

# GCSE INFORMATION AND COMMUNICATION TECHNOLOGY

45204 - Unit 1 Systems and applications in ICT (SC)  
Mark scheme

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4520  
June 2014

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Version/Stage: V0.1 Final

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Mark schemes are prepared by the Lead Assessment Writer 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 associates 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 associate understands and applies it in the same correct way. As preparation for standardisation each associate 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, associates encounter unusual answers which have not been raised they are required to refer these to the Lead Assessment Writer.

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.

Further copies of this Mark Scheme are available from [aqa.org.uk](http://aqa.org.uk)

To Examiners:

1. **When to award '0' (zero) when inputting marks on CMI+:**

A mark of 0 should be awarded where a candidate has attempted a question but failed to write anything credit worthy.

Insert a hyphen when a candidate has not attempted a question, so that eventually the Principal Examiner will be able to distinguish between the two (unattempted/nothing credit worthy) in any statistics.

2. This mark scheme contains the correct responses which we believe that candidates are most likely to give. Other valid responses are possible to some questions and should be credited. Examiners should refer to a Team Leader off-mark scheme responses that they believe are creditworthy.

**Section A**

1	(a)		<b>B</b> [Joystick] <b>C</b> [Keyboard]	<b>Correct answer only</b> <b>Correct answer only</b>	2
1	(b)		<b>A</b> [Bar-code reader]	<b>Correct answer only</b>	1
1	(c)		<b>C</b> [Laser printer]	<b>Correct answer only</b>	1
1	(d)		<b>B</b> [Speakers]	<b>Correct answer only</b>	1
1	(e)		<b>C</b> [USB memory stick]	<b>Correct answer only</b>	1
2	(a)		Bullets Line Spacing	<b>Correct answer only</b> <b>Correct answer only</b>	2
2	(b)		<ul style="list-style-type: none"> <li>• Colour – background/ shaded/pattern (<b>not just colour or colour text</b>)</li> <li>• Increase/decrease/change text size / text size made bigger/smaller</li> <li>• WordArt</li> <li>• Font style/ text made bold/italic/underline (<b>NB</b> – not just the word 'font' e.g. 'font style' is needed)</li> </ul>		2

			<ul style="list-style-type: none"> <li>• Numbered points/lists</li> <li>• Centre (text)</li> <li>• Picture/clipart/graphic/image/logo/watermark</li> <li>• Tables</li> <li>• Borders/Border Art</li> <li>• Columns/Tab</li> </ul> <p><b>Naming feature is enough apart from the first four</b></p> <p style="text-align: right;"><b>Any 2 x 1 mark</b></p>	
2	(c)		<p><b>Spell check</b> – just named or described</p> <p><b>Grammar check</b> – just named or described</p> <p><b>Proof read</b> – just named or described (for spelling or grammar)</p> <p><b>NOT</b> Verification unless it is clearly that it is a visual check</p> <p style="text-align: right;"><b>Any 1 x 1 mark</b></p>	1
3	(a)	(i)	Qz6&iP23M?jn49	<p style="text-align: right;"><b>Correct answer only</b></p> <p>1</p>
3	(a)	(ii)	<p><b>Longest</b></p> <p>Uses/contains/mixture/variety/combination of <b>letters (upper/lower Case) /numbers/characters</b></p> <p><b>Hardest/not easy</b> to guess/not easy to guess/not personal data – names etc.</p> <p><b>Dependant</b> on 3(a)(i) being correct.</p> <p style="text-align: right;"><b>Any 1 x 1 mark</b></p>	1
3	(b)	(i)	<ul style="list-style-type: none"> <li>• Unsolicited/unwanted/not needed/not asked for/ unknown sender/stranger</li> <li>• Sent – bulk/large amounts /advertisement/prizes/ money/promote service</li> </ul> <p><b>Both ideas needed for mark</b></p>	1
3	(b)	(ii)	<p>To get you to <b>send/give/steal money</b></p> <p>To <b>get/obtain/steal personal information/details/commit fraud or theft</b></p> <p>To get access to your <b>password/secure details/bank account</b></p>	1

