating to information or data. Statement(s) relate to the ideas below.</p>	<p><b>Mid mark range 3 – 4 marks</b></p> <p>There is evidence of <b>some understanding</b> shown through the use of <b>mostly correct</b> descriptions and examples of the differences between information and data.</p> <p>At the top end there will be some understanding shown of both data and information and their differences.</p>	<p><b>High mark 5 marks</b></p> <p>There is evidence of a <b>good understanding</b> shown through the use of a <b>correct</b> descriptions and examples of the differences between information and data.</p>	<p><b>Key Issues</b></p> <ul style="list-style-type: none"> <li>• Data has no context/no meaning/not interpreted</li> <li>• Data is raw / unorganised facts/just characters</li> <li>• When data is processed, organised or presented in a context, so as to make it useful it becomes information</li> <li>• Suitable examples of data (where the meaning/context is not clear) <b>73, 56, 47, 33, 12</b></li> <li>• Information has a context and therefore meaning (i.e. data with a context)</li> <li>• Information is interpreted data</li> <li>• Suitable examples of information The ages of five people in a house are <b>73, 56, 47, 33, 12</b></li> </ul>	5
<b>Read the full answer first before you start to mark it.</b>									
<p><b>No rewardable material 0 marks</b></p> <p>Very vague statements that do not relate to either data or information.</p>									
<p><b>Lower mark range 1 – 2 marks</b></p> <p>At one or two simple <b>statement(s)</b> or sensible examples relating to information or data. Statement(s) relate to the ideas below.</p>									
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12	(a)	<p>They pay by using credit card details when they place the order</p> <p style="text-align: center;"><b>Correct answer only</b></p>	1
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12	(b)		<p>Not feel a personal service</p> <p>Cannot choose own groceries / cannot see what you are getting / damaged goods</p> <p>Virus issues / Hacking issues / buying due to credit card security</p> <p>Not everyone has access to/knows how to use Internet / computers / network or Internet down / supermarket site down.</p> <p>Arrives late / does not arrive / wrong goods delivered / have to wait for goods / have to wait for delivery</p> <p>Cost to have goods delivered</p> <p>Unsuitable substitutes</p> <p>Miss out on in store deals / offers</p> <p>Don't always see what goods are in stock.</p> <p><b>NOT</b> just more expensive</p> <p style="text-align: right;"><b>Any 2 answers x 1 mark</b></p>	2
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12	(c)	(i)	A small text file	<b>Correct answer only</b>	1
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12	(c)	(ii)	<p>Customer's / User's</p> <p>Hard disk / drive / computer</p> <p><b>Allow</b> as alternative</p> <p><b>Browser</b> memory</p> <p>During actual communication</p>	1	1
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12	(c)	(iii)	<p>Small possibility of profile / details being <b>hacked / virus</b></p> <p><b>Stop</b> personalised, unsolicited e-mails / adverts from the supermarket</p> <p><b>Reduced storage</b> used, regularly review and delete unwanted cookies</p> <p><b>Privacy issues</b> – stop supermarket 'watching' the customer.</p> <p>Because they can build up a <b>detailed profile</b> of the customer</p> <p style="text-align: right;"><b>Any 1 answer x 1 mark</b></p>	1
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12	(d)	<p><b>Read the full answer first before you start to mark it.</b></p> <p><b>No rewardable material 0 marks</b></p> <p><b>Lower mark range 1 – 2 marks</b> State / give simple <b>statement(s)</b> or example(s) relating to the advantages of buying groceries online. Statement(s) relate to the ideas below. Sometimes a bullet list of statements (no description)</p> <p><b>Mid mark range 3 – 4 marks</b> There is evidence of <b>some understanding</b> shown through the use of at least <b>three</b> mostly correct <b>descriptions</b> and examples of advantages of buying groceries online.