

# **Mark Scheme for June 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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Mark Scheme

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## Annotations

Annotation	Meaning
	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)

**Subject-specific Marking Instructions**

**ADDITIONAL OBJECTS:** You **must** annotate the additional objects for each script you mark. If no credit is to be awarded for the additional object, please use annotation as agreed at the SSU, likely to be 'seen' or the highlighting tool.

**CROSSED OUT, RUBRIC ERROR (OPTIONAL QUESTIONS) AND MULTIPLE RESPONSES**

**Crossed-out Responses:** Where a candidate has crossed out a response and provided a clear alternative then the crossed out response is not marked. Where no alternative response has been provided, examiners may give candidates the benefit of the doubt and mark the crossed out response where legible.

**Rubric Error Responses – Optional Questions:** Where candidates have a choice of question across a whole paper or a whole section and have provided more answers than required, then all responses are marked and the highest mark allowable within the rubric is given. *(The underlying assumption is that the candidate has penalised themselves by attempting more questions than necessary in the time allowed.)*

**Multiple Choice Question Responses:** When a multiple choice question has only a single, correct response and a candidate provides two responses (even if one of these responses is correct), then no mark should be awarded (as it is not possible to determine which was the first response selected by the candidate).

*When a question requires candidates to select more than one option/multiple options, then local marking arrangements need to ensure consistency of approach.*

**Contradictory Responses:** When a candidate provides contradictory responses, then no mark should be awarded, even if one of the answers is correct.

**Short Answer Questions** (requiring only a list by way of a response, usually worth only **one mark per response**): Where candidates are required to provide a set number of short answer responses then only the set number of responses should be marked. The response space should be marked from left to right on each line and then line by line until the required number of responses have been considered. The remaining responses should not then be marked. Examiners will have to apply judgement as to whether a 'second response' on a line is a development of the 'first response', rather than a separate, discrete response. *(The underlying assumption is that the candidate is attempting to hedge their bets and therefore getting undue benefit rather than engaging with the question and giving the most relevant/correct responses.)*

**Short Answer Questions** (requiring a more developed response, worth **two or more marks**): If the candidates are required to provide a description of, say, three items or factors and four items or factors are provided, then mark on a similar basis – that is downwards (as it is unlikely in this situation that a candidate will provide more than one response in each section of the response space.)

**Longer Answer Questions** (requiring a developed response): Where candidates have provided two (or more) responses to a medium or high tariff question which only required a single (developed) response and not crossed out the first response, then only the first response should be marked. Examiners will need to apply professional judgement as to whether the second (or a subsequent) response is a 'new start' or simply a poorly expressed continuation of the first response.

Question		Answer	Marks	Guidance
1	(a)	2 from: <ul style="list-style-type: none"> <li>• Unprocessed data (1)</li> <li>• No meaning (1)</li> <li>• No structure (1)</li> <li>• No context (1)</li> <li>• Raw facts and figures (1)</li> <li>• Alphanumeric characters (1).</li> </ul>	2	
	(b) (i)	<ul style="list-style-type: none"> <li>• Data that can be changed (1) without manually updating/automatically (1).</li> </ul>	2	
	(ii)	2 from, eg <ul style="list-style-type: none"> <li>• Only showing houses that are available (1)</li> <li>• Only showing houses that match criteria eg 2 bedrooms (1)</li> <li>• Changing date (1)</li> <li>• Updating/saving previous searches (1).</li> </ul>	2	Must be linked to property website
	(c)	2 from, 1 for identification, 2 <sup>nd</sup> for expansion eg: <ul style="list-style-type: none"> <li>• Lots of images can be displayed on the page at the same time (1) allows comparisons to be made (1)</li> <li>• Fast loading of images (1) do not have to wait to see them (1)</li> <li>• Only need to load larger versions of the ones you want (1) no waiting for redundant images (1).</li> </ul>	4	
	(d)	2 from, 1 for identification, 2 <sup>nd</sup> for expansion: <ul style="list-style-type: none"> <li>• Length (1) length of number entered must have correct number of digits (1)</li> <li>• Type (1) characters entered must be numeric (1)</li> <li>• Check Digit (1) calculation applied to numbers entered (1)</li> <li>• Presence (1) must have entered something (1)</li> <li>• Lookup (1) checks that the card type matches the check digit (1)</li> <li>• Format (1) different characters must lie within defined range (1).</li> </ul>	4	Not Range,

