



## **Cambridge National**

### **ICT**

Unit **R001/01**: Understanding Computer Systems

Level 1/2 Cambridge National Certificate/Award/Diploma in ICT

## **Mark Scheme for June 2016**

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This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which marks were awarded by examiners. It does not indicate the details of the discussions which took place at an examiners' meeting before marking commenced.

All examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes should be read in conjunction with the published question papers and the report on the examination.

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These are the annotations, (including abbreviations), including those used in scoris, which are used when marking

Annotation	Meaning of annotation
Tick	Correct
Cross	Incorrect
BOD	Benefit of Doubt
NBOD	No Benefit of Doubt
TV	Too Vague
SEEN	Seen Response
BP	Blank Page
L1	Level 1
L2	Level 2
L3	Level 3

## SECTION A

Question			Answer/Indicative content	Mark	Guidance
1	a		<p>ONE from:</p> <p>e.g.</p> <ul style="list-style-type: none"> <li>• Keyboard (1)</li> <li>• Mouse/touchpad/tracker ball (1)</li> <li>• Microphone (1)</li> <li>• Sip and puff device (1)</li> <li>• Head pointer (1)</li> <li>• Graphics tablet (1)</li> <li>• Touchscreen (1)</li> </ul>	1	
1	b		<p>Up to TWO marks available:</p> <ul style="list-style-type: none"> <li>• e.g. Spell checker looks for/shows spelling errors (1) spelling errors make a document look poor quality/can cause confusion (1)</li> <li>• Misspellings can lead to misunderstandings (1) fewer misspellings means the meaning is clearer (1)</li> <li>• Minimise errors in the document(1) which makes it easier to understand (1)</li> </ul>	2	<p>1 mark for what spell checker does (1) and second for why this makes the <b>website</b> more effective (1)</p> <p>Ignore any reference to professionalism – read on to consider the whole of the answer.</p>
1	c		<p>Up to TWO marks available per answer</p> <p><b>Monitor (or equivalent)</b> (1)</p> <p>e.g.</p> <ul style="list-style-type: none"> <li>• Allows the user to see what they are doing on the computer (1)</li> </ul> <p><b>Printer</b> (1)</p> <p>e.g.</p> <ul style="list-style-type: none"> <li>• To print (1)</li> <li>• To create a hard copy of the website (1)</li> </ul> <p><b>Speaker/headphones</b> (1)</p> <p>e.g.</p> <ul style="list-style-type: none"> <li>• To listen to/produce sound (1)</li> </ul>	4	<p><b>Other output devices would not suit the scenario.</b></p> <p>For each answer must correctly identify a device <b>before</b> the second mark can be awarded</p> <p>“Sound system” TV – not an output device</p>

Question			Answer/Indicative content	Mark	Guidance
2	a		<p>ONE from:</p> <ul style="list-style-type: none"> <li>• (Digital) camera (1)</li> <li>• Scanner (1)</li> <li>• Webcam (1)</li> </ul>	1	<p><b>DO NOT</b> accept phones or tablets (or equivalent) as answers as they have to have the camera device on them.</p>
2	b		<p>Up to TWO marks available for point and expansion:</p> <p>Award one mark for identifying what is wrong, or what needs to be done, and second for how this should be fixed/how it is a benefit.</p> <p>Answers which deal solely with the expansion may be awarded one mark.</p> <p>Answer may refer to content –</p> <p>e.g.</p> <ul style="list-style-type: none"> <li>• She might take a picture of the gym with some rubbish on the floor (1) so she could use the clone tool to remove it (1)</li> <li>• Remove toilet block from the back of the photograph (1) so that the photograph focusses on the client (or equivalent) (1)</li> </ul> <p>Answer may refer to technical issues with the photograph</p> <p>e.g.</p> <ul style="list-style-type: none"> <li>• Remove red eye from the photograph (1) so that people's natural eye colour is shown (1)</li> <li>• Make the photograph lighter (1) so that more details can be seen/ the event appears to be taking place on a sunny day (1)</li> </ul>	2	<p>This question is about how <b>poor quality photographs</b> may be improved by editing, and not about the range of tools available or adding layers and extra items.</p> <p><b>Acceptable answers must refer to how photographs taken by an inept photographer may be improved.</b></p> <p><b>Image is too large, for example, is irrelevant.</b> For full marks, answer must state why the edit has improved the photograph.</p> <p>Ignore any reference to professionalism – read on to consider the whole of the FIRST answer.</p> <p>Candidates <b>DO NOT</b> have to identify the specific tool they would use.</p> <p><b>DO NOT</b> accept any answer dealing with changing file types or file names or size.</p>

