



A-LEVEL ICT

INFO2

Mark scheme
June 2015

Version 1: Final Mark Scheme

Mark schemes are prepared by the Lead Assessment Writer and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all associates participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students' responses to questions and that every associate understands and applies it in the same correct way. As preparation for standardisation each associate analyses a number of students' scripts. Alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, associates encounter unusual answers which have not been raised they are required to refer these to the Lead Assessment Writer.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

Further copies of this mark scheme are available from aqa.org.uk

1	Using examples, describe the difference between malpractice and crime in the context of an ICT system.	<i>(4 marks)</i>
	Purpose of the Question Knowledge of the difference between malpractice and crime	
	Guidance for examiners on how to mark this question Up to two marks for describing the difference between malpractice and crime One mark for an example of malpractice and one mark for an example of crime.	
	Mark Scheme examples Malpractice is bad practice (1) for example not logging off when you leave your computer. (1) Crime is against the law (1) for example gaining unauthorised access to an ICT system and changing data. (1)	
	Area of the Specification and AOs this question covers 3.2.5	

<p>2</p> <p>2 a</p>	<p>Table 1 shows part of a catalogue for a mail order company.</p> <p>Table 1</p> <table border="1" data-bbox="209 327 1182 472"> <thead> <tr> <th>Item Code</th> <th>Item</th> <th>Price</th> </tr> </thead> <tbody> <tr> <td>2345</td> <td>USB Flash Drive</td> <td>£12.60</td> </tr> <tr> <td>2367</td> <td>USB Mouse (wired)</td> <td>£3.50</td> </tr> <tr> <td>1346</td> <td>USB Keyboard (wired)</td> <td>£11.00</td> </tr> </tbody> </table> <p>When a customer sends in an order, the item code and other data are entered into a data processing system. Explain why data is coded before being entered into a data processing system.</p>	Item Code	Item	Price	2345	USB Flash Drive	£12.60	2367	USB Mouse (wired)	£3.50	1346	USB Keyboard (wired)	£11.00	<p>(5 marks)</p>
Item Code	Item	Price												
2345	USB Flash Drive	£12.60												
2367	USB Mouse (wired)	£3.50												
1346	USB Keyboard (wired)	£11.00												
	<p>Purpose of the Question</p> <p>Knowledge and understanding of why data needs to be coded.</p>													
	<p>Guidance for examiners on how to mark this question</p> <p>Candidates may refer to the data in the table in their answer but they do not have to in order to gain full marks. This is a depth and breadth question and the five marks could be gained in many ways</p>													
	<p>Mark Scheme examples</p> <p>This data is coded to enable it to be entered more rapidly (1) into the data processing system and with fewer errors (1) by allowing validation checks to be made. (1) Once entered it will take up less storage space (1) and consequently can be searched for faster. (1)</p> <p>An alternative answer might be:</p> <p>This data is coded to enable it to be entered more rapidly (1) into the data processing system. For example it is quicker to type '1346' than to type 'USB Keyboard (wired)'. (1) Coded data should result in fewer errors (1) by allowing validation checks to be made. (1) An example of this could be a lookup check for the item code. (1)</p>													
	<p>Area of the Specification and AOs this question covers</p> <p>3.2.2</p>													

2 b	When the coded data is entered into a data processing system it will be encoded. Why does the data need to be encoded?	<i>(1 mark)</i>
	Purpose of the Question Knowledge of why data needs to be encoded	
	Guidance for examiners on how to mark this question This is the only valid answer but obviously allow answers with the same meaning.	
	Mark Scheme examples The data needs to be encoded so that it is in a machine understandable format (1) OR so the machine/system knows how to process it. (1)	
	Area of the Specification and AOs this question covers 3.2.2	

<p>3</p>	<p>Table 2 shows four different communication devices being used. For each picture, choose a letter from A, B, C or D which best describes the form of data being processed.</p> <p>A – Numeric B – Sound C – Text D – Image</p> <p style="text-align: center;">Table 2</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Device</th> <th>Letter</th> </tr> </thead> <tbody> <tr> <td>a) Using a mobile phone</td> <td></td> </tr> <tr> <td>b) Video conferencing</td> <td></td> </tr> <tr> <td>c) Entering a PIN on an ATM</td> <td></td> </tr> <tr> <td>d) Using an E-Reader</td> <td></td> </tr> </tbody> </table>	Device	Letter	a) Using a mobile phone		b) Video conferencing		c) Entering a PIN on an ATM		d) Using an E-Reader		<p>(4 marks)</p>
Device	Letter											
a) Using a mobile phone												
b) Video conferencing												
c) Entering a PIN on an ATM												
d) Using an E-Reader												
	<p>Purpose of the Question</p> <p>Knowledge of different forms of data</p>											
	<p>Guidance for examiners on how to mark this question</p> <p>Auto marked question</p>											
<p>3 a</p>	<p>Mark scheme examples</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>Using a mobile phone</td> <td style="text-align: center;">B</td> </tr> </table>	Using a mobile phone	B									
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	Area of the Specification and AOs this question covers	
	3.2.2	