Question	Answer	Marks	Guidance
2	<ul style="list-style-type: none"> <li>• Input: Customer deposit (1)</li> <li>• Processing: Check to see if deposit is valid (1)</li> <li>• Processing: Property taken off market (1)</li> <li>• Storage: Customer details and new status of property (1)</li> <li>• Processing: Remaining amount calculated (1)</li> <li>• Output: Email and statement sent AND Deposit declined email sent to customer (1).</li> </ul> <pre> graph TD     A[Customer Pays Deposit (online)] --&gt; B[Check (by company) that money has been received]     B -- "Money not received" --&gt; C[Email sent to customer informing them of non receipt]     B -- "Money received" --&gt; D[Property taken off market]     D --&gt; E[Remaining amount calculated]     E --&gt; F[Customer sent confirmation email AND statement for remaining amount]           </pre>	6	<p>Must be a drawing</p> <p>Do not need input/processing/storage/output headings.</p> <p>Accept different layout</p>

Question		Answer	Marks	Guidance
3	(a)	<ul style="list-style-type: none"> <li>• Hardware: something you can touch/physical (1)</li> <li>• Example eg: monitor/keyboard/mouse (1)</li> <li>• Software: code/instructions/programming (1)</li> <li>• Example: eg operating system/word processing (1).</li> </ul>	4	Allow brand names
	(b)	3 from eg: <ul style="list-style-type: none"> <li>• Foot mouse (1)</li> <li>• Microphone (1)</li> <li>• Eye typer (1)</li> <li>• Head pointer (1)</li> <li>• Puff suck switch (1).</li> </ul>	3	Do not allow devices that involve use of arms.
4	(a)	3 from, 1 for identification 2 <sup>nd</sup> for expansion eg: <ul style="list-style-type: none"> <li>• Stores customer information (1) name/address (1)</li> <li>• Stores product information (1) name/price (1)</li> <li>• Stores items purchased (1) date/amount/total price (1)</li> <li>• Calculates invoice total (1) multiples number bought by item price (1)</li> <li>• Stores stock records (1) orders low stock (1).</li> </ul>	6	Allow elements of stock control and customer management
	(b)	2 from, 1 for identification, 2 <sup>nd</sup> for expansion eg: <ul style="list-style-type: none"> <li>• Allows the system to automatically open the programme identified with the file type (1) saves time for the user having to identify the file and open the programme (1)</li> <li>• Allows files to be optimised for certain content (1) such as database files holding data in a specific way to be accessed by database applications (1)</li> <li>• Allows the user to search for types of files by extension (1) if they know it is a spreadsheet they can search for spreadsheet extension (1)</li> <li>• Allows administrators to block access to files by file type (1)</li> <li>• Allows files to be saved in different formats (1) to transfer between systems (1)</li> </ul>	4	
5	(a)	(i) 2 marks each, 1 for description, 2 <sup>nd</sup> for example: <ul style="list-style-type: none"> <li>• Absolute: do not change (1) they refer to the same cell/made absolute by \$/named range (1)</li> <li>• When copied cell reference does not change (2)</li> <li>• Relative: changes (1) if copying down the row changes/if copying across the column changes (1).</li> <li>• When copied cell reference changes (2)</li> </ul>	4	

Question		Answer	Marks	Guidance
	(ii)	1 mark for each example eg: <ul style="list-style-type: none"> <li>Absolute: in the commission column (1)</li> <li>Relative: reference to commission refers to the price column/total sales (1).</li> </ul>	2	Example must relate to the spreadsheet given
	(b)	2 from, 2 marks each: <ul style="list-style-type: none"> <li>Ranges can be named (1) make easier to remember range when using it/absolute referencing in named ranges (1)</li> <li>Readability of function/formulae (1) multiple cell references are difficult to work out (1)</li> <li>Less chance of error (1) rather than highlighting individual cells (1).</li> </ul>	4	
	(c)	2 from, 2 marks each: <ul style="list-style-type: none"> <li>Protection (1) allows data to be protected on a sheet only allowing access to limited people (1)</li> <li>Organisation (1) neater making less information on the screen making it simpler to see (1)</li> <li>Little used data can be hidden away (1) less chance of it being changed by mistake (1).</li> <li>Can be used to hold data from different locations on different sheets (1)</li> </ul>	4	
6	(a)	<ul style="list-style-type: none"> <li>Location = Gloucester</li> <li>Bedrooms = 3</li> <li>En-suite = Y</li> <li>Garden &gt;= 60/&gt;59</li> </ul> <p>All 4 – 3 marks Any 3 – 2 marks Any 2 – 1 mark</p> <ul style="list-style-type: none"> <li>3 AND's joining (1).</li> </ul>	4	Allow reasonable alternatives for field names
	(b) (i)	<ul style="list-style-type: none"> <li>HouseID (1)</li> </ul>	1	
	(ii)	2 from: <ul style="list-style-type: none"> <li>Values are unique (1) which is a requirement of the primary key (1) each house/record can be identified (1) and not confused with any other (1).</li> </ul>	2	

