

Mark Scheme for June 2011

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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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CBT	Question		Answer	Mark	Notes
1	1	(a)	<p>Input:</p> <p>One from:</p> <ul style="list-style-type: none"> heart rate sensor (1) buttons (1) on/off switch (1) <p>Output:</p> <p>One from:</p> <ul style="list-style-type: none"> LCD/screen (1) Speaker (1) <p>Storage:</p> <ul style="list-style-type: none"> flash memory card (1) built-in data logger (1) 	[3]	There is a maximum of one mark per component.
2		(b)	<p>Two from:</p> <ul style="list-style-type: none"> sensors produce/send analogue (data) (1) computers only use/read digital (data) (1) <p>OR One mark only for response similar to:</p> <ul style="list-style-type: none"> (data) needs to be changed/converted so computer can use/see it. (1) 	[2]	<p>Note that convert analogue to digital data is given in the question, so no marks for repeating it. Must be for use by computer.</p> <p>Accept "heart rate is analogue" for analogue data.</p> <p>One mark for referring to changing the data for use by computer.</p>
3		(c)	<p>One difference from:</p> <ul style="list-style-type: none"> use of feedback in control (1) monitoring only records data (1) response to data in control eg switch on/off/adjust actuator (1) but no response in monitoring (1) in monitoring the computer takes no action (1) control computer takes action (1). 	[2]	

CBT	Question	Answer	Mark	Notes
4	2	<p>This question to be marked as levels of response:</p> <p>Level 3 (7 – 8 marks) Candidates will discuss both the positive and negative impacts of the increased use of ICT on the way people use their leisure time, using relevant and appropriate examples. The discussion 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>Level 2 (4 – 6 marks) Candidates will discuss positive aspect(s) and negative aspect(s) of the increased use of ICT on the way people use their leisure time. 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>Level 1 (0 – 3 marks) Candidates will only address some aspects of the increased use of ICT on the way people use their leisure time. 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>Answers may include:</p> <p>positive impacts eg:</p> <ul style="list-style-type: none"> • use of microprocessor controlled devices for household chores freeing time for other activities 	[8]	

CBT	Question	Answer	Mark	Notes
		<ul style="list-style-type: none"> • use of microprocessor controlled devices for entertainment eg TV, radio, games consoles, set top boxes • use of computers for research/leisure/games/making contact with others • health related use of ICT in eg monitoring, measuring health parameters/training/keep fit • security/personal alarms • mobile phones/PDA/smart phone usage for eg contacts/games/etc as ICT “relaxes” the boundary between solitary and social activities • ability of ICT to facilitate spontaneous or short-notice meetings may increase time spent in social rather than solitary activities. • increase in <i>range</i> of activities eg TV, games, negative impacts eg: • less exercise due to increased use of eg PCs, games consoles, internet • alternative activities eg sports, walking, etc are “crowded out” and no longer feature in leisure time use i.e. ICT is substituted for these activities • the quality of an experience via the use of an ICT alternative may be inferior than the real thing 		The answers are examples only.