Question			Answer/Indicative	Marks	Guidance	
					Content	Levels of response
2	c		<p>Discuss the factors that Bridget should consider when optimising photographs for display on her website.</p> <p><b>Candidate may consider:</b></p> <p>Optimization via: e.g.</p> <ul style="list-style-type: none"> <li>• Compression</li> <li>• Image type</li> <li>• Image cropping</li> <li>• Colour reduction</li> <li>• Image resolution</li> <li>• Image size</li> </ul> <p>Benefits e.g.</p> <ul style="list-style-type: none"> <li>• Removal of excess content</li> <li>• Reduced file size</li> <li>• Reduced file storage requirements</li> <li>• Quicker downloads</li> <li>• Reduced demands on web server</li> </ul> <p>Drawbacks</p> <ul style="list-style-type: none"> <li>• Impact will depend on method chosen</li> <li>• Lossy will reduce quality</li> <li>• Colour range</li> <li>• Image quality</li> </ul>	8	<p><b>For Level 3</b> <b>Graphic compression as the example</b></p> <p>They will discuss the impact of compression on file size and on image quality, as two sides of the discussion.</p> <p>The description of each will be balanced and describe in detail why each factor is important.</p> <p>The candidate will be talking about images on a website.</p>	<p><b>LEVEL Three (7–8 marks)</b></p> <p>At the top end of the mark band, there will be two factors <b>explained</b> in context. These will form part of a clear discussion of issues.</p> <p>Specialist terms, where used, will be used correctly and appropriately with a clear technical understanding.</p> <p>At the bottom end of the mark band, answers will include two factors that have been explained in context, but the explanations may be weaker, argument may not be balanced, or there is not a clear discussion of issues.</p> <p><b>Level 2 (4–6 marks)</b></p> <p>At the top end of the mark band, there will be two factors <b>described</b> in context, OR one factor (only) <b>explained</b> in context.</p> <p>Answers at this level may not include clear technical understanding.</p> <p>At the bottom end of the mark band, there may be only one factor described. This may be either a poor description in context, or a description that is not in context.</p> <p>OR</p> <p>Two factors poorly described, but not in context</p>

Question			Answer/Indicative	Marks	Guidance	
					Content	Levels of response
						<p><b>Level 1 (1–3 marks)</b></p> <p>At the top end of the mark band, there may be one factor poorly described.</p> <p>There may be no context.</p> <p>There will be no use of specialist terms.</p> <p>At the bottom end, simply identifying one area of consideration is worth 1 mark.</p> <p><b>Zero marks</b></p> <p>Answers with no valid content.</p>

