

Mark Scheme (Final)

June 2013

BTEC Level 1/Level 2 First in  
Information and Creative Technology  
(20562E04)

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## General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

Question Number	Answer	Mark
1	Software	(1)

Question Number	Answer	Mark
2	Icons Control buttons	(2)

Question Number	Answer	Mark
3	<p>Award <b>one</b> mark for any <b>two</b> of the following:</p> <ul style="list-style-type: none"> <li>• magnetic disk/media</li> <li>• hard disk/drive</li> <li>• solid state disk/drive/media</li> <li>• flash memory.</li> </ul> <p><b>Do not accept 'memory' on its own.</b></p>	(2)

Question Number	Answer	Mark
4(a)	There will be a wide range of user support	(1)

Question Number	Answer	Mark
4(b)	It will have more features than you may need	(1)

Question Number	Answer	Mark
5(a)	Array	(1)

Question Number	Answer	Mark
5(b)	Record	(1)

Question Number	Answer	Mark
6(a)	Monitor – eyestrain/headache(s) Keyboard – RSI/repetitive strain injury/wrist pain	(2)

Question Number	Answer	Mark
6(b)	Award <b>one</b> mark for any of the following: <ul style="list-style-type: none"> <li>• use an adjustable/ergonomic chair</li> <li>• use a foot rest/support</li> <li>• take regular breaks</li> <li>• use tiltable/adjustable screens.</li> </ul> <b>Accept any other relevant wording/phrasing.</b>	(1)

Question Number	Answer	Mark
7(a)	Award <b>one</b> mark for any of the following: <ul style="list-style-type: none"> <li>• CPU</li> <li>• computer processing unit/processor</li> <li>• GPU</li> <li>• graphics processor unit</li> <li>• graphics card</li> <li>• northbridge.</li> </ul>	(1)

Question Number	Answer	Mark
7(b)	Heat sinks draw heat away (from the CPU) (1) into fins that provide a large surface area for the heat to dissipate in to the air (1).  (They are made from a metal with a high thermal conductivity.)  <b>Accept any other relevant wording/phrasing.</b>	(2)

Question Number	Answer	Mark
8	To improve performance To maintain a competitive advantage	(2)

Question Number	Answer	Mark
9(a)	Anti-virus	(1)

Question Number	Answer	Mark
9(b)	Allow operating system automatic updates	(1)

Question Number	Answer	Mark
10	<p>Award <b>one</b> mark for correct identification and <b>one</b> additional mark for appropriate expansion.</p> <p>Pressure sensitivity — how firmly the pen is in contact with the tablet can have a direct influence on the stroke being made (1) therefore you can see instant results without having to use menus (1).</p> <p>Ability to 'run an application' directly from the tablet via 'pop-up' menus — accessed using the pen (1) can improve productivity/waste less time compared with using a mouse (1).</p> <p><b>Accept any other relevant wording/phrasing</b></p>	(2)

Question Number	Answer	Mark
11	<p>8 (box 1)</p> <p>1 (box 2)</p> <p>64 (box 3)</p>	(3)

Question Number	Answer	Mark
12	<p>Sensor (box 1)</p> <p>CD drive (box 2)</p> <p>Actuator (box 3)</p>	(3)

Question Number	Answer	Mark
13	<p>Award <b>one</b> mark for correct identification and <b>one</b> additional mark for appropriate expansion up to a maximum of <b>four</b> marks.</p> <p>Relationship</p> <p>The combination of the bus width and clock speed defines the speed at which the CPU executes instructions (1) and the amount of data that can be executed at one time (1).</p> <p>High clock speed and narrow bus width/3 GHz x 32 bit specification (1) is equal to low clock speed with broad bus width/1.5 GHz x 64 bit specification (1).</p> <p><b>Accept any other relevant wording/phrasing.</b></p>	(4)