CBT	Question		Answer	Mark	Notes		
5	3	(a)	<p>Two descriptions from:</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <p>Email</p> <p>only recipient/sender has to be online at one time (1)</p> <p>do not need to use the same client/ISP (1)</p> <p>can include images (1)</p> <p>cannot use webcams to view each other (1)</p> <p>can attach files (1)</p> <p>can send to multiple recipients at once (1)</p> <p>no limit to number of characters (1)</p> </td> <td style="width: 50%; vertical-align: top;"> <p>Instant messaging</p> <p>both parties have to be/should be on-line at the same time (1)</p> <p>must use the same provider (1)</p> <p>mostly text based (1)</p> <p>can use webcams to view other party (1)</p> <p>cannot (usually) attach files (1)</p> <p>usually one-to-one only (1)</p> <p>limited number of characters (1)</p> </td> </tr> </table>	<p>Email</p> <p>only recipient/sender has to be online at one time (1)</p> <p>do not need to use the same client/ISP (1)</p> <p>can include images (1)</p> <p>cannot use webcams to view each other (1)</p> <p>can attach files (1)</p> <p>can send to multiple recipients at once (1)</p> <p>no limit to number of characters (1)</p>	<p>Instant messaging</p> <p>both parties have to be/should be on-line at the same time (1)</p> <p>must use the same provider (1)</p> <p>mostly text based (1)</p> <p>can use webcams to view other party (1)</p> <p>cannot (usually) attach files (1)</p> <p>usually one-to-one only (1)</p> <p>limited number of characters (1)</p>	[4]	Maximum mark of two for lists of points.
<p>Email</p> <p>only recipient/sender has to be online at one time (1)</p> <p>do not need to use the same client/ISP (1)</p> <p>can include images (1)</p> <p>cannot use webcams to view each other (1)</p> <p>can attach files (1)</p> <p>can send to multiple recipients at once (1)</p> <p>no limit to number of characters (1)</p>	<p>Instant messaging</p> <p>both parties have to be/should be on-line at the same time (1)</p> <p>must use the same provider (1)</p> <p>mostly text based (1)</p> <p>can use webcams to view other party (1)</p> <p>cannot (usually) attach files (1)</p> <p>usually one-to-one only (1)</p> <p>limited number of characters (1)</p>						

CBT	Question	Answer	Mark	Notes
6	(b)	<p>One benefit from:</p> <ul style="list-style-type: none"> • quick to use/type/send (1) • no need to log on (1) • can be sent from/to many types of device (1) • can be sent/received while mobile (1) <p>One drawback from:</p> <ul style="list-style-type: none"> • limited number of characters (1) • sending images is restricted/slow/recipient may not be able to see them/receive them (1) • costs extra if limit exceeded/part of phone costs to send them/can't use if no credit (1) • possible delay in delivery of text (1) • texting needs skill for proper/fast/extensive use (1) 	[2]	
7	(c)	<p>Three devices from:</p> <ul style="list-style-type: none"> • video/web camera (1) for sending/capturing image of himself (1) • microphone (1) to capture sound/voice (1) • monitor (1) to display image of other participant(s) (1) • speakers/headphones (1) to hear other participant(s) (1) • network card (NIC) (1) to connect to a network (1) • router (1) to connect to internet (1) 	[6]	<p>The second mark is for the reason.</p> <p>Do not allow:</p> <ul style="list-style-type: none"> • web camera to “see” • microphones to “hear” <p>Headset is acceptable once only. Accept modem for router.</p>

CBT	Question	Answer	Mark	Notes										
8	4	<p>Answers as shown in the table:</p> <table border="1"> <thead> <tr> <th>Task</th> <th>Most suitable software application</th> </tr> </thead> <tbody> <tr> <td>creating a leaflet</td> <td> One from: <ul style="list-style-type: none"> • DTP/Desktop Publishing Package • Word processor </td> </tr> <tr> <td>creating a web page</td> <td> One from: <ul style="list-style-type: none"> • Web authoring software • Text editor </td> </tr> <tr> <td>editing digital images</td> <td> One from: <ul style="list-style-type: none"> • Graphics (package) • Photo editing software </td> </tr> <tr> <td>storing students' details</td> <td>Database(management system)</td> </tr> </tbody> </table>	Task	Most suitable software application	creating a leaflet	One from: <ul style="list-style-type: none"> • DTP/Desktop Publishing Package • Word processor 	creating a web page	One from: <ul style="list-style-type: none"> • Web authoring software • Text editor 	editing digital images	One from: <ul style="list-style-type: none"> • Graphics (package) • Photo editing software 	storing students' details	Database(management system)	[4]	<p>Accept web design software for web authoring software.</p> <p>Accept Animation (package) and Scanner software for editing digital images.</p> <p>Accept Spreadsheet for storing student's details.</p>
Task	Most suitable software application													
creating a leaflet	One from: <ul style="list-style-type: none"> • DTP/Desktop Publishing Package • Word processor 													
creating a web page	One from: <ul style="list-style-type: none"> • Web authoring software • Text editor 													
editing digital images	One from: <ul style="list-style-type: none"> • Graphics (package) • Photo editing software 													
storing students' details	Database(management system)													

