



GCE

ICT

Advanced Subsidiary GCE

Unit **G061**: Information, Systems and Applications

# Mark Scheme for January 2013

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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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**Annotations**

<b>Annotation</b>	<b>Meaning</b>
	Omission mark
	Benefit of doubt
	Subordinate clause/Consequential error
	Cross
	Expansion of a point
	Follow through
	Not answered question
	Benefit of doubt not given
	Point being made
	Repeat
	Slash
	Tick
	Too vague
	Zero (big)

G061

Mark Scheme

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Question		Answer	Marks	Guidance
1	(a)	4 from, one for example for each, eg: <ul style="list-style-type: none"> <li>Data: 27082014 (1)</li> <li>Context: UK Date (1)</li> <li>Structure: dd/mm/yyyy /£/nn.nn(1)</li> <li>Meaning: Date of New exhibition for A.Oliver (1).</li> </ul>	4	Must be related to EJO/Art Gallery example.
	(b)	2 from eg: <ul style="list-style-type: none"> <li>Table (1) Information is structured so easier to read (1)</li> <li>Sound (1) Can listen to sound (1)</li> <li>Video/Animation (1) More information can be given (1)</li> <li>LED (1) Simple recurring patterns can be used on all pictures making it easy to compare (1).</li> </ul>	4	Do not allow graphics/pictures/images or text.
2	(a)	3 from eg: <ul style="list-style-type: none"> <li>Details entered (1) eg name/time/date (1)</li> <li>Time and date searched (1) to see if any vacancies (1)</li> <li>Payment calculated (1) and taken from card/method of payment selected (1)</li> <li>Receipt produced (1) and printed (1)</li> <li>Details added to tour list (1) printed for guide (1).</li> <li>Forms interface (1) buttons to allow to move to next screen (1)</li> </ul>	6	
	(b)	1 mark each: <ul style="list-style-type: none"> <li><b>Number in Party:</b> Integer (1)</li> <li><b>Paid?</b> Boolean or Yes/No or Y/N or True/False or T/F (1).</li> </ul>	2	
	(c)	1 mark per advantage: <ul style="list-style-type: none"> <li>Automatically entered (1)</li> <li>Will be unique (1)</li> <li>Allows consistent format (1)</li> </ul>	2	

Question		Answer	Marks	Guidance
	(d)	2 marks per description eg: <ul style="list-style-type: none"> <li>• <b>Foreign key:</b> primary key in one table (1) that has the same data type/links to a field in another table (1) allows tables to be linked (1) relevant example (1)</li> <li>• <b>Table:</b> collection of records/data elements (1) organized by rows and columns (1). Contains fields/records with data (1)</li> </ul>	4	
	(e)	2 from eg: <ul style="list-style-type: none"> <li>• Allows one record in one table to be linked to many records in another table/link tables (1) reduces data duplication (1)</li> <li>• Allows queries to be created that cross tables (1) using data from different tables (1).</li> <li>• Relevant example described (1)</li> </ul>	2	
3	(a)	2 marks per advantage eg: <ul style="list-style-type: none"> <li>• Wide range of information (1) different opinions can give a balanced leaflet (1)</li> <li>• Up to date information (1) leaflet will have the latest content (1)</li> <li>• Types of information/text/video/sound/picture/images (1) can be used to add more information (1).</li> <li>• Information on the internet is [mostly] free (1) reducing costs of leaflet production (1)</li> <li>• Information on internet can be cross checked (1) higher degree of accuracy (1)</li> </ul>	4	Must be an advantage and not a description
	(b)	2 from eg: <ul style="list-style-type: none"> <li>• Error could be missed (1) – reading name of artist Jones as Janes (1)</li> <li>• If original incorrect (1) proof reading may match against source but still be incorrect – date of exhibition written as 11/7/13 and should have been 12/7/13 (1).</li> </ul>	2	Max 1 if no example
	(c) (i)	2 marks per feature eg: <ul style="list-style-type: none"> <li>• Footnote: information in the footer/bottom of the individual page (1) that relates to text/reference in the main document (1)</li> <li>• Section: area of document (1) formatted independently (1) can contain text/images (1)</li> <li>• Paragraph: block of text (1) with paragraph returns before/after (1) gives structure to the document/makes easier to read/separates themes (1)</li> </ul>	6	Footnote: 0 marks if answer is about footer