4	ICT systems allow users to carry out their day to day tasks more easily. Describe what ICT can provide to assist users in carrying out these day to day tasks.	<i>(6 marks)</i>
	Purpose of the Question Knowledge of what ICT systems can provide.	
	Guidance for examiners on how to mark this question Credit examples. If just a list then max 4	
	Mark Scheme examples ICT allows vast amounts of data to be stored. (1) Once stored this data can be quickly searched (1) and combined (1) in many different ways. ICT provides improved accessibility to information (1) for example through use of the Internet. (1) ICT provides improved security of data. (1)	
	Area of the Specification and AOs this question covers 3.2.7	

5	<p>Figure 1 has been taken from a wiki website.</p> <p>A student intends to use information from Figure 1 in an essay. Explain, with reasons, why the student may have concerns about the quality of information obtained from Figure 1.</p>	(6 marks)
	<p>Purpose of the Question</p> <p>Knowledge and understanding of the factors affecting quality of information</p>	
	<p>Guidance for examiners on how to mark this question</p> <p>Must have at least two reasons to gain full marks. A depth and breadth question which can gain full marks in different ways. If just a list of factors then max 3.</p>	
	<p>Mark Scheme examples</p> <p>The article is from a wiki source which can often be changed by anybody (1) and thus may not contain accurate information. (1)</p> <p>There is no Y scale (1) meaning that the data is not complete. (1)</p> <p>The information may not be relevant (1) because it was collected nearly 20 years ago. (1)</p>	
	<p>Area of the Specification and AOs this question covers</p> <p>3.2.2</p>	

6	The backup and recovery of data is an important issue when using ICT systems	
6a	Mobile devices can store vast amounts of data which needs to be backed up to avoid loss. Discuss the different ways that data on mobile devices could be backed up.	<i>(8 marks)</i>
	Purpose of the Question Knowledge and understanding of the need for regular data backup.	
	Guidance for examiners on how to mark this question Types and frequency of backup may be addressed here and can be credited if in context. A depth and breadth question – marks may be gained in different ways as long as answers are relevant and in context Max 4 if just a list.	
	Mark Scheme examples The data on a mobile device could be backed up using a cloud backup service (1) or if a local computer was available (1) its hard drive could be used. (1) The cloud data backup is available at any time where there is an Internet connection. (1) The data can be backed up onto a USB flash drive (1) so that the backup can be stored elsewhere. (1) Address book data could be backed up to the device SIM card. (1) Other data could be backed up to a removable SD card if present. (1)	
	Area of the Specification and AOs this question covers 3.2.6	

6b	Describe the factors that need to be considered to enable the successful recovery of data to an ICT system.	<i>(6 marks)</i>
	Purpose of the Question Knowledge and understanding of the need to be able to restore data successfully	
	Guidance for examiners on how to mark this question Must have at least 2 factors to gain full marks.	
	Mark Scheme examples Most importantly data backups need to be tested (1) to ensure that the data can be restored. (1) Users need to know how to restore data (1) and there needs to be suitable hardware (1) and software (1) available to achieve it. Large organisations may have several data recovery locations. (1)	
	Area of the Specification and AOs this question covers 3.2.6	

6c	<p>E-commerce sites which use ICT systems, are open 24 hours a day, 7 days a week and need to provide continuity of service to their users.</p> <p>Explain the ways that providers of e-commerce sites could provide continuity of service to their users.</p>	<i>(6 marks)</i>
	<p>Purpose of the Question</p> <p>Knowledge and understanding of the need to provide continuity of service.</p>	
	<p>Guidance for examiners on how to mark this question</p> <p>Must have at least two ways to gain full marks.</p>	
	<p>Mark Scheme examples</p> <p>E-commerce organisations will have several data recovery centres (1) and if one system fails then processing is carried on by another. (1)</p> <p>A continuous back up method (1) may be used such as disk mirroring. (1)</p> <p>Use of RAID spreads the data over several disks (1) and allows for automatic recovery if a disk fails. (1)</p>	
	<p>Area of the Specification and AOs this question covers</p> <p>3.2.6</p>	

