

# **Mark Scheme for January 2011**

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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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Question	Answer	Mark	Additional Guidance																												
1	<p>(a) Ticks as shown</p> <table border="1"> <thead> <tr> <th>Device</th> <th>Storage (✓)</th> <th>Input (✓)</th> <th>Output (✓)</th> </tr> </thead> <tbody> <tr> <td><i>(USB flash memory drive)</i></td> <td>(✓)</td> <td></td> <td></td> </tr> <tr> <td>headphones</td> <td></td> <td></td> <td>✓</td> </tr> <tr> <td>keyboard</td> <td></td> <td>✓</td> <td></td> </tr> <tr> <td>LCD screen</td> <td></td> <td></td> <td>✓</td> </tr> <tr> <td>microphone</td> <td></td> <td>✓</td> <td></td> </tr> <tr> <td>touch pad</td> <td></td> <td>✓</td> <td></td> </tr> </tbody> </table>	Device	Storage (✓)	Input (✓)	Output (✓)	<i>(USB flash memory drive)</i>	(✓)			headphones			✓	keyboard		✓		LCD screen			✓	microphone		✓		touch pad		✓		[5]	
Device	Storage (✓)	Input (✓)	Output (✓)																												
<i>(USB flash memory drive)</i>	(✓)																														
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keyboard		✓																													
LCD screen			✓																												
microphone		✓																													
touch pad		✓																													
	<p>(b) One explanation of advantages from e.g.</p> <ul style="list-style-type: none"> <li>• portable/small/lightweight <ul style="list-style-type: none"> <li>◇ can be carried and used anywhere</li> </ul> </li> <li>• use batteries/do not need mains electricity supply <ul style="list-style-type: none"> <li>◇ can be used away from buildings/mains electricity/while moving/travelling</li> </ul> </li> <li>• have wireless networking/WiFi <ul style="list-style-type: none"> <li>◇ can connect to the internet while away from main base/home/travelling.</li> </ul> </li> </ul> <p>The second mark is for the explanation of the advantage.</p>	[2]																													

Question	Answer	Mark	Additional Guidance
	<p>(c) Two disadvantages from e.g.</p> <ul style="list-style-type: none"> <li>• can be easily lost/misplaced/dropped (resulting in loss of schoolwork)</li> <li>• difficult to see/read (schoolwork)</li> <li>• difficult to type/use (schoolwork)</li> <li>• no optical drive fitted internally/ need an external device /cannot use CDs/DVDs (to save backup work)</li> <li>• battery life may be short/limited/need frequent recharges/may shut down when needed (may lose work)</li> </ul>	<b>[2]</b>	
<b>2</b>	<p>(a) • a copy (of files)</p>	<b>[1]</b>	
	<p>(b) One explanation of an advantage from e.g.:</p> <ul style="list-style-type: none"> <li>• portable <ul style="list-style-type: none"> <li>◇ can be stored away from netbook/computer</li> </ul> </li> <li>• small <ul style="list-style-type: none"> <li>◇ easily stored</li> </ul> </li> <li>• large enough memory <ul style="list-style-type: none"> <li>◇ to store large/many files</li> </ul> </li> <li>• ease of use <ul style="list-style-type: none"> <li>◇ no special software needed/can simply plug in the device.</li> </ul> </li> </ul> <p>The second mark is for the explanation of the reason.</p>	<b>[2]</b>	
<b>3</b>	<p>(a) Four from:</p> <ul style="list-style-type: none"> <li>• never give out personal details eg school information, telephone numbers, favourite places to visit</li> <li>• be wary of discussing/revealing the address/(general) area in which you live</li> <li>• never use a (revealing) photograph of yourself</li> <li>• check who you are in contact with/only talk to people you know</li> <li>• never arrange to meet a contact that you do not already know</li> <li>• never allow yourself to be persuaded to indulge in any activity that worries you</li> <li>• report any suspicious activity to parents/adults/responsible people.</li> </ul>	<b>[4]</b>	Do not allow generic answers such “don’t spend too long...”.