Question	Answer	Marks	Guidance									
	<p>(ii) 1 mark per use eg:</p> <ul style="list-style-type: none"> <li>• Footnote: adding additional information about the influences on the artist (1)</li> <li>• Section: changing orientation of the page – pictures in landscape and text in portrait (1)</li> <li>• Paragraph: breaking up paragraphs of text – text about artist's life and work in different paragraphs (1).</li> </ul>	3	Must be for use in leaflet									
	<p>(d) 1 mark per example eg:</p> <ul style="list-style-type: none"> <li>• Software: Desktop publishing software/graphics software (1)</li> <li>• Consumable: paper/ink/electricity (1)</li> <li>• Personnel: training costs/covering staff whilst working on leaflet (1).</li> </ul>	3										
4	<ul style="list-style-type: none"> <li>• Printer/plotter/tablet (1).</li> </ul> <p>If output device not correct then no marks can be awarded for justification.</p> <p>Marked as per grid below.</p> <table border="1" data-bbox="376 970 1420 1182"> <tbody> <tr> <td>High</td> <td>5–6</td> <td>Candidate has given detailed reasons why the device should be used.</td> </tr> <tr> <td>Medium</td> <td>3–4</td> <td>Candidate has described advantages for using the device in the given situation.</td> </tr> <tr> <td>Low</td> <td>0–2</td> <td>Candidate has identified advantages for using the device in the given situation.</td> </tr> </tbody> </table> <p>Points may include:  Maps can be colour or black and white, very fine detail can be included, text or shapes can be printed, different sizes of paper can be used for different people – partially sighted for example, initial cost of device is low, speed of output can be high if more maps are urgently needed.  Can zoom into image (if on tablet) and link to further information</p>	High	5–6	Candidate has given detailed reasons why the device should be used.	Medium	3–4	Candidate has described advantages for using the device in the given situation.	Low	0–2	Candidate has identified advantages for using the device in the given situation.	7	<p>Type not required, if they say inkjet/laser – allow as printer</p> <p>If output device is blank, read justification to see if device is mentioned and award mark.</p> <p>Medium:  The tablet can be used to provide high quality maps for the user as many tablets have screens which provide high quality visual, the user shall be able to click a certain area on the tablet and the tablet shall contain voice recognition which shall navigate the user to various places within the gallery as tablets now contain these facilities. A tablet is also user friendly and will contain tutorials to help the user interact with the tablet. (Medium – 4 + identification of tablet – 5/7)</p>
High	5–6	Candidate has given detailed reasons why the device should be used.										
Medium	3–4	Candidate has described advantages for using the device in the given situation.										
Low	0–2	Candidate has identified advantages for using the device in the given situation.										

Question		Answer	Marks	Guidance								
5	(a)	<p>Marked as per grid:</p> <table border="1"> <tr> <td>4</td> <td>Two complete comparisons.</td> </tr> <tr> <td>3</td> <td>One complete comparison and one individual point</td> </tr> <tr> <td>2</td> <td>One complete comparison OR Two individual points about either side</td> </tr> <tr> <td>1</td> <td>One individual point about either side.</td> </tr> </table> <p>Points may include:</p> <ul style="list-style-type: none"> <li>• Timings: automatic will move from slide to slide after a specific time, manual will change when the presenter chooses.</li> <li>• Linear: automatic goes through the slides in a sequence, manual can go backwards and forwards as required</li> <li>• Location: automatic can be out of the way – may be positioned high up, manual has to be within reach or line of signal.</li> </ul>	4	Two complete comparisons.	3	One complete comparison and one individual point	2	One complete comparison OR Two individual points about either side	1	One individual point about either side.	4	
4	Two complete comparisons.											
3	One complete comparison and one individual point											
2	One complete comparison OR Two individual points about either side											
1	One individual point about either side.											
	(b)	<p>2 from, 2 marks each eg:</p> <ul style="list-style-type: none"> <li>• Presentation needs to be the same to each group (1) with hierarchical there is a pathway through the presentation (1)</li> <li>• Time limit on the speaker at each exhibit (1) hierarchical means cannot go to any other slide (1)</li> <li>• Layout can include commonly asked questions within the slides (1) minimising additional time required (1).</li> </ul>	4									
	(c)	<p>Two marks per disadvantage, 1 for identification, 2<sup>nd</sup> for expansion eg:</p> <ul style="list-style-type: none"> <li>• No interaction on slide (1) text/images only and no video/music (1)</li> <li>• Quality of slide deteriorates over time (1) finger prints enlarged by OHP (1)</li> <li>• Order can become muddled (1) slides can be lost (1)</li> <li>• Impression it gives to audience (1) lack of technical expertise (1).</li> <li>• Presenter needs to be next to OHP(1) to change the slide (1)</li> <li>• Requires power to work (1) cannot show presentation in power cut (1)</li> </ul>	4									

