



**General Certificate of Education (A-level)**  
**June 2013**

**ICT**

**INFO2**

**(Specification 2520)**

**Unit 2: Living in the digital world**

**Final**

***Mark Scheme***

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## SECTION A

<b>1</b>	<p>A school uses an ICT attendance recording and reporting system. Give an example of each of the following components of such a system.</p> <p><b>1 (a)</b> The people using it.</p> <p><b>1 (b)</b> The information provided by it.</p> <p><b>1 (c)</b> The data entered into it.</p> <p><b>1 (d)</b> The hardware needed to operate it.</p>	<i>(4 marks)</i>
	<p><b>Purpose of the Question</b></p> <p>Application of knowledge of the components of an ICT system</p>	
	<p><b>Guidance for examiners on how to mark this question</b></p> <p>One mark for each example of a component To a maximum of 4</p>	
	<p><b>Example answer</b></p> <p>1A People could be teachers who enter the attendance data</p> <p>1B Information would be the attendance reports output from the system and given to the tutors</p> <p>1C Data would be the attendance of each student, which would be entered into the system</p> <p>1D Hardware would be the keyboard used to enter the data</p>	
	<p><b>Area of the Specification and AOs this question covers</b></p> <p>3.2.1 AO1</p>	
	<p><b>Note to examiners</b></p> <p>For 1 (d) Not ICT system but allow computer or any other hardware item.</p>	

2	What is meant by the terms <i>coding</i> and <i>encoding of data</i> ?	(4 marks)
	<p><b>Purpose of the Question</b></p> <p>Knowledge and understanding of the difference between coding and encoding of data.</p>	
	<p><b>Guidance for examiners on how to mark this question</b></p> <p>Must explain <b>BOTH</b> coding and encoding for full marks</p>	
	<p><b>Example answer</b></p> <p>Data is coded to make it faster to enter into an ICT system; (1) as when the airport name London Gatwick is coded as LGW. (1)</p> <p>Data is encoded on entry into an ICT system so that it is in a format which is understandable by the system. (1) Such as binary (1).</p>	
	<p><b>Area of the Specification and AOs this question covers</b></p> <p>3.2.2 AO1</p>	

3	Explain the need for standards when transferring data across an ICT network.	(4 marks)
	<b>Purpose of the Question</b>  Knowledge and understanding of why standards are needed.	
	<b>Guidance for examiners on how to mark this question</b> Identification of a need/needs Good explanation of need To a maximum of 4.	
	<b>Example answer</b> Standards are needed because files can be in different formats (1) for example document files (1) or sound files. (1) Both the sending and receiving devices need to recognise the same format. (1)	
	<b>Area of the Specification and AOs this question covers</b>  3.2.4 AO1	

<b>4(a)</b>	<p>Batch and transaction are two types of processing. Banks use batch processing to generate monthly statements for their customers and transaction processing when customers withdraw money from a cash dispenser.</p> <p>Explain why batch processing is suitable for producing monthly bank statements.</p>	(4 marks)
	<p><b>Purpose of the Question</b> Application of knowledge of methods of processing</p>	
	<p><b>Guidance for examiners on how to mark this question</b> One mark for each valid point or expansion</p>	
	<p><b>Example answer</b> Batch processing would be suitable for producing bank statements because similar data from a number of accounts is gathered together(1) and processed all together (1) without the need for human intervention (1) overnight or when the system is quiet. (1)</p>	
	<p><b>Area of the Specification and AOs this question covers</b>  3.2.4 AO1</p>	

4(b)	<p>Batch and transaction are two types of processing. Banks use batch processing to generate monthly statements for their customers and transaction processing when customers withdraw money from a cash dispenser.</p> <p>Explain why transaction processing is suitable when customers are withdrawing money from a cash dispenser.</p>	(4 marks)
	<p><b>Purpose of the Question</b> Application of knowledge of methods of processing</p>	
	<p><b>Guidance for examiners on how to mark this question</b> One mark for each valid point or expansion</p>	
	<p><b>Example answer</b> Transaction processing would be used when money is withdrawn from a cash dispenser because each transaction is dealt with as it is received (1) and the next cannot be started until the previous one has been completed (1) thus updating the account immediately (1) and preventing the person from exceeding what they are allowed to withdraw (1)</p>	
	<p><b>Area of the Specification and AOs this question covers</b>  3.2.4 AO1</p>	

<b>5(a)</b>	<p>A medical centre uses an ICT system to store patient records. It is essential that this data is kept private and secure.</p> <p>Explain the difference between privacy and security in relation to the patient records held in the medical centre.</p>	<i>(3 marks)</i>
	<p><b>Purpose of the Question</b></p> <p>Knowledge and understanding of the differences between privacy and security of data</p> <p><b>Guidance for examiners on how to mark this question</b></p> <p>One mark for each valid point or example made Both privacy and security must be referred to for full marks.</p> <p><b>Example answer</b></p> <p>Privacy of data is making sure that the data is only viewed by those who have permission to do so; (1) for example a patient's medical history would be available to the doctor but not the receptionist in the medical centre. (1) Security of data is making sure that it is kept safe (1) from threats such as natural disasters.</p> <p><b>Area of the Specification and AOs this question covers</b></p> <p>3.2.5 AO1</p>	
	<p><b>Note to examiners</b></p> <p>Privacy accept confidential. Security accept safe.</p>	

<b>5(b)</b>	Explain how the medical centre could maintain both the privacy and security of their patient records.	<i>(9 marks)</i>
	<b>Purpose of the Question</b>  Application of knowledge and understanding of safety and security of data in ICT systems.	
	<b>Guidance for examiners on how to mark this question</b>  <b>Low mark range</b> Candidate gives limited measures only <div style="text-align: right;"><b>0-3 marks</b></div> <b>Medium mark range</b> Candidate gives a range of appropriate measures, with some explanation of how they may maintain privacy and security of data, some of which may be in context <div style="text-align: right;"><b>4-6 marks</b></div> <b>High mark range</b> Candidate explains a range of appropriate measures in context, explaining how they maintain privacy and security of patient records. <div style="text-align: right;"><b>7-9 marks</b></div>	
	<b>Area of the Specification and AOs this question covers</b>  3.2.5 AO1	

<b>6(a)</b>	<p>Look at the leaflet shown in <b>Figure 1</b> in the insert.</p> <p>Some charitable organisations have a scheme which allows people to recycle their mobile phones.</p> <p>Explain how the recycling of mobile phones and other ICT equipment is contributing to improving the environment.</p>	(4 marks)
	<p><b>Purpose of the Question</b></p> <p>Knowledge and understanding of the factors affecting ICT and consequences of the use of ICT.</p>	
	<p><b>Guidance for examiners on how