Question			Answer/Indicative content	Mark	Guidance
3	a		<p>Up to TWO marks available: e.g.</p> <ul style="list-style-type: none"> <li>• So that each member (1) can only book for themselves (1)</li> <li>• The booking is linked to the log on (1) to avoid booking for someone else(1)</li> <li>• To restrict booking (1) to members only (1)</li> <li>• It may include personal information (about members)(1) that needs to be kept private/not stolen/not hacked (1)</li> <li>• So that each member's preferences/settings/details (1) can only be looked at by that member (1)</li> </ul>	2	<p>The reason could be for the members OR the Gym.</p> <p>Answer should be in the form reason (1) plus expansion (1)</p> <p><b>BE careful not to mark a repeat of the question.</b></p>
3	b		<p>Up to TWO marks available: e.g.</p> <ul style="list-style-type: none"> <li>• Spaces are limited (1) so they do not want to waste spaces on duplicates (1)</li> <li>• To avoid errors (1) so that they get a more accurate number of people (1)</li> <li>• More sessions will be available (1) for people to pay for (1)</li> <li>• To stop clashes (and cancellations) (1) so that more sessions are available (1)</li> </ul>	2	<p><b>MUST be a direct benefit to Fun Gym.</b></p> <p>Do not accept "stops accidental booking" as is in the stem.</p>
3	c		<p>Up to TWO marks available for ONE benefit: e.g.</p> <ul style="list-style-type: none"> <li>• Members are able to <u>check/are reminded/can see/know</u> (1) when they next have a booking (1) so they do not miss the booking (1)</li> <li>• Members can see (1) that they have many/few bookings in a set period (1)</li> <li>• It helps members to plan their exercise (1) because they can see when they have sessions booked (1)</li> <li>• Past sessions are shown (1) so they can be tracked (1)</li> <li>• So that members know (1) when they are able to book a session (1)</li> </ul>	2	<p><b>MUST be a benefit to the member</b></p>



Question			Answer/Indicative content	Mark	Guidance
4	a		<p>Up to FOUR marks in total, MAX two marks per answer: e.g</p> <ul style="list-style-type: none"> <li>• Spreadsheets have functions/formulae/specialist tools (1) that multiply hours and pay rates(1)</li> <li>• Accurately multiplies hours and rates (1) so there won't be any mistakes (1)</li> <li>• <b><u>Separate (or equivalent)</u></b> sheets can be set up (1) one for each instructor (1)</li> <li>• Functions/formulae can refer to fixed cells (1) which hold set values (1)</li> <li>• When you change one value (1) all other answers (based on that value) will automatically change/auto update (1)</li> </ul>	4	<p>Answers are about why spreadsheet software is suitable <b>for calculation</b>. DO NOT accept answers which are about graphing, or other possible uses of spreadsheet software.</p> <p>DO NOT accept "it is what they are for"/"Its specialist software for this purpose". There must be understanding of why the software is applicable to this purpose.</p>
4	b		<p>Up to TWO marks available:</p> <ul style="list-style-type: none"> <li>• The data is private (1) and so Bridget has to protect it (1)</li> <li>• The DPA (1) says that Bridget has to protect <u>private/personal</u> (one of) data (1)</li> <li>• To protect the data (1) in case the email is intercepted/mis-delivered/hacked (1)</li> <li>• So that if the email is intercepted (1) the data will not be accessible (1) which prevents information theft (1)</li> </ul>	2	<p>Award one mark for "DPA"/Data Protection Act on its own.</p> <p>DO NOT differentiate between data and information.</p> <p>Underline means that section must be present for mark to be awarded</p> <p>DO NOT accept "prevent theft" of the file – its about access to data (accept theft of data)</p>