7	<p>The ICT industry employs people who can demonstrate that they are able to work in teams.</p> <p>A leading university is now offering a course entitled 'Team Working in Distributed Environments' as part of an ICT qualification.</p>	
7a	Describe, using examples, the characteristics of effective ICT teams.	<i>(8 marks)</i>
	<p>Purpose of the Question</p> <p>Knowledge and understanding of the characteristics of effective ICT teams</p>	
	<p>Guidance for examiners on how to mark this question</p> <p>Marks available for:</p> <ul style="list-style-type: none"> • Characteristics of an effective team • Descriptions • ICT examples <p>Characteristics must relate to teams not personal skills. Do not accept team working as in question stem.</p> <p>Must have at least 2 examples for full marks.</p>	
	<p>Mark Scheme examples</p> <p>There needs to be an effective leader (1) who will ensure appropriate allocation of team members to tasks (1) in order to play to the strengths of each team member. (1) For example send a networking specialist (1) to solve a problem relating to a network server. (1)</p> <p>There needs to be effective team communication (1) so that team members can explain tasks clearly to each other. (1)</p> <p>The team needs to adhere to current standards. (1)</p>	
	<p>Area of the Specification and AOs this question covers</p> <p>3.2.3</p>	

7b	Distributed teams may consist of people working in different countries. Explain how ICT can be used to enable effective teamwork for members of a distributed team.	<i>(6 marks)</i>
	Purpose of the Question Knowledge and understanding of how ICT teams can be effective.	
	Guidance for examiners on how to mark this question A depth and breadth question. Marks can be gained in different ways Max 3 for list	
	Mark Scheme examples Email (1) can be used for distribution of agendas and minutes. (1) Video conferencing (1) can be used to hold meetings. (1) LANs and WANs (1) can be used to allow sharing of team resources. (1)	
	Area of the Specification and AOs this question covers 3.2.3	

8	<p>There is a need to protect ICT systems and the data stored in them from an increasing number of threats.</p> <p>Discuss this statement.</p> <p>In your answer refer to the following elements:</p> <ul style="list-style-type: none"> • Hardware • Software • Procedures 	(20 marks)
	<p>Purpose of the Question</p> <p>Knowledge and understanding of the safety and security of data held in ICT systems</p>	
	<p>Guidance for examiners on how to mark this question</p> <p>(0 marks)</p> <p>The candidate has written nothing that is worthy of credit</p> <p>Low mark range (1 – 5 marks)</p> <p>Candidate identifies some ways to protect data and ICT systems from threats. Hardware, software or procedures may be mentioned.</p> <p>The candidate has used a form and style of writing which is barely appropriate for its purpose. The candidate has expressed simple ideas clearly, but may be imprecise and awkward in dealing with complex or subtle concepts. Information or arguments may be of doubtful relevance or be obscurely presented. Errors in spelling, punctuation and grammar may be noticeable and intrusive to understanding, suggesting weaknesses in these areas. Text is barely legible.</p> <p>Medium mark range (6 – 10 marks)</p> <p>Candidate outlines some ways to protect data and ICT systems from threats.</p> <p>Reference has been made to hardware or software or procedures.</p> <p>The candidate has used a form and style of writing which is sometimes appropriate for its purpose but with many deficiencies. The candidate has expressed straightforward ideas clearly, if not always fluently. Sentences and paragraphs may not always be well-connected. Information or arguments may sometimes stray from the point of information or may be weakly presented. There may be some errors of spelling, punctuation and grammar, but not such as to cause problems in the reader’s understanding and not such as to suggest a weakness in these areas. Text is legible.</p> <p>Good mark range (11-15 Marks)</p> <p>Candidate explains ways to protect data and ICT systems from threats, referring to at least two from hardware, software and procedures.</p> <p>Meaning is clear. The candidate has in the main used a form and style of writing appropriate for its purpose, with only occasional lapses. The candidate has expressed moderately complex ideas clearly and reasonably fluently. Candidate has used well-linked sentences and paragraphs. Information or arguments are generally relevant and well structured. There may be occasional errors of spelling, punctuation and grammar. Text is legible.</p>	

	<p>High mark range (16-20 Marks) Candidate discusses, in detail, ways to protect data and ICT systems from threats, referring to hardware, software and procedures in depth.</p> <p>Meaning is clear. The candidate has selected and used a form and style of writing appropriate to purpose and has expressed complex ideas clearly and fluently. Sentences and paragraphs follow on from one another clearly and coherently. Specialist vocabulary has been used appropriately. There are few if any errors of spelling, punctuation and grammar. Text is legible.</p>	
	<p>Area of the Specification and AOs this question covers</p> <p>3.2.5</p>	