CBT	Question		Answer	Mark	Notes
9.1	5	(a)	One from: <ul style="list-style-type: none">identifies user (to system) (1)sets up access rights/profile (1)allows access to the user files/folders (1)	[1]	
9.2		(b)	One from: <ul style="list-style-type: none">security (1)ensures that only the user can access the system (1)	[1]	

CBT	Question		Answer	Mark	Notes
10	6	(a)	<p>Two examples from eg:</p> <ul style="list-style-type: none"> • virus (1) • spyware/keyloggers (1) • malware (1) • adware (1) • Trojan (1) • worm (1) <p>Two from:</p> <ul style="list-style-type: none"> • enters a computer without the consent of user/owner (1) • capturing data without the knowledge/consent of the user (1) • intended to do harm to host computer/files (1) 	[4]	Example must match explanation.
11		(b)	<p>Two descriptions from, maximum 2 marks per description:</p> <ul style="list-style-type: none"> • ban the use of USB flash memory drives/floppy disks/other external devices (1) to stop malware being brought in (1) • install/use anti-virus/other preventive software (1) to scan files as they arrive (1) to scan files on the system (1) • restrict use of external email (1) to avoid malware in attachments (1) • restrict web sites access (1) to avoid sites which carry malware (1) • user policies (1) instruct user not to download files unless from known/safe source (1) • firewall (1) to control data flow in/out of a network (1) 	[4]	

CBT	Question		Answer	Mark	Notes
12	7	(a)	(Cells have been) merged (1)	[1]	
13.1		(b) (i)	<p>a value</p> <ul style="list-style-type: none"> any cell in the range B3 to B9 or D3 to D9 (1) <p>a formula</p> <ul style="list-style-type: none"> any cell in the range E3 to E9 or E11 (1) 	[2]	
13.2		(ii)	<p>Two from:</p> <ul style="list-style-type: none"> automatic (re)calculation (1) results of changes can be seen immediately (1) increased accuracy of calculations (1) complex calculations referring to many cells can be carried out (1) results of calculations can be used immediately in other formulas (1) customised formulas can be built from functions/other formulas for repeated use (1) 	[2]	
14		(c)	<p>Three descriptions from, maximum 2 marks per description:</p> <ul style="list-style-type: none"> use goal seek (1) to identify the values for selling price (1) to identify the values for prices paid (1) change values of selling price/price paid (1) to see effects on profit (1) use conditional formatting (1) to identify eg losses (1) use charts/graphs (1) trend lines (1) to forecast profit/loss (1) 	[6]	
15	8		<p>This question to be marked as levels of response:</p> <p>Level 3 (7 – 8 marks) Candidates will discuss how the principles stated in the DPA attempt to protect the rights of customers. Most of the DPA principles will be discussed. The information will be relevant, clear, organised and presented in a</p>	[8]	

CBT	Question	Answer	Mark	Notes
		<p>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>Level 2 (4 – 6 marks) Candidates will discuss how the principles stated in the DPA attempt to protect the rights of customers. Some of DPA principles will be discussed. Examples used will be for the most part relevant. The discussions used may be brief. 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>Level 1 (0 – 3 marks) Candidates will only address some aspects of how the principles stated in the DPA attempt to protect the rights of customers. 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>Answers may include: The DPA states that anyone collecting personal information must:</p> <ul style="list-style-type: none"> • fairly and lawfully process it • process it only for limited, specifically stated purposes • use the information in a way that is adequate, relevant and not excessive • use the information accurately 		

CBT	Question			Answer	Mark	Notes
				<ul style="list-style-type: none"> • keep the information on file no longer than absolutely necessary • process the information in accordance with your legal rights • keep the information secure • never transfer the information outside the UK without adequate protection <p>All organisations collecting and using personal information are legally required to comply with these principles. The law provides stronger protection for more sensitive information - such as your ethnic background, political opinions, religious beliefs, health, sexual life or any criminal history. It is enforced by an independent information commissioner, who can take action against any company or governmental body that fails to protect your information, or that abuses its right to collect and hold that information.</p>		
				TOTAL MARKS	[60]	

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