Question Number	Answer	Mark
14	<p>Award <b>one</b> mark for correct identification and <b>one</b> additional mark for appropriate expansion.</p> <p>Allocates temporary (dynamic) IP addresses to devices connected to the network (1) using an assignment routine known as Dynamic Host Control Protocol (DHCP) (1).</p> <p>Receives data packets as radio signals, decodes them, (1) directs the information to the relevant IP address using a wired connection to the internet (1).</p> <p>Receives information from the internet, translates it into a radio signal (1) and then transmits it to the correct client computer/IP address (1).</p> <p><b>Accept any other relevant wording/phrasing.</b></p>	(2)

Question Number	Answer	Mark
15(a)	<p>An object's properties are its attributes such as height, strength etc. (1) and an object's methods are what it can do, such as run, strike etc. (1).</p> <p><b>Accept any other relevant wording/phrasing.</b></p>	(2)

Question Number	Answer	Mark
15(b)	<p>A class is a template/set of instructions to build a specific type of object (1) whereas an instance is a specific object built from a specific class (1).</p> <p><b>Accept any other relevant wording/phrasing.</b></p>	(2)



Question Number	Answer	Mark
16	Password valid/correct (?) (box 1) C = C + 1 (box 2) C < 3 (box 3)	(3)

Question Number	Answer	Mark
17	Award <b>one</b> mark for correct identification and <b>one</b> additional mark for appropriate expansion.  File management (1). All files are stored at the same place — files are easy to locate and manage (1). Upgrades (1) can be made easily by just upgrading the server and new resources can be added centrally and then distributed (1).  <b>Accept any other relevant wording/phrasing.</b>	(2)

Question Number	Indicative content	Mark
18	<p><b>Indicative Content</b></p> <p><b>Factors</b>  The graphics card takes information from the processor and calculates how to display it on the screen.  Each card has its own processor, referred to as a graphics processing unit (GPU).  A dedicated card has its own memory referred to as video RAM (VRAM). The GPU processes the information and then passes the result to the VRAM where it is stored ready to send to the monitor.</p> <p><b>Use</b> — are high performance 3D graphics required? Games and professional 3D design programs use high performance graphics and a dedicated graphics card is needed.  If high performance graphics are not needed, a cheaper integrated card will be adequate.</p> <p><b>Memory</b> — more memory allows buffering of more resulting information ready for the monitor to display. The more it can store in the VRAM, the less chance there is of the monitor having to wait for information while the GPU is processing it.</p> <p><b>Dedicated or integrated</b>  Integrated — an integrated graphics processing unit (GPU) doesn't use its own RAM; it utilises the system's memory instead. This may lead to stalling when dealing with high quality graphics.  Dedicated — A dedicated GPU has its own independent source of video memory, leaving the system RAM available.</p> <p><b>Drawbacks to having a dedicated card</b> — the GPU heats up relatively quickly and the cards are also power hungry, so using a laptop with dedicated graphics card will decrease the battery life.</p> <p><b>Future proofing</b> — dedicated cards are likely to cope with short-term improvements in graphic rendering and can be changed if necessary. It is more difficult to upgrade the graphic performance of a computer with an integrated card.</p>	(8)

<b>Level</b>	<b>Descriptor</b>
0 0 marks	No rewardable material
1 1-3 marks	A few key points identified, <b>or</b> one point described in some detail. The answer is likely to be in the form of a list. Only one viewpoint considered. Points made will be superficial/generic and not applied/directly linked to the situation in the question.
2 4-6 marks	Some points identified, <b>or</b> a few key points described. Consideration of more than one viewpoint but there will be more emphasis on one of them. The answer is unbalanced. Most points made will be relevant to the situation in the question, but the link will not always be clear.
3 7-8 marks	Range of points described, <b>or</b> a few key points explained in depth. All sides of the case are considered and the answer is well-balanced, giving weight to all viewpoints. The majority of points made will be relevant and there will be a clear link to the situation in the question.