			<b>number details /credit card details</b> (or similar details) <b>Any 1 x 1 mark</b>	
3	(c)		Use <b>meaningful/appropriate/suitable/relevant</b> (file) names Create/make/keep organised/put work into <b>folders</b> Use meaningful/appropriate names for folders Delete unwanted files/folders Use version numbers (of files) <b>NOT</b> just 'better names' <b>Any 2 x 1 mark</b>	2
4	(a)	(i)	<b>C</b> [Podcast]	<b>Correct answer only</b> 1
4	(a)	(ii)	<b>D</b> [Web log]	<b>Correct answer only</b> 1
4	(a)	(iii)	<b>D</b> [Wiki]	<b>Correct answer only</b> 1
4	(b)		<ul style="list-style-type: none"> <li>• A program/software/website</li> <li>• It collects/organises/puts into order (priority)</li> <li>• Content from all over the Internet.</li> <li>• To locate something, enter/type in a <b>query/search</b> on (key)<b>word(s)/text/terms</b> about what you want to find/looking for</li> <li>• The engine provides links to content/web pages that match/selection of related websites</li> </ul> <b>Any 2 x 1 mark</b>	2
4	(c)		<b>Issues</b> <ul style="list-style-type: none"> <li>• May be <b>out-of-date/old</b></li> <li>• May be <b>biased</b>/give an opinion which may not be based on fact</li> <li>• <b>Not written by experts</b>/anyone can write it/put information on</li> <li>• <b>Not monitored</b></li> <li>• <b>No peer review</b></li> <li>• <b>Mirror-image/fake/look alike</b> websites</li> <li>• (Some sites) can be <b>added to/changed by anyone</b></li> </ul> <b>Not just 'accurate' / 'not correct'/'wrong'/'reliable'</b> (in stem) <b>Any 2 x 1 mark</b>	2

5	(a)	<p><b>Sat Nav</b>                      Plan/Plot your route                      Get from one place to another/destination/location                      Get directions (on route)                      Find your way when lost/in unfamiliar place/area                      Use as a 'digital map'                      Spot speed cameras etc. <b>Any 1 x 1 mark</b></p> <p><b>Online bulletin boards</b>                      Message/notice boards on websites/Internet                      Where messages/discussions/comments/opinions/points/events/ issues/ideas/thoughts etc. are posted/added                      Where posted messages/discussions/comments/opinions/points/events/ issues/ ideas/thoughts etc. are read  <b>Any 1 x 1 mark</b></p>	2
5	(b)	<p>cc sends a copy of the email to disclosed recipients                      (people can see/you want people to see who is getting a copy of the email) <b>1 mark</b></p> <p>bcc sends a copy of the email to undisclosed recipients                      (people cannot see/you don't want people to see who is getting a copy of the email) <b>1 mark</b></p> <p><b>Not just defining the abbreviations i.e. not just 'carbon copy'.</b></p>	2
5	(c)	<ul style="list-style-type: none"> <li>• 'Stranger danger' / pretend to be other people /fake profiles/fake accounts</li> <li>• Grooming</li> <li>• Cyber-bullying</li> <li>• Paedophiles</li> <li>• Hacker/virus issues</li> <li>• Too much time spent on sites instead of.....</li> <li>• Site being looked at by prospective employers etc.</li> <li>• Potential of photos/media etc being owned by the site/ever really taken down (will probably be out there somewhere)</li> <li>• Instant messaging</li> </ul> <p><b>NOT just named examples like Facebook</b>  <b>Any 2 x 1 mark</b></p>	2

**Section B**

6	(a)		Number/numerical/numeric/integer	1
6	(b)	(i)	=IF(C3>75,25,0) <b>Correct Answer Only</b>	1
6	(b)	(ii)	<p>Checks C3/attendance (or D3 .....G3) is greater than/bigger than/over 75</p> <p style="text-align: right;"><b>1 mark</b></p> <p>25 (points) is returned/given(get)/awarded</p> <p>25 (points) given for attendance</p> <p>25 (points) put in C8</p> <p><b>NB</b> - (allow adds here as the result will be 25)</p> <p style="text-align: right;"><b>1 mark</b></p> <p><b>Possible variation</b></p> <p>The 'If' statement will determine which one of two answers is used.</p> <p style="text-align: right;"><b>1 mark</b></p>	2
6	(c)		<p>Firstly read the <b>whole answer</b>.</p> <p>Next decide which mark band's description <b>best matches</b> the answer given.</p> <p>Finally [if needed], is the answer given, at the <b>top or the bottom</b> of the mark range</p> <p><b>No rewardable material 0 marks</b></p>	5
			<p><b>Lower mark range 1 – 2 marks</b></p> <p><b>One mark is gained</b> where there are simple even vague statements possibly just naming devices <b>or</b> media for backup <b>or</b> just describing safety (no device named).</p> <p><b>Two marks would be gained</b> – where a device is named with limited description but an advantage <b>or</b> disadvantage is given.</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> examples that <b>describe</b> advantage(s) <b>and</b> disadvantage(s) relating to each 'devices and media' (that could reasonably be used to backup data with limited reference to safe).</p> <p>At least <b>two</b> examples given are supported by some relevant description/reasoning.</p>	