</p> <p><b>High mark 5 marks</b> There is evidence of a <b>clear understanding</b> shown through the use of at least <b>three correct</b> descriptions and examples of relating to the advantages of buying groceries online.</p> <p><b>Key Issues (take care not to start crediting disadvantages)</b></p> <ul style="list-style-type: none"> <li>• Cheaper / quicker in the long run because             <ul style="list-style-type: none"> <li>○ Saves lots of their time travelling there and doing the shopping</li> <li>○ Saves money on petrol and putting mileage on the car/ bus fare</li> </ul> </li> <li>• Do not have to leave the house/ order from comfort of their home</li> <li>• Can order them 24/7 not just when the supermarket is open</li> <li>• Use repeat orders to save time</li> <li>• Can see a running total of what is spent</li> <li>• Not tempted to buy other items / offers as you walk around the supermarket</li> <li>• Faster to search (on-line)</li> <li>• Home delivery</li> <li>• Disability access issues</li> </ul> <p><b>NOT</b> just cheaper or faster</p>	5
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13	(a)	<p>There are <b>mistakes</b> / Yer <b>is a spelling mistake</b></p> <p>Column <b>not wide enough</b> to see all the words / not all information can be seen</p> <p><b>Poor</b> presentation / Some parts are <b>difficult to read</b></p> <p>Inconsistent fonts used / text different sizes</p> <p>Needs a <b>title</b> which relates to the <b>school</b></p> <p style="text-align: right;"><b>Any 2 answers x 1 mark</b></p>	2
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13	(b)	<p>Widen column / cell</p> <p>Use <b>colour</b> in the spreadsheet / coloured text / coloured background</p> <p>Make some headings <b>bold / underline / italics (change font style)</b></p> <p>Merge cells</p> <p>Increase / standardise <b>font size</b></p> <p>Change / standardise <b>font type</b></p> <p><b>NOT</b> just font</p> <p>Add <b>images</b></p> <p>Add <b>borders</b></p> <p><b>NB</b> – can use changes to part (a) but <b>no repeats</b></p> <p style="text-align: right;"><b>Any 2 answer x 1 mark</b></p>	2
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13	(c)	<p>(i) <b>Bar / Column</b> (graph or chart)</p> <p>Bar by itself is OK as graph is in the question.</p>	1
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13	(c)	<p>(ii) <b>Graph A</b></p> <p>The information is <b>clearer / easier to see / read / less confusing</b></p> <p>Better / more appropriate for showing <b>discrete data/not continuous</b></p> <p>Better / more appropriate title</p> <p>Easier to read off <b>the values / totals</b></p> <p style="text-align: right;"><b>Any 2 answer x 1 mark</b></p>	2
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13	(d)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;"><b>Read the full answer first before you start to mark it.</b></td> </tr> <tr> <td style="padding: 5px;"><b>No rewardable material 0 marks</b></td> </tr> <tr> <td style="padding: 5px;"> <p><b>Lower mark range 1 – 2 marks</b></p> <p>State / give simple <b>statement(s)</b> relating to changing one or two data items. Very little consideration is given to how the profit will change. Statements relate to ideas/examples below.</p> </td> </tr> <tr> <td style="padding: 5px;"> <p><b>Mid mark range 3 – 4 marks</b></p> <p>There is evidence of <b>some understanding</b> shown through the use of at least <b>two mostly correct</b> examples that start to <b>explain</b> the need to increase some values or the need to decrease others.</p> <p>At the bottom end of this mark range, examples given will start to describe the effects of changing values on the profit.</p> <p>At the top end of this mark range, examples given will start to describe the effects changing values has on profit and start to consider maximising profit.</p> <p>These examples will cover <b>a range</b> of ideas / examples given below.</p> </td> </tr> <tr> <td style="padding: 5px;"> <p><b>High mark 5 marks</b></p> <p>There is evidence of a <b>clear understanding</b> shown through the use of at least <b>two correct</b> examples that clearly <b>explain</b> the need to increase some values or the need to decrease others. Examples given are well supported by reasoned arguments.