



**GCSE**

**ICT**

Unit **B061/02**: ICT in Today's World

General Certificate of Secondary Education

**Mark Scheme for June 2015**

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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.

OCR will not enter into any discussion or correspondence in connection with this mark scheme.

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## Annotations

Annotations **MUST** appear on all responses and pages as directed by OCR, the PE and Team leaders.

Annotation	Meaning
	<b>Blank Page</b> – this annotation <b>MUST</b> be used on all blank pages within an answer booklet (structured or unstructured) and on each page of an additional object where there is no candidate response.
	<b>Seen</b> : this annotation <b>MUST</b> be used on all responses that are NR (no response) and on Level of Response questions.
	<b>Tick</b> : this annotation <b>MUST</b> be used to indicate where credit has been given in a response. NB the number of ticks shown on a response must equal the mark awarded unless clearly stated to the contrary below in Section 11.
	<b>Cross</b> : this annotation is used to indicate where a response is clearly wrong/incorrect or not awarded credit.
Other available annotations:	The annotations toolbar has other available annotations which may be used: TV, BOD and NBOD, Caret (to e.g. indicate that the candidate has omitted a required part of the response), Highlight, REP, NAQ, ?, ^, and the line overlay. These should be used sparingly or as directed by Team Leaders/Supervisors. Note: BOD is not a substitute for a tick...BOD is used to indicate that the tick is awarded even though there is some doubt over the validity of the response.

**Subject-specific Marking Instructions** TO BE RECONSIDERED at SSU in June 2015.

Ticks and crosses **MUST** be used on all except LOR responses (see below) as instructed by PE and Team Supervisors. BOD is not an acceptable substitute for a tick.

Where ticks are required, the number of ticks shown on a response **MUST** be the same as the mark given for that part of the question. For this reason, where BOD has been used, a tick **MUST** accompany it.

Crosses should be used on responses that are clearly wrong, TV or caret on responses that are not worthy of credit can be used to indicate that the response has been read.

No ticks, crosses or other annotations whatsoever to be placed on the LOR questions. Where SCORIS has not made L1, L2 and L3 available to indicate the level awarded, SEEN is to be placed on LOR responses.

All responses on Additional Objects or responses elsewhere in the paper **MUST** be linked back to the originating question using the link annotation/link mechanism.

## MARK SCHEME

Question			Answer	Marks	Guidance
1	(a)	(i)	Two from: keyboard/keypad number pad touchpad mouse webcam microphone touchscreen	2	The devices should be identified from the system shown in Fig. 1.
		(ii)	One device from e.g.: joystick tracker ball game controller (steering) wheel smartphone used as controller microphone (added to desktop computer system) touchscreen (added to desktop system)	1	Allow other appropriate devices that would make playing games or could be added to the system for gaming purposes – if in any doubt, refer the response to your supervisor.  Do NOT allow devices already given by candidate in response to part (i) – devices have to be additional devices.
		(iii)	Two devices from: monitor speaker (networked) printer	2	The devices should be identified from the system shown in Fig. 1.
	(b)		One device from e.g.: network card wireless network card USB Ethernet adapter USB Wi-Fi adapter	1	Allow other appropriate devices that would enable the desktop system to connect to the network – if in any doubt, refer response to your supervisor.  Allow Router