## SECTION B

Question			Answer/Indicative content	Mark	Guidance
5	a		<p>TWO marks available for any TWO suitable types.</p> <p>E.g.</p> <ul style="list-style-type: none"> <li>• Wav (1)</li> <li>• AIFF (1)</li> <li>• AU (1)</li> <li>• PCM (1)</li> <li>• MP3 (1)</li> <li>• ACC (1)</li> <li>• MP4 (1)</li> <li>• M4A (1)</li> <li>• Flac(1)</li> <li>• AAP(1)</li> <li>• Windows Music Player (1)</li> </ul>	2	<p>Only accept audio file <b>types</b></p> <p>DO NOT ACCEPT Apps</p>
5	b	(i)	<p>TWO from:</p> <p>e.g.</p> <ul style="list-style-type: none"> <li>• DVD (1)</li> <li>• CD (1)</li> <li>• Blu-Ray (1)</li> <li>• SD Card (SDHC) (1)</li> <li>• Hard drive (1)</li> <li>• (USB) memory stick (or equivalent) (1)</li> <li>• Cassette (1)</li> </ul>	2	<p>DO NOT accept “USB” on its own. Mark as Too Vague.</p> <p>Cloud is not a portable storage media</p> <p>Mobile phones, tablets, MP3 players and other computer devices or equivalents are NOT acceptable as NOT media</p> <p>“Optical media” is TV</p> <p>“Disc” is TV</p>
5	b	(ii)	<p>Up to TWO marks for any suitable answer that fits the context:</p> <p>E.g.</p> <ul style="list-style-type: none"> <li>• Place all of his tracks on the cloud (1) and access <u>using wifi/3g/4g/the internet</u> (when at the gym) (1)</li> <li>• Set up his home computer as a server (on the web (1) and sign in to the computer (at the gym) (1)</li> <li>• Set up a VPN on his home computer (1) and sign in (when at the gym) (1)</li> <li>• Streaming (1) <u>over internet</u>(1)</li> </ul>	2	<p>DO NOT accept use of any form of storage media as an answer for this question.</p> <p>ANY other method that is based on remote access or virtual storage is acceptable.</p>

Question			Answer/Indicative content	Mark	Guidance
5	c		<p>Up to three marks available for implication <b>of playing music to a class</b> (1) and suitable solution (2) (max 2):</p> <p>ONE FROM: E.g.</p> <p>Possible legal implications include:</p> <ul style="list-style-type: none"> <li>• <u>Breaking</u> copyright Act/<u>Breach</u> of copyright(1)</li> <li>• Take account of copyright (1)</li> <li>• Asked to pay compensation (1)</li> <li>• Asked to acknowledge ownership (1)</li> <li>• Be given a fine (1)</li> </ul> <p>PLUS</p> <p>Possible solutions:</p> <ul style="list-style-type: none"> <li>• Purchase a PRS licence (1) which allows him to play music legally (1)</li> <li>• Ask for permission/licence directly/pay a fee (1) from/to the copyright holder (1)</li> </ul>	3	<p>Award the first mark for an implication (MAX 1 mark) and <b>then</b> two <b>further</b> marks for a suitable remedy. DO NOT award the expansion if it does not fit the legal implication given.</p> <p><b>The implication MAY not be expressly stated, but can be implied from the answer. For example, if candidate states JUST “copyright act” but does not state “breaking or breached or considered etc”, this mark may not be given, but expansion can.</b></p> <p>DO NOT award – “reported to the police”. DO NOT award two identify answers as an explanation.</p>
6	a		<ul style="list-style-type: none"> <li>• Desktop Publishing Software/DTP (1)</li> </ul>	1	Trade names are acceptable
6	b		<p>Up to TWO marks for a full description of any feature of DTP software that could be used:</p> <p>e.g.</p> <ul style="list-style-type: none"> <li>• Text/graphic fields (1) can be used to add content to the page (1)</li> <li>• Page layout tools (1) used to organise where elements will be placed on the poster (1)</li> <li>• Templates (1) can be used to create a common layout (1)</li> <li>• Wizards (1) used to create standard documents (1)</li> <li>• Word art (1) to create titles (1)</li> </ul>	2	<p>This answer is NOT dependent on 6a (you may award if 6a is wrong)</p> <p>DO NOT award spell checker</p> <p>DO NOT award extension mark if feature mark not awarded.</p>