Question	Answer	Mark	Additional Guidance
(b)	<p>Two from e.g.:</p> <ul style="list-style-type: none"> <li>• RSI <ul style="list-style-type: none"> <li>◇ appropriate precaution e.g. regular breaks, correct positioning of hardware items/chairs</li> </ul> </li> <li>• eye problems <ul style="list-style-type: none"> <li>◇ appropriate precaution e.g. regular breaks, correct positioning of hardware items/chairs, appropriate screen resolution/brightness</li> <li>◇ use external monitor</li> </ul> </li> <li>• back and neck problems <ul style="list-style-type: none"> <li>◇ appropriate precaution e.g. regular breaks, correct seating position/placing of netbook</li> </ul> </li> <li>• wrist problems <ul style="list-style-type: none"> <li>◇ appropriate precaution e.g. regular breaks, correct positioning of netbook for typing/use of external keyboard/mouse and rests</li> <li>◇ use external keyboard.</li> </ul> </li> </ul>	<b>[4]</b>	<p>The Q refers to the netbook so answers should be appropriate to the use of a netbook/small computer.</p> <p>The second point is for a related precaution.</p> <p>Do not allow the same answer twice.</p>

Question	Answer	Mark	Additional Guidance
4	<p>Three descriptions from e.g.:</p> <ul style="list-style-type: none"> <li>• (use of) sound plus one description from e.g. <ul style="list-style-type: none"> <li>◇ for background music</li> <li>◇ sound effects</li> </ul> </li> <li>• animation sequences plus one description from e.g. <ul style="list-style-type: none"> <li>◇ to demonstrate actions</li> <li>◇ to move text/images</li> </ul> </li> <li>• video/movie sequences/images from e.g. <ul style="list-style-type: none"> <li>◇ to show use of device</li> </ul> </li> <li>• voice output plus one description from e.g. <ul style="list-style-type: none"> <li>◇ for a narrative</li> <li>◇ output recorded interviews with users</li> </ul> </li> <li>• (hyper)links plus one description from e.g. <ul style="list-style-type: none"> <li>◇ to link with websites about mobile phones</li> <li>◇ move between sections/parts/slides of the presentation</li> </ul> </li> <li>• slide transitions plus one description from e.g. <ul style="list-style-type: none"> <li>◇ to change slides automatically</li> <li>◇ make transitions more appealing to audience.</li> </ul> </li> </ul>	<b>[6]</b>	

Question	Answer	Mark	Additional Guidance
5	<p><b>This question to be marked as levels of response:</b></p> <p><b>Level 3 (7 – 8 marks)</b>  Candidates will discuss both positive and negative aspects of the impact on passengers of using ICT in airport security, using relevant and appropriate examples. The discussion used will be balanced.  The information will be relevant, clear, organised 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 (4 – 6 marks)</b>  Candidates will discuss positive aspect(s) and negative aspect(s) of the impact on passengers of using ICT in airport security. Examples used will be for the most part relevant. The discussion used may lack balance.  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 (0 – 3 marks)</b>  Candidates will only address some aspects of the impact on passengers of using ICT in airport security. 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>		

Question	Answer	Mark	Additional Guidance
	<p>Answers may include</p> <p>ICT use:</p> <ul style="list-style-type: none"> <li>• use of RFID in baggage for tracking bags</li> <li>• CCTV cameras recording people in the airport</li> <li>• facial recognition</li> <li>• software</li> <li>• machine readable ID/passports cross check with databases of people/wanted persons</li> <li>• use of biometrics</li> <li>• use of body scanners</li> <li>• remote check in/pre boarding passes printed at home, with checks on the person.</li> </ul> <p>Impacts include:</p> <ul style="list-style-type: none"> <li>• ability of reserve seats/check availability</li> <li>• effect on privacy/rights of the individual</li> <li>• delays at check in by security checks/check in may be faster</li> <li>• slow throughput at security</li> <li>• safety impacts.</li> </ul>	<b>[8]</b>	