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Question		Answer	Marks	Guidance
	(c) (i)	2 from: <ul style="list-style-type: none"><li>• Atomic data (1)</li><li>• Unique field names (1)</li><li>• Unique table name (1)</li><li>• No repeating groups/data (1).</li></ul>	2	Not primary key

Question		Answer	Marks	Guidance
	(ii)	2 from, 2 marks each, 1 for identification, 2 <sup>nd</sup> for expansion: <ul style="list-style-type: none"> <li>Reduces data duplication (1) data is only stored once reducing storage requirements (1)</li> <li>Improves integrity (1) only one set of data is stored which makes it trustworthy (1)</li> <li>Allows for future development (1) data is broken down and can be used for any purpose (1).</li> </ul>	4	
	(d)	<ul style="list-style-type: none"> <li>Number of bedrooms: Integer (1)</li> <li>Garden Length: Real (1).</li> </ul>	2	Not number
	(e)	3 from, 2 marks each eg: Colour (1) for colour blind people/different font to background (1) Space (1) white space around the text to be able to read it (1) Error messages (1) informative for all types of users/message that tells you if you have done something wrong/how to correct mistake (1) Sound (1) for partially sighted/to inform of error (1).	6	Not font type
	(f)	2 from, 2 marks each eg: <ul style="list-style-type: none"> <li>Limited number of codes (1) may run out of codes to use (1)</li> <li>Interpreting codes (1) unless there is a key it can be difficult to understand what was entered (1)</li> <li>Data coarsened (1) can only encode to a limited number of choices/accuracy reduced (1).</li> </ul>	4	Allow example for second mark
7	(a)	2 from, 2 marks each: <ul style="list-style-type: none"> <li>Nothing left out (1) placeholders for content (1)</li> <li>House style incorporated (1) font size etc in place (1)</li> <li>Novice users can use document (1) without having the skills to create it (1)</li> <li>Faster to create document (1) formatting already done (1).</li> </ul>	4	
	(b)	2 from, 2 marks each: <ul style="list-style-type: none"> <li>Single data source can be used (1) does not require it to be created specially/ensures consistency (1)</li> <li>Codes can be used/if/next (1) to select individuals to send the material to (1)</li> <li>Standard letter less likely to have errors (1) only needs to be checked once (1)</li> <li>Speeds up creation (1) allows other work to be done in same time (1).</li> </ul>	4	Not personalisation