Question		Answer	Marks	Guidance									
6	(a)	<p>2 marks per characteristic, 1 for identification, 2<sup>nd</sup> for expansion eg:</p> <ul style="list-style-type: none"> <li>• Validation of input (1) each field can have its own separate validation (1)</li> <li>• Logical sequence (1) can follow a piece of paper for ease of data entry (1)</li> <li>• Labels and instructions (1) to guide the users on what to fill in (1).</li> <li>• Macros to perform an action (1) e.g. buttons to move to next page (1)</li> </ul>	4	NO Menu									
	(b)	<p>2 marks per description, 1 mark for use eg:</p> <ul style="list-style-type: none"> <li>• <b>Spinner:</b> has a minimum, maximum and increment (1) changed by up and down arrows (1) moves through set of values (1)</li> <li>• <b>Use</b> eg: Amount in stock (1)</li> <li>• <b>Option Button:</b> allows selection from a variety of options (1) only allows selection of one option (1)</li> <li>• <b>Use</b> eg: Type of item (1).</li> </ul>	6	Allow explanation related to spinners on mobile phones									
	(c)	<p>Marked as per grid below:</p> <table border="1"> <tbody> <tr> <td>High</td> <td>5–6</td> <td>Candidate has given detailed reasons why software should be used</td> </tr> <tr> <td>Medium</td> <td>3–4</td> <td>Candidate has described advantages for using software in the given situation.</td> </tr> <tr> <td>Low</td> <td>0–2</td> <td>Candidate has identified advantages for using a software in the given situation.</td> </tr> </tbody> </table> <p>Points may include:</p> <p>Individual applications for each task will be better suited and have more options, a single application can share data amongst itself combining appointment with contacts for example and send out invitations.</p> <p>A single application is a single cost and port of call for help, there may be specialists with knowledge, many packages cost more as you have to pay for each package, you need different support contracts, one for each package and different experts are required.</p>	High	5–6	Candidate has given detailed reasons why software should be used	Medium	3–4	Candidate has described advantages for using software in the given situation.	Low	0–2	Candidate has identified advantages for using a software in the given situation.	6	<p>“A single piece of applications software allows all the information to be stored in one place. The user can manage and edit any information in one place. This can save time. The applications can be linked. An email to book an appointment can be updated in the appointments area. This reduces the risk of the user missing appointments and reduces risk of double entry of information”</p> <p>Described advantage and reason – 5 marks.</p>
High	5–6	Candidate has given detailed reasons why software should be used											
Medium	3–4	Candidate has described advantages for using software in the given situation.											
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Question		Answer	Marks	Guidance
7		1 from: <ul style="list-style-type: none"> <li>To maintain corporate identity/consistent layout (1) by setting the style for formatting (1)</li> <li>To allow teams of people to work on individual elements (1) that have the same style when joined (1).</li> </ul>	2	Allow responses based on CSS
8	(a)	Two from, 2 marks each, 1st for identification, 2 <sup>nd</sup> for explanation: <ul style="list-style-type: none"> <li>Allows what if to be used (1) different scenarios can be tried to find the best one (1)</li> <li>Variables can be used (1) these can be changed to try different scenarios without rebuilding the model(1)</li> <li>Time can be decreased (1) allowing the impact on a long time in the future to be seen (1).</li> </ul>	4	Allow financial or 3D modelling
	(b)	2 marks per description, 1 mark for use: <ul style="list-style-type: none"> <li>Variable: can be changed (1) used as a reference in a calculation (1)</li> <li>Use: Price of Piece/Sold (1) Function: built in to software (1) complex formulae (1) uses reserved words (1) e.g. sum (1)</li> <li>Use eg : Total Commission – SUM of the individual commission / Commission – IF based on whether work has been sold (1).</li> </ul>	6	Must relate to spreadsheet given in example
9	(a)	2 marks per explanation: <p>Encryption: turns the clear text into unintelligible text (1) means that if intercepted, cannot be read without code (1)</p> <p>Firewall: designed to permit/deny network transmissions based upon a set of rules (1) any traffic that does not conform to the rules/hackers is not allowed access (1) stops unauthorised users/allows authorised users (1) Stops programs running (1) if not authorised (1)</p> <p>Software patches: repairs/removes holes in the software (1) stops hackers exploiting them and gaining access (1).</p>	6	Allow inferred authorised/unauthorised