Question	Answer	Marks	Guidance
(c) (i)	<p><i>Explanations/reasons from e.g.:</i></p> <p>Messages are sent in real-time (1) and responses for others are almost immediate (1), know that the other person has received the message/other person is online (1)</p> <p>Conversations can be held (with another person/gamer) without running up a large bill (1)</p> <p>IM can be similar to talking face-to-face to a person (1)</p> <p>Instant messaging systems are a safer environment than chat rooms (1) so personal details are unlikely to be discovered/stolen by others (1)</p> <p>Can monitor who is allowed to contact you at any given time (1) and people can only 'add' you if they know your IM address (1)</p> <p>It is possible to talk to many people at once (1) so a group can chat about the game (1)</p> <p>To discuss/communicate about (1) game strategy/tactics/details (1)</p>	4	Allow appropriate mix'n'match of reasons.
	(ii) <p><i>One explained disadvantage from e.g.:</i></p> <p>Typing one thing and meaning another (1) can lead to misunderstandings (1)</p> <p>Emotions cannot be as well expressed (1) compared to actually talking to a person (1)</p> <p>May not know real identity of others/strangers (1) so may reveal details about yourself (1) be at risk from others (1)</p> <p>users must to be on-line at the same time (1) so cannot contact other players who have only one device/identity not known (1)</p>	2	
(d)	<p><i>One benefit from e.g.:</i></p> <p>can store/access files/data from different networked devices/laptop/desktop/smartphone (1) and can share/move files/data between the devices (1)</p> <p>can synchronise files/data between devices (1) and have automatic backups/copies/up-to-date versions of files on every device (1)</p>	2	

Question			Answer	Marks	Guidance Content	Question Levels of Response
e)			<p><i>This question to be marked as levels of response:</i></p> <p>Answers may refer to e.g.:</p> <ul style="list-style-type: none"> <li>• use of user ID/user name and passwords .....on files .....on devices such as the networked storage device .....different user IDs/usernames and passwords for each gaming service</li> <li>• use of different user IDs/usernames and passwords for each application</li> <li>• use of data encryption to scramble the data while stored/in transmission</li> <li>• use of anti-malware software to prevent theft of details</li> <li>• only connect to reputable gaming servers/service</li> <li>• use of firewall to control access by devices/users from the internet</li> <li>• use of IP filtering to control access by devices to router</li> <li>• use of IP 'masking' with e.g. VPN</li> <li>• use of MAC filtering on router to control access to router by devices</li> <li>• move the data to a more secure storage area</li> <li>• precautions when transferring the data e.g. ensure websites use https</li> </ul>	8		<p><b>Level 3 (7 – 8 marks)</b> Candidates will explain in detail at least two ways of protecting the personal details. Examples, if used, will be relevant and appropriate. The information will be relevant, clear 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>Level 2 (3 – 6 marks)</b> Candidates will explain and/or describe way(s) of protecting the personal details. Examples, if used, will be for the most part relevant. 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 1 (1 – 2 marks)</b> Candidates will list some way(s) of protecting the personal details. Examples, if used, may lack relevance. Answers may be in the form of a list. There will be little or no use of specialist terms. Errors of grammar, punctuation and spelling may be intrusive.</p> <p>Zero marks – no valid content.</p>
2			<p><i>Five from e.g.:</i></p> <ul style="list-style-type: none"> <li>• animations</li> <li>• videos</li> <li>• audio</li> <li>• non-linear navigation</li> </ul>	5	Allow other appropriate features – if in any doubt, refer response to your supervisor.	