		<p><b>High mark 5 marks</b></p> <p>There is evidence of a <b>clear understanding</b> shown through the use of <b>correct</b> examples that <b>clearly describe</b> advantage(s) and disadvantage(s) relating to each 'devices and media' that could be used with some reference to safely backing up data.</p> <p>At least <b>two</b> examples given are well supported by reasoned arguments.</p>	
		<p><b>Examples of devices</b> (appropriate associate media is allowable too)</p> <ul style="list-style-type: none"> <li>• <b>CD-R /DVD-R/DVD-W (drives)</b></li> <li>• <b>Floppy disc (drive)</b></li> <li>• <b>Hard disc (drive)</b></li> <li>• <b>Solid state drive/USB drive / pen drive</b></li> <li>• <b>External hard drives</b></li> <li>• <b>Online/Cloud storage</b></li> </ul> <p><b>Any sensible/suitable suggestion</b></p>	

7	(a)		7	<b>Correct Answer Only</b>	1
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7	(b)		<p><b>Children</b> - <b>allow with</b> 'any' additional information/word /letters /symbols if the <b>Category</b> field - <b>Children</b> can clearly be seen. Provided that is the only one shown.</p>		1
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7	(c)		<p>Range check</p> <p>Presence check</p>	<b>Correct Answers Only</b>	2
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7	(d)		<p>Firstly read the <b>whole answer</b>.</p> <p>Next decide which mark band's description <b>best matches</b> the answer given.</p> <p>Finally (if needed), is the answer given, at the <b>top or the bottom</b> of the mark range</p> <p><b>No rewardable material 0 marks</b></p>		5
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			<p><b>Lower mark range 1 – 2 marks</b></p> <p>There are simple even vague statements relating reasons for linking data tables.</p> <p>This mark could also be awarded for a <b>3-4 mark quality answer</b> but only <b>one</b> example is considered.</p>		
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	<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> examples that <b>describe</b> advantages relating to linking data tables.</p> <p>At least <b>two</b> examples given are supported by some relevant description/reasoning.</p>	
	<p><b>High mark 5 marks</b></p> <p>There is evidence of a <b>clear understanding</b> shown through the use of <b>correct</b> examples that <b>clearly describe</b> advantages relating to linking data tables.</p> <p>At least <b>two</b> examples given are well supported by reasoned arguments.</p>	
	<p><b>Examples</b></p> <ul style="list-style-type: none"> <li>• Have a <b>relational database</b></li> <li>• <b>Data only stored once</b> – reduces/avoids <b>data redundancy/duplication</b></li> <li>• <b>Relationships</b> 1 to many or many to 1.</li> <li>• <b>Quicker/Easier</b> to make <b>data changes/delete/add/edit</b> (no multiple record changes needed) (all records in other tables having a link to that entry will show the change) (avoids inconsistent records)</li> <li>• <b>Quicker/Easier</b> to make <b>data format changes</b></li> <li>• <b>Complex</b> queries (SQL)</li> <li>• <b>Better security</b> - different <b>levels of access</b> for users for each table if needed. (some people can only see one/some tables)</li> <li>• Better suited to be <b>adapted</b> to meet needs in the future</li> <li>• <b>Limited</b> reduced storage space used</li> </ul>	

**Section C**

<b>8</b>	<b>Read the full answer first before you start to mark it.</b>		<b>12</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> Simple statements/examples about at <b>least one</b> possible advantage or disadvantages of using video conferencing. These are supported by no comments or very limited comments.</p> <p>Lots of <b>just</b> these limited statements, still remain in this mark</p>	<b>1-3 marks</b>	