</p> <p>At this mark range, examples describe the effects changing values have on the profit and consider maximising profit.</p> <p>These examples will cover <b>several</b> ideas / examples given below.</p> </td> </tr> <tr> <td style="padding: 5px;"> <p><b>Examples</b></p> <p>Reduce some costs eg cost of printing</p> <p>Increase others such as the price of books</p> <p>Idea of continually checking the profit / loss</p> <p>Idea of an iterative process, until 'outcomes' are met.</p> </td> </tr> </table>	<b>Read the full answer first before you start to mark it.</b>	<b>No rewardable material 0 marks</b>	<p><b>Lower mark range 1 – 2 marks</b></p> <p>State / give simple <b>statement(s)</b> relating to changing one or two data items. Very little consideration is given to how the profit will change. Statements relate to ideas/examples below.</p>	<p><b>Mid mark range 3 – 4 marks</b></p> <p>There is evidence of <b>some understanding</b> shown through the use of at least <b>two mostly correct</b> examples that start to <b>explain</b> the need to increase some values or the need to decrease others.</p> <p>At the bottom end of this mark range, examples given will start to describe the effects of changing values on the profit.</p> <p>At the top end of this mark range, examples given will start to describe the effects changing values has on profit and start to consider maximising profit.</p> <p>These examples will cover <b>a range</b> of ideas / examples given below.</p>	<p><b>High mark 5 marks</b></p> <p>There is evidence of a <b>clear understanding</b> shown through the use of at least <b>two correct</b> examples that clearly <b>explain</b> the need to increase some values or the need to decrease others. Examples given are well supported by reasoned arguments.</p> <p>At this mark range, examples describe the effects changing values have on the profit and consider maximising profit.</p> <p>These examples will cover <b>several</b> ideas / examples given below.</p>	<p><b>Examples</b></p> <p>Reduce some costs eg cost of printing</p> <p>Increase others such as the price of books</p> <p>Idea of continually checking the profit / loss</p> <p>Idea of an iterative process, until 'outcomes' are met.</p>	5
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## Section C

14		12
	<b>Read the full answer first before you start to mark it.</b>	
	<b>No rewardable material</b>	<b>0 marks</b>
	<p><b>Level 1 Lower mark range</b></p> <p><b>Subject Criterion Context</b>                  One or two simple statements about the processes of monitoring and managing sustainable resources and recycling with limited reference to ICT. Examples are supported by very limited descriptions.</p> <p><b>Quality of Written Communication</b>                  The candidate has used a form and style of writing which has <b>many</b> deficiencies. Ideas are not <b>often</b> clearly expressed.                  Sentences and paragraphs are <b>often</b> not well-connected or <b>at times</b> bullet points may have been used.                  Specialist vocabulary has been used <b>inappropriately</b> or <b>not at all</b>.  <b>Much</b> of the text is <b>legible</b> and <b>some</b> of the meaning is <b>clear</b>.                  There are <b>many</b> errors of spelling, punctuation and grammar but it should still be possible to understand <b>much</b> of the response.</p>	<b>1-3 marks</b>
	<p><b>Level 2 Lower mid mark range</b></p> <p><b>Subject Criterion Context</b>                  There is evidence of <b>some understanding or use</b> shown by giving examples of at least two reasonably valid brief <b>descriptions</b> about how ICT can aid the processes of monitoring and managing sustainable resources and recycling. Examples are supported by limited descriptions.</p> <p><b>Possible effects are only briefly considered</b></p> <p><b>Quality of Written Communication</b>                  The candidate has used a form and style of writing which has <b>some</b> deficiencies. Ideas are not <b>always</b> clearly expressed.                  Sentences and paragraphs may <b>not</b> be well-connected or <b>at times</b> bullet points may have been used.                  Specialist vocabulary has been used on a <b>limited</b> number of</p>	<b>4-6 marks</b>