Question			Answer	Marks	Guidance	Question																																																																																																							
			<ul style="list-style-type: none"><li>• (hyper)links to external e.g. web pages</li><li>• (hyper)links to other slides</li><li>• transitions</li></ul>																																																																																																										
3					<p>The spreadsheet for Q.3 is reproduced here for convenience:</p> <p>He uses a spreadsheet with formulas to store some of the data. His spreadsheet is shown in Fig. 2.</p> <table><tr><td></td><td>A</td><td>B</td><td>C</td><td>D</td><td>E</td><td>F</td></tr><tr><td>1</td><td colspan="6">People queuing at supermarket checkouts at 1 pm</td></tr><tr><td>2</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>3</td><td rowspan="2">Day</td><td colspan="4">Checkout number</td><td rowspan="2">Total number of people queuing at all checkouts</td></tr><tr><td>4</td><td>1</td><td>2</td><td>3</td><td>4</td></tr><tr><td>5</td><td>Saturday</td><td>9</td><td>6</td><td>9</td><td>1</td><td>25</td></tr><tr><td>6</td><td>Sunday</td><td>2</td><td>5</td><td>5</td><td>0</td><td>12</td></tr><tr><td>7</td><td>Monday</td><td>4</td><td>7</td><td>5</td><td>0</td><td>16</td></tr><tr><td>8</td><td>Tuesday</td><td>5</td><td>6</td><td>6</td><td>0</td><td>17</td></tr><tr><td>9</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>10</td><td>Total</td><td>20</td><td>24</td><td>25</td><td>1</td><td>70</td></tr><tr><td>11</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>12</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>13</td><td>Average per day</td><td>5</td><td>6</td><td>6</td><td>0</td><td></td></tr><tr><td>14</td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>		A	B	C	D	E	F	1	People queuing at supermarket checkouts at 1 pm						2							3	Day	Checkout number				Total number of people queuing at all checkouts	4	1	2	3	4	5	Saturday	9	6	9	1	25	6	Sunday	2	5	5	0	12	7	Monday	4	7	5	0	16	8	Tuesday	5	6	6	0	17	9							10	Total	20	24	25	1	70	11							12							13	Average per day	5	6	6	0		14							
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3	(a)	(i)	<p>Two for:</p> <p>=SUM(B5:B8)</p> <p>Marks to be awarded as follows:</p> <p>=SUM()</p> <p>1 mark</p>	2	<p>The = sign in =SUM() is not required for the mark</p> <p>Do not allow SUM=()</p> <p>If there is e.g. =B10 at the end of the formula then max 1. e.g. SUM(B5:B8)=B10 is 1 mark.</p>																																																																																																								



Question			Answer	Marks	Guidance	Question
			all correct range if using SUM i.e. B5:B8 1 mark  or: <i>All correct as follows:</i>  =B5+B6+B7+B8 1 mark only		=SUM(B5+B6+B7+B8) ... 1 mark for =SUM(..), as the range in not the most suitable format  = sign is not required for the mark for B5+B6+B7+B8	
		(ii)	Two from:  =AVERAGE() 1 mark all correct range () i.e. B5:B8 or B5,B6,B7,B8 or B5+B6+B7+B8 1 mark  or:  =SUM(B5:B8) range must be all correct 1 mark /4 1 mark  or:  =B10 1 mark /4 1 mark  or:  =(B5+B6+B7+B8) must be all correct, inc. the () 1 mark /4 1 mark	2	The leading = sign is not required.  If there is e.g. =B13 at the end of the formula then max 1. e.g. B10/4=B13 is 1 mark.          the () are required else the order of calculation would not be correct.	
		(iii)	One description from: • copy and paste (1) formula/contents of cell B10 (1) into cells C10 to E10 (1)	3	The methods are: • copy and paste • select, drag bottom right corner across	

Question			Answer	Marks	Guidance	Question
			<ul style="list-style-type: none"> <li>• select/replicate cell B10 (1) by drag bottom right corner of cell/black cross (1) across/(to the right) over cells C10 to E10 (1)</li> <li>• fill right (1) from B13 (1) across B13 to E13(1)</li> <li>• copy and paste (1) formula/contents of cell B13 (1) into cells C13 to E13 (1)</li> <li>• select/replicate cell B13 (1) by drag bottom right corner of cell/black cross (1) across/(to the right) over cells C13 to E13 (1)</li> <li>• fill right (1) from B13 (1) across B13 to E13(1)</li> </ul>		<ul style="list-style-type: none"> <li>• fill right</li> </ul> <p>Allow one description along with the correct cell references.</p> <p>Must have both copy and paste for the mark.</p>	
	(b)	(i)	<p><i>Four from:</i></p> <ul style="list-style-type: none"> <li>• Cells F3 and F4 (1) merged (1)</li> <li>• contents centred (1) horizontally and vertically(1)</li> <li>• contents emboldened (1)</li> <li>• wrap text (1)</li> <li>• enlarged the cell vertically/increased vertical height of cell (1)</li> </ul>	4		
		(ii)	<p><i>One explanation from:</i></p> <ul style="list-style-type: none"> <li>• values are more meaningful (1) because people are always whole numbers/not fractions or decimal places (1)</li> <li>• whole numbers are easier to comprehend (1) so information is conveyed better (1)</li> </ul>	2		