Question	Answer	Mark	Additional Guidance
6	Three from: <ul style="list-style-type: none"> <li>• windows/dialog boxes plus one benefit from e.g.               <ul style="list-style-type: none"> <li>◇ easy to use/navigate</li> </ul> </li> <li>• icons plus one benefit from e.g.               <ul style="list-style-type: none"> <li>◇ no language skills needed to understand</li> </ul> </li> <li>• menus plus one benefit from e.g.               <ul style="list-style-type: none"> <li>◇ simple to navigate for options</li> </ul> </li> <li>• pointer/mouse plus one benefit from e.g.               <ul style="list-style-type: none"> <li>◇ to select/choose items</li> </ul> </li> <li>• help feature plus one benefit from e.g.               <ul style="list-style-type: none"> <li>◇ no need for knowledge/manual</li> </ul> </li> <li>• drag &amp; drop plus one benefit from e.g.               <ul style="list-style-type: none"> <li>◇ can move objects around easily</li> </ul> </li> <li>• toolbars plus one benefit from e.g.               <ul style="list-style-type: none"> <li>◇ easy to find/grouping of tools/options</li> </ul> </li> <li>• screen resembles desktop plus one benefit from e.g.               <ul style="list-style-type: none"> <li>◇ familiar working environment.</li> </ul> </li> </ul>	<b>[6]</b>	
7	Two from: <ul style="list-style-type: none"> <li>• data is scrambled</li> <li>• key used to encrypt/decrypt</li> <li>• data cannot be understood unless decrypted/have key.</li> </ul>	<b>[2]</b>	
8	(a) (i) 12	<b>[1]</b>	
	(ii) (The data is) unique/all different.	<b>[1]</b>	

Question	Answer	Mark	Additional Guidance
	<p><b>(b)</b> Max two descriptions from:</p> <ul style="list-style-type: none"> <li>• search/use queries plus max two from               <ul style="list-style-type: none"> <li>◇ to find specific products</li> <li>◇ to interrogate on several fields at once</li> <li>◇ can be stored for later use</li> </ul> </li> <li>• sort               <ul style="list-style-type: none"> <li>◇ into order</li> </ul> </li> <li>• edit records               <ul style="list-style-type: none"> <li>◇ of their details.</li> </ul> </li> </ul>	<b>[4]</b>	Question asks for descriptions of features so a list of features with no descriptions can be awarded a maximum of two marks.
9	<p><b>(a)</b> Two from:</p> <ul style="list-style-type: none"> <li>• real time operation</li> <li>• dedicated to specific tasks/functions</li> <li>• inbuilt sub-functions e.g. different spin speed/temperature combinations</li> <li>• embedded program cannot be changed by user</li> <li>• no need for user to change embedded program</li> <li>• require little memory to run</li> <li>• require no keyboard or other peripherals other than e.g. basic input buttons.</li> </ul>	<b>[2]</b>	Program refers to the set of instructions placed there by the manufacturer – not the hot/cold, cook and defrost programs.
	<p><b>(b)</b> Two from:</p> <ul style="list-style-type: none"> <li>• pressure</li> <li>• temperature</li> <li>• water level</li> <li>• tilt switch.</li> </ul>	<b>[2]</b>	Allow “door sensor” and “weight sensor”.

Question	Answer	Mark	Additional Guidance
(c)	<p><b>This question to be marked as levels of response:</b></p> <p><b>Level 3 (7 – 8 marks)</b>  Candidates will discuss both the benefits and the drawbacks to Bert/Theresa of using appliances with embedded systems using relevant and appropriate examples. The discussion used will be balanced.  The information will be relevant, clear, organised 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 (4 – 6 marks)</b>  Candidates will discuss both the benefit(s) and the drawback(s) to Bert/Theresa of using appliances with embedded systems. Examples used will be for the most part relevant. The discussion used may lack balance.  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>.</p>		

Question	Answer	Mark	Additional Guidance
	<p><b>Level 1 (0 – 3 marks)</b>  Candidates will only address some aspects of the question, and give basic descriptions of benefit(s) and/or drawback(s) of using appliances with embedded systems. Example, 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>Answers may include:</p> <ul style="list-style-type: none"> <li>• references to freeing time for to other purposes</li> <li>• automatic control of events/tasks</li> <li>• energy saving settings</li> <li>• use of energy resources</li> <li>• programmable settings</li> <li>• storing frequently used settings</li> <li>• use of leisure time</li> <li>• cost</li> <li>• difficult to repair</li> <li>• not user repairable</li> <li>• features are included that may not be required by most users.</li> </ul>	<b>[8]</b>	Answers are examples only.
	<b>TOTAL MARKS</b>	<b>[60]</b>	

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