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Question	Answer	Marks	Guidance									
(b)	Two from: <ul style="list-style-type: none"> <li>• Find out what information is held about you by an organisation (1)</li> <li>• <a href="#">Correct information</a> that is held by the organisation (1)</li> <li>• <a href="#">Prevent processing of information</a> if it causes substantial unwarranted damage or distress (1)</li> <li>• <a href="#">Prevent unsolicited marketing</a>/An organisation is required not to process information about you for direct marketing purposes if you ask them not to. (1)</li> <li>• <a href="#">Prevent automated decision making</a> (1)</li> <li>• <a href="#">Claim compensation</a> for damage, and in some cases distress, caused by any breach of the Act (1).</li> </ul>	2	Allow alternative text – NOT principles									
(c)	Marked as per grid below: <table border="1" data-bbox="376 699 1420 906" style="margin-left: 20px;"> <tbody> <tr> <td>High</td> <td>5–6</td> <td>Candidate has explained problems encountered when trying to enforce rights</td> </tr> <tr> <td>Medium</td> <td>3–4</td> <td>Candidate has described problems encountered when trying to enforce rights</td> </tr> <tr> <td>Low</td> <td>0–2</td> <td>Candidate has identified problems encountered when trying to enforce rights</td> </tr> </tbody> </table> <p>Points may include:            Difficult to know which companies have information on you - have to request the information and send money but they might not have anything            Damage and distress is difficult to prove - must be linked to the use of the information and caused significant distress            Lists can be sold to other organisations -may ask one company not to direct market but others may already have the details.</p>	High	5–6	Candidate has explained problems encountered when trying to enforce rights	Medium	3–4	Candidate has described problems encountered when trying to enforce rights	Low	0–2	Candidate has identified problems encountered when trying to enforce rights	6	
High	5–6	Candidate has explained problems encountered when trying to enforce rights										
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Low	0–2	Candidate has identified problems encountered when trying to enforce rights										

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Question		Answer	Marks	Guidance
10	(a)	2 from eg: <ul style="list-style-type: none"> <li>• WORK (1)</li> <li>• SALE (1)</li> <li>• PURCHASES (1).</li> </ul>	2	Allow suitable alternative names that represent the same information
	(b)	Links: CUSTOMER – SALE SALE – WORK WORK - ARTIST  All correct – 2 marks Two correct: 1 mark  Relationships: CUSTOMER 1–M SALE SALE 1– 1 WORK WORK M – 1 ARTIST  All correct – 2 marks Two correct: 1 mark	4	There may be other entities and relationships  If the solution involves instances of work/Purchases or other entities, then look to see if the ERD that has been created is correct and award marks for numbers of entities and relationships as per opposite.  Allow either a single sale per transaction or multiple sales per transaction (requires use of join table – eg PURCHASES here but allow other names)