Question	Answer/Indicative content	Mark	Guidance
7	<p>Up to TEN (5 x 2) marks available.</p> <ul style="list-style-type: none"> <li>• Subject (line) (has not been changed/lack of (suitable) title (1) (Accept “no title”)) e.g. <ul style="list-style-type: none"> <li>○ Reader will not know what the email is about (1)</li> <li>○ Makes Tom look like he lacks attention to detail (1)</li> </ul> </li> <li>• Suggest has been spelt sudjest (1) e.g. <ul style="list-style-type: none"> <li>○ This is the wrong spelling (of the word) (1)</li> </ul> </li> <li>• Email addresses are not all in the BCC section (1) e.g. <ul style="list-style-type: none"> <li>○ Email address should be kept secret (1)</li> <li>○ Makes Tom look like he lacks attention to detail (1)</li> </ul> </li> <li>• <b>No</b> attachment (1) e.g. <ul style="list-style-type: none"> <li>○ Tom has said that he has added an attachment (1)</li> <li>○ Makes Tom look like he lacks attention to detail (1)</li> </ul> </li> <li>• <b>No</b> signature/sign off (or equivalent) (1) e.g. <ul style="list-style-type: none"> <li>○ It is good practice to include a signature (1)</li> <li>○ A signature makes the email appear more formal (1)</li> <li>○ Makes Tom look like he lacks attention to detail (1)</li> <li>○ Customer may not be clear who it is from (1)</li> </ul> </li> </ul>	10	<p>Candidate may identify issues in any order.</p> <p>Award two marks for each answer that identifies the mistake and explains why it is a mistake.</p> <p>Read the whole answer (left and right cells) and mark to candidates' best advantage, but ONLY where the expansion matches the identified problem. Reason may be an implication rather than why it is an error.</p> <p><b>Only award each of the following once only:</b></p> <ul style="list-style-type: none"> <li>• makes Tom look like he has not paid attention</li> <li>• Makes Tom seem impolite</li> <li>• Creates a poor impression</li> </ul> <p><b>IF candidate swaps the “Error” and “what caused the error “ answers, marks can still be awarded if the pairing is correct.</b></p> <p>“Spelling” on its own is sufficient for 1 mark</p>

Question			Answer/Indicative content	Mark	Guidance
8	a		<p>Up to TWO marks for <b>any</b> suitable example of cyberbullying</p> <p>e.g.</p> <ul style="list-style-type: none"> <li>• (Abusive) message (or equivalent) (1) on social media (or example) (1)</li> <li>• Someone posting comments to start an argument (1) on a website (or example) (1)</li> </ul>	2	<p>Answers should identify the “cyber” aspect and the “bullying” aspect</p> <p>i.e Facebook (1) message (1) is acceptable. The bullying aspect is inherent in the question.</p> <p>Social media in its widest sense – including email and text(ing)</p>
8	b		<p>Up to FOUR marks available (two marks MAX per description)</p> <p>e.g.</p> <ul style="list-style-type: none"> <li>• Report to the police/trusted adult/website etc (1) by clicking on the report button/ ask them to take action (or example) (1)</li> <li>• Block the sender or email, for example (1) on the account/so they can no longer contact him (1)</li> <li>• Ignore the comments(1) so that the sender does not get any enjoyment/feedback (or equivalent) (1)</li> <li>• Screen shot the comment (1) to use as evidence(1)</li> <li>• Make settings private/closed groups (1) so cannot be found (1)</li> </ul>	4	<p>DO NOT accept “delete the message”.</p> <p>“Report it” is sufficient for one mark.</p> <p>Answer must be in form</p> <p>Way (1) expansion (1)</p> <p>Where a candidate has explained their answer, rather than describe, you may award this answer if it is a valid answer e.g. Report to the police (1) so that they can investigate(1)</p>

Question			Answer/Indicative content	Mark	Guidance
9			<p>TWO from:</p> <p>e.g.</p> <ul style="list-style-type: none"> <li>• Dance mat (1)</li> <li>• Drum kit (1)</li> <li>• Guitar (1)</li> <li>• Microphone/mic (1)</li> <li>• Kinect/Camera (1)</li> <li>• Wii remote/wiimote (1)</li> <li>• Wii step (1)</li> <li>• Movement sensitive controller (1)</li> <li>• Stationary bike (1)</li> <li>• Infrared sensor/controller (1)</li> <li>• Pressure pad (1)</li> </ul>	2	<p>Award <b>any</b> input device that would allow the user to simulate the physical activity AND take part in exercise.</p> <p>Accept trade names.</p> <p>Remote control AND sensor on their own are both too vague.</p>

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