	<p>occasions.</p> <p><b>Most</b> of the text is <b>legible</b> and <b>some</b> of the meaning is <b>clear</b>.</p> <p>There are <b>some</b> errors of spelling, punctuation and grammar but it should still be possible to understand <b>most</b> of the response.</p>		
<p><b>Level 3 Higher mid mark range</b></p> <p><b>Subject Criterion Context</b></p> <p>There is evidence of a more <b>developed understanding</b> shown through the use of <b>suitable</b> examples that at the bottom end, <b>describe</b> at least <b>two</b> ways ICT can aid the processes of monitoring and managing sustainable resources and recycling.</p> <p>And at the top, <b>describe</b> at least <b>three</b> ways ICT can aid the processes of monitoring and managing sustainable resources and recycling.</p> <p>Examples are supported by suitable descriptions.</p> <p><b>Possible effects are clearly described.</b></p> <p><b>Quality of Written Communication</b></p> <p>The candidate has <b>mostly</b> used a form and style of writing <b>appropriate</b> to purpose and has expressed some complex ideas <b>reasonably clearly</b> and <b>fluently</b>. The candidate has usually used <b>well linked</b> sentences and paragraphs.</p> <p>Specialist vocabulary has been used on a number of occasions but <b>not always appropriately</b>.</p> <p>Text is <b>legible</b> and <b>most</b> of the meaning is <b>clear</b>. There are <b>occasional</b> errors of spelling, punctuation and grammar.</p>	<p><b>7-9 marks</b></p>		
<p><b>Level 4 High mark range</b></p> <p><b>Subject Criterion Context</b></p> <p>There is evidence of a <b>clear understanding</b> shown through the use of at least <b>three relevant</b> examples that <b>discuss</b> valid <b>ways</b> about how ICT can aid the processes of monitoring and managing sustainable resources and recycling. Examples are well supported by reasoned arguments.</p> <p><b>Possible effects are clearly discussed (for and against thought about)</b></p> <p><b>Quality of Written Communication</b></p> <p>The candidate has selected and used a form and style of writing <b>appropriate</b> to purpose and has expressed complex ideas <b>clearly</b> and <b>fluently</b>. Sentences and paragraphs follow on from one another clearly and coherently.</p>	<p><b>10-12 marks</b></p>		

	<p>Specialist vocabulary has been used <b>appropriately</b> throughout. Text is <b>legible</b> and the meaning is <b>clear</b>. There are <b>few</b>, if any errors of spelling, punctuation and grammar.</p>		
	<p><b>Quality of Written Communication Skills</b> The candidate's quality of written communication skills will be one of the factors influencing the actual mark an examiner will give within a level of response. The quality of written communication skills associated with each level is indicated above.</p>		
	<p><b>Examples</b></p> <ul style="list-style-type: none"> <li>• Smart waste bins</li> <li>• Green ICT</li> <li>• Business online</li> <li>• ICT tracking of recycled parts</li> <li>• "moving bits rather than molecules"</li> </ul>		

15		12
	<p><b>Read the full answer first before you start to mark it.</b></p>	
	<p><b>No rewardable material</b></p>	<p><b>0 marks</b></p>
	<p><b>Level 1 Lower mark range</b></p> <p><b>Subject Criterion Context</b></p> <p>Simple statements/examples about at <b>least one</b> possible advantage or disadvantage of using social network sites. These are supported by no comments or very limited comments. Lots of <b>just</b> these statements, still remain in this mark range.</p> <p><b>Quality of Written Communication</b></p> <p>The candidate has used a form and style of writing which has <b>many</b> deficiencies. Ideas are not <b>often</b> clearly expressed.</p> <p>Sentences and paragraphs are <b>often</b> not well-connected or <b>at times</b> bullet points may have been used.</p> <p>Specialist vocabulary has been used <b>inappropriately</b> or <b>not at all</b>.</p> <p><b>Much</b> of the text is <b>legible</b> and <b>some</b> of the meaning is <b>clear</b>.</p> <p>There are <b>many</b> errors of spelling, punctuation and grammar but it should still be possible to understand <b>much</b> of the response.</p>	<p><b>1-3 marks</b></p>