Question	Answer	Marks	Guidance												
11	<p>Marked as per grid below:</p> <table border="1" data-bbox="376 280 1420 1270"> <tr> <td data-bbox="376 280 477 687">9–11</td> <td data-bbox="477 280 524 687">4</td> <td data-bbox="524 280 1420 687"> <p>The candidate is able to show a detailed level of understanding by discussing the impacts and consequences of future developments of ICT on the disabled visitors.</p> <p>The candidate is able to describe <b>more than</b> one different impact <b>and</b> the consequence of that impact. Ideas will be expressed clearly and fluently using specific knowledge to support and inform the discussion.</p> <p>Subject specific terminology, where used, will be accurate and appropriate. Spellings, grammar and punctuation will be used correctly.</p> </td> </tr> <tr> <td data-bbox="376 687 477 1031">6–8</td> <td data-bbox="477 687 524 1031">3</td> <td data-bbox="524 687 1420 1031"> <p>The candidate is able to show a good level of understanding by discussing the impact(s) and consequence(s) of future developments of ICT on the disabled visitors.</p> <p>Descriptions may concentrate on <b>either</b> the impact <b>or</b> the consequence with limited depth in the expansions.</p> <p>Subject specific terminology, where used, will be accurate. For the most part spellings, grammar and punctuation will be used correctly.</p> </td> </tr> <tr> <td data-bbox="376 1031 477 1131">3–5</td> <td data-bbox="477 1031 524 1131">2</td> <td data-bbox="524 1031 1420 1131"> <p>The candidate is able to describe <b>one</b> impact <b>or</b> consequence. Subject specific knowledge will be evident and some subject terminology will be used.</p> </td> </tr> <tr> <td data-bbox="376 1131 477 1270">0–2</td> <td data-bbox="477 1131 524 1270">1</td> <td data-bbox="524 1131 1420 1270"> <p>The candidate is able to identify a number of relevant points. These may not be linked or coherent.</p> <p>Subject specific terminology may be limited or missing.</p> </td> </tr> </table> <p>Points may include: Automatic sensors to open doors and lifts which will allow for easy access throughout the gallery meaning they can be independent and do not need to rely</p>	9–11	4	<p>The candidate is able to show a detailed level of understanding by discussing the impacts and consequences of future developments of ICT on the disabled visitors.</p> <p>The candidate is able to describe <b>more than</b> one different impact <b>and</b> the consequence of that impact. Ideas will be expressed clearly and fluently using specific knowledge to support and inform the discussion.</p> <p>Subject specific terminology, where used, will be accurate and appropriate. Spellings, grammar and punctuation will be used correctly.</p>	6–8	3	<p>The candidate is able to show a good level of understanding by discussing the impact(s) and consequence(s) of future developments of ICT on the disabled visitors.</p> <p>Descriptions may concentrate on <b>either</b> the impact <b>or</b> the consequence with limited depth in the expansions.</p> <p>Subject specific terminology, where used, will be accurate. For the most part spellings, grammar and punctuation will be used correctly.</p>	3–5	2	<p>The candidate is able to describe <b>one</b> impact <b>or</b> consequence. Subject specific knowledge will be evident and some subject terminology will be used.</p>	0–2	1	<p>The candidate is able to identify a number of relevant points. These may not be linked or coherent.</p> <p>Subject specific terminology may be limited or missing.</p>	11	
9–11	4	<p>The candidate is able to show a detailed level of understanding by discussing the impacts and consequences of future developments of ICT on the disabled visitors.</p> <p>The candidate is able to describe <b>more than</b> one different impact <b>and</b> the consequence of that impact. Ideas will be expressed clearly and fluently using specific knowledge to support and inform the discussion.</p> <p>Subject specific terminology, where used, will be accurate and appropriate. Spellings, grammar and punctuation will be used correctly.</p>													
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	<p>on having staff to open and close the doors. Sensors disabled people wear identifying the type of disability, when standing in front of the exhibit it can read the type of disability and alter the display to suit – voice/large font etc allowing them to enjoy the exhibit.</p> <p>Use of virtual reality to allow a walkthrough the exhibit without physically being there allowing for full interaction with the exhibits increasing the number of people that can enjoy the exhibit and increasing the potential revenue for sales.</p>		

**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)

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