Question			Answer	Marks	Guidance	Question
4			Labels as shown:	6		
			Position of Label			
			A			
			B			
			C			
			D			
			E			
			F			

Question	Answer	Marks	Guidance	Question
5	<p><i>This question to be marked as levels of response:</i></p> <p><i>Answers may refer to e.g.:</i></p> <ul style="list-style-type: none"> <li>• vast amount of information available about other countries/destinations</li> <li>• can research/contact transport services/suppliers/hotels/airlines/car hire operators at any time of day</li> <li>• can use comparison web sites to find cheapest/best/most appropriate “deal”/price</li> <li>• some prices/“deals” may only be available on the internet</li> <li>• can book/order/check in online from anywhere</li> <li>• may be too much information to make easy decisions/choices</li> <li>• information may be inaccurate/unreliable/out of date</li> <li>• some suppliers/hotels/care hire operators in some countries/destinations may not have web presence so information is not complete</li> <li>• have to have a credit/debit card</li> <li>• use of credit/debit card may incur extra charges</li> <li>• total costs may not be easy to calculate/not be clearly shown from some suppliers/hotels/airlines/car hire operators</li> <li>• cannot easily ask extra questions/discuss requirements with operators</li> </ul>	8	<p><b>Content</b></p>	<p><b>Levels of Response</b></p> <p><b>Level 3 (7 – 8 marks)</b> Candidates will explain in detail the benefits and drawbacks of using the internet to arrange a holiday to several different countries. Examples, if used, will be relevant and appropriate. The information will be relevant, clear 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>Level 2 (3 – 6 marks)</b> Candidates will explain and/or describe in detail the benefit(s) and/or drawback(s) of using the internet to arrange a holiday to several different countries. Examples, if used, will be for the most part relevant. 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 1 (1 – 2 marks)</b> Candidates will list some of the benefit(s) or drawback(s) of using the internet to arrange a holiday to several different countries. Examples, if used, may lack relevance. Answers may be in the form of a list. There will be little or no use of specialist terms. Errors of grammar, punctuation and spelling may be intrusive.</p> <p>Zero marks – no valid content.</p>

Question			Answer	Marks	Guidance	Question
6	(a)		<p>Two from, e.g.:</p> <p>sensors/biosensors</p> <p>security e.g. on banknotes, credit cards, passports, ID cards</p> <p>data storage</p> <p>microscopy</p> <p>medical uses</p> <p>art work</p> <p>stage special effects</p> <p>3D video calls</p> <p>gun sights</p>	2		
	(b)		<p>Four from e.g.:</p> <p>Can customise objects/products to purchaser</p> <p>....at same cost to purchaser</p> <p>Can optimise manufacturing for small batches/low volumes</p> <p>3D printers can produce wide range of products</p> <p>....traditional machine tools have to be reset/redesigned for different</p> <p>products</p> <p>Designers can produce prototypes of products</p> <p>cheaply/quickly/rapidly</p> <p>3D printing can be done away from traditional factories</p> <p>....bringing manufacturing into homes/schools/small business</p> <p>....make replacement parts of e.g. cars/appliances/aircraft</p> <p>....at/near point of consumption</p> <p>....change in work patterns/employment/skills</p> <p>New products can be manufactured that were impossible with traditional machinery</p> <p>Products can be manufactured with less waste of materials</p> <p>Products can be manufactured to be much lighter and just as strong c.f. traditional manufacturing as less assembly needed</p> <p>Can manufacture/make very small objects/nano objects</p>	4		

**OCR (Oxford Cambridge and RSA Examinations)**  
**1 Hills Road**  
**Cambridge**  
**CB1 2EU**

**OCR Customer Contact Centre**

**Education and Learning**

Telephone: 01223 553998

Facsimile: 01223 552627

Email: [general.qualifications@ocr.org.uk](mailto:general.qualifications@ocr.org.uk)

[www.ocr.org.uk](http://www.ocr.org.uk)

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**OCR (Oxford Cambridge and RSA Examinations)**  
**Head office**  
**Telephone: 01223 552552**  
**Facsimile: 01223 552553**

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