<p>range.</p> <p>This mark could also be awarded for a 4-6 mark quality answer but only <b>one</b> point is considered.</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>		
<p><b>Level 2 Lower mid mark range</b></p> <p><b>Subject Criterion Context</b> There is evidence of <b>some understanding</b> shown by considering sensible issues that each briefly look at possible advantages and disadvantages of using video conferencing. At the <b>lower end</b> of this mark range <b>least two</b> points need to be considered including advantages <b>or</b> disadvantages. At the <b>higher end</b> of this mark range <b>least three</b> points need to be considered including advantages <b>and</b> disadvantages.</p> <p>Examples are supported by limited descriptions.</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 occasions. <b>Most</b> of the text is <b>legible</b> and <b>some</b> of the meaning is <b>clear</b>. 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>	<b>4-6 marks</b>	
<p><b>Level 3 Higher mid mark range</b></p> <p><b>Subject Criterion Context</b> There is evidence of a more <b>developed understanding</b> shown by <b>describing</b> sensible issues that each look at possible advantages and disadvantages of using video conferencing with very limited reference to working collaboratively. At <b>least five</b> points need to be considered, including advantages <b>and</b> disadvantages. Examples are supported by descriptions.</p> <p><b>Quality of Written Communication</b></p>	<b>7-9 marks</b>	

<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. Specialist vocabulary has been used on a number of occasions but <b>not always appropriately</b>. 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>Level 4 High mark range</b></p> <p><b>Subject Criterion Context</b> There is evidence of a <b>clear understanding</b> shown by clearly <b>discussing</b> sensible issues that each look at possible advantages and disadvantages of using video conferencing with some reference to working collaboratively. At <b>least five</b> points need to be considered, including advantages <b>and</b> disadvantages. Examples are well supported by reasoned arguments.</p> <p><b>Quality of Written Communication</b> 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. 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>10-12 marks</b></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 of possible advantages</b> [relating to video conferencing/collaborative] Can see colleagues virtually 'face to face' Communication is interactive/real time Can show objects/papers etc. need during the project Can see presentations/displays by colleagues Can share the work/ideas Workers could have different skill sets</p> <p><b>Examples of possible disadvantages</b> [relating to video conferencing/collaborative] Possible time difference issues</p>		

	Meetings need to be scheduled and synchronised – timetable issues More likely to have technical issues Cost		
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<b>9</b>	<b>12</b>
<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> At the <b>lower end</b> examples are stated. These are supported by no comments or very limited comments.</p> <p>Or there are limited advantages <b>or</b> disadvantages with no reference to a named method.</p> <p>At the <b>higher end</b> at least <b>one</b> example is supported by brief advantages <b>or</b> disadvantages.</p> <p>Lots of <b>just</b> these limited statements, still remain in this mark range.</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</b> shown by considering sensible issues that each briefly looks at possible advantages and disadvantages of different ICT data collection methods. At the lower end of this mark range at <b>least one method</b> needs to be considered including advantages <b>and</b> disadvantages. At the higher end of this mark range at <b>least two methods</b> need to be considered including advantages <b>and</b> disadvantages.</p> <p>Examples are supported by limited descriptions.</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 occasions.</p>	<b>4-6 marks</b>

<p><b>Most of the text is legible and some of the meaning is clear.</b> 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> There is evidence of a more <b>developed understanding</b> shown by <b>describing</b> sensible issues that each look at possible advantages <b>and</b> disadvantages of different ICT data collection methods. At <b>least three methods</b> need to be considered, including advantages <b>and</b> disadvantages across the methods. Examples are supported by descriptions.</p> <p><b>Quality of Written Communication</b> 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. Specialist vocabulary has been used on a number of occasions but <b>not always appropriately</b>. 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> There is evidence of a <b>clear understanding</b> shown by clearly <b>discussing</b> sensible issues that each look at possible advantages <b>and</b> disadvantages of different ICT data collection methods. At <b>least three methods</b> need to be considered, including advantages <b>and</b> disadvantages for each. Examples are well supported by reasoned arguments.</p> <p><b>Quality of Written Communication</b> 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. 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>10-12 marks</b></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 of possible methods of data collection</b></p> <p><b>Data collection methods relating to ICT (Feasibility study)</b></p> <p>Interviews          Questionnaires          Observations          Looking at existing documentation</p> <p><b>Manual data capture</b></p> <p>Keyboard/mouse/touch screen          Data capture form/questionnaire</p> <p><b>Automatic data capture</b> for example</p> <p>Bar code reader          Biometrics          Chip and pin          Magnetic stripe cards          OMR/OCR/ICR          Online forms          Questionnaires          RFID tags          Voice recognition</p>		
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