	<p><b>Level 2 Lower mid mark range</b></p> <p><b>Subject Criterion Context</b></p> <p>There is evidence of <b>some understanding</b> shown by considering sensible issues that each briefly look at possible advantages and disadvantages of using social network sites. At the lower end of this mark range <b>at least two</b> points need to be considered including advantages and disadvantages.</p> <p>At the higher end of this mark range <b>at least three</b> points need to be considered including advantages and disadvantages.</p> <p>Examples are supported by limited descriptions.</p> <p><b>Quality of Written Communication</b></p> <p>The candidate has used a form and style of writing which has <b>some</b> deficiencies. Ideas are not <b>always</b> clearly expressed.</p> <p>Sentences and paragraphs may <b>not</b> be well-connected or <b>at</b></p>	<p><b>4-6 marks</b></p>

	<p><b>times</b> bullet points may have been used.</p> <p>Specialist vocabulary has been used on a <b>limited</b> number of occasions.</p> <p><b>Most</b> of the text is <b>legible</b> and <b>some</b> of the meaning is <b>clear</b>.</p> <p>There are <b>some</b> errors of spelling, punctuation and grammar but it should still be possible to understand <b>most</b> of the response.</p>		
	<p><b>Level 3 Higher mid mark range</b></p> <p><b>Subject Criterion Context</b></p> <p>There is evidence of a more <b>developed understanding</b> shown by describing sensible issues that each look at possible advantages and disadvantages of using social network sites. At <b>least five</b> points need to be considered, including advantages and disadvantages.</p> <p>Examples are supported by descriptions.</p> <p><b>Quality of Written Communication</b></p> <p>The candidate has <b>mostly</b> used a form and style of writing <b>appropriate</b> to purpose and has expressed some complex ideas <b>reasonably clearly</b> and <b>fluently</b>. The candidate has usually used <b>well linked</b> sentences and paragraphs.</p> <p>Specialist vocabulary has been used on a number of occasions but <b>not always appropriately</b>.</p> <p>Text is <b>legible</b> and <b>most</b> of the meaning is <b>clear</b>. There are <b>occasional</b> errors of spelling, punctuation and grammar.</p>	<p><b>7-9 marks</b></p>	
	<p><b>Level 4 High mark range</b></p> <p><b>Subject Criterion Context</b></p> <p>There is evidence of a <b>clear understanding</b> shown by clearly describing sensible issues that each look at possible advantages and disadvantages of using social network sites. At <b>least five</b> points need to be considered, including advantages and disadvantages.</p> <p>Examples are well supported by reasoned arguments.</p> <p><b>Quality of Written Communication</b></p> <p>The candidate has selected and used a form and style of writing <b>appropriate</b> to purpose and has expressed complex ideas <b>clearly</b> and <b>fluently</b>. Sentences and paragraphs follow on from one another clearly and coherently.</p> <p>Specialist vocabulary has been used <b>appropriately</b> throughout.</p> <p>Text is <b>legible</b> and the meaning is <b>clear</b>. There are <b>few</b>, if any errors of spelling, punctuation and grammar.</p>	<p><b>10-12 marks</b></p>	



	<p><b>Quality of Written Communication Skills</b></p> <p>The candidate's quality of written communication skills will be one of the factors influencing the actual mark an examiner will give within a level of response. The quality of written communication skills associated with each level indicated above.</p>		
	<p><b>Social network</b></p> <p><b>Possible advantages</b></p> <ul style="list-style-type: none"> <li>• Keep <b>in touch/chat</b> with family and friends</li> <li>• <b>Share</b> pictures, videos etc.</li> <li>• 'Meet' with people with a <b>shared interest</b> from all over the world</li> <li>• Play <b>games</b> against/with others</li> </ul> <p><b>Possible disadvantages</b></p> <ul style="list-style-type: none"> <li>• Stranger danger</li> <li>• Being groomed</li> <li>• Cyber bullying</li> <li>• Need Internet connection/equipment – cost</li> </ul> <p>NB don't give credit for previous H&amp;S</p>		

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