Question		Answer	Marks	Guidance									
8	(a)	3 marks each, 2 for description, 1 for example: Hotspot: Area of the screen (1) set up as a hyperlink (1) Example: Link to a website/slide within presentation (1) Transition: occurs between slides (1) effects/animation can added / can be timed/fast/slow (1) Example: wipeout between slides (1).	6										
	(b)	Marked as per grid below: <table border="1" data-bbox="353 507 1563 718"> <tr> <td>High</td> <td>5–6</td> <td>The candidate has identified positive point(s) and negative point(s) with reason(s) for using bitmap images in the presentation. There is a reasoned conclusion.</td> </tr> <tr> <td>Medium</td> <td>3–4</td> <td>The candidate has identified point(s) with reason(s) for using bitmap images in the presentation.</td> </tr> <tr> <td>Low</td> <td>0–2</td> <td>The candidate has identified points for using bitmap images in the presentation.</td> </tr> </table> <p>Points may include:</p> <ul style="list-style-type: none"> <li>• Higher quality image – can be a photograph and will display the detail</li> <li>• Cannot be made larger without distorting meaning it cannot fill the screen if required</li> <li>• Can be edited and altered using standard software to improve the image/remove redeye/focus</li> <li>• File size is very large, if lots of pictures the presentation file will take a long time to load and run.</li> </ul>	High	5–6	The candidate has identified positive point(s) and negative point(s) with reason(s) for using bitmap images in the presentation. There is a reasoned conclusion.	Medium	3–4	The candidate has identified point(s) with reason(s) for using bitmap images in the presentation.	Low	0–2	The candidate has identified points for using bitmap images in the presentation.	6	Conclusion can be either way.  Note to PE: High and Medium examples?
High	5–6	The candidate has identified positive point(s) and negative point(s) with reason(s) for using bitmap images in the presentation. There is a reasoned conclusion.											
Medium	3–4	The candidate has identified point(s) with reason(s) for using bitmap images in the presentation.											
Low	0–2	The candidate has identified points for using bitmap images in the presentation.											
9	(a)	2 from eg: <ul style="list-style-type: none"> <li>• Minimum length (1)</li> <li>• Cannot have been used before/within a certain time period (1)</li> <li>• Not a dictionary word (1)</li> <li>• Not personal (1)</li> <li>• Must be changed every month (1)</li> <li>• Must contain uppercase/lowercase/numbers (1).</li> </ul>	2										
	(b)	<ul style="list-style-type: none"> <li>• User ID sets permissions/access to files/authorises (1)</li> <li>• Password verifies the user/authenticates (1).</li> </ul>	2										

Question	Answer	Marks	Guidance
10	<p>Three from, 2 marks each:</p> <ul style="list-style-type: none"> <li>• DVT (1) blood clot in leg (1)</li> <li>• RSI (1) pain in arm/back/thumb (1)</li> <li>• Eyestrain (1) blurred/double vision/soreness in eye/dry eye (1)</li> <li>• Muscle/back ache (1) a dull persistent (usually moderately intense) pain (1)</li> <li>• Carpal tunnel syndrome (1) compression of nerve/numbness/tingling (1)</li> <li>• Ulnar neuritis (1) tingling in fingers/pressure on ulnar nerve (1).</li> </ul> <p>Three from solution must relate to health problem:</p> <ul style="list-style-type: none"> <li>• DVT: 5 minute break every hour/footrest/adjustable chair (1)</li> <li>• RSI: 5 minute break every hour/wrist rest/adjustable chair (1)</li> <li>• Eyestrain: 5 minute break every hour/anti flicker screen/non reflective desk/diffused lighting (1)</li> <li>• Headaches: 5 minute break every hour/anti flicker screen/non reflective desk/diffused lighting/water to drink (1)</li> <li>• Muscle/back ache: 5 minute break every hour/adjustable chair (1)</li> <li>• Carpal tunnel syndrome: 5 minute break every hour/adjustable chair/wrist rest/ergonomic keyboard (1)</li> <li>• Ulnar neuritis: 5 minute break every hour/adjustable chair/wrist rest/ergonomic keyboard (1).</li> </ul>	9	Solution must be different

Question	Answer		Marks	Guidance
11	Marked as per grid below:		11	
	9–11	<p>4 The candidate is able to show a detailed level of understanding by discussing the impacts and consequences of ...</p> <p>Descriptions will concentrate on the impact <b>and</b> the consequence. 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	<p>3 The candidate is able to show a good level of understanding by discussing the impact(s) and consequence(s) of ...</p> <p>Descriptions may concentrate on <b>either</b> the impact <b>or</b> the consequence(s) with limited depth on the other.</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	<p>2 The candidate is able to describe <b>one</b> impact <b>or</b> consequence.</p> <p>Subject specific knowledge will be evident and some subject terminology will be used. There may be occasional errors in spelling, grammar and punctuation.</p>		
	0–2	<p>1 The candidate is able to identify relevant points.</p> <p>Subject specific terminology may be limited or missing. Errors of grammar, punctuation and spelling may be intrusive.</p>		
	<p>Points may include:</p> <ul style="list-style-type: none"> <li>• Use of location based emails – sent to the customer when they are near one of the properties, allows customers to visit properties without having to go out of their way and waste time in travel.</li> <li>• Holographic viewing of properties allowing customers to walk round and view the properties leads to less wasteful visits and time saved. Environmentally friendly as no need to travel to the property to see it.</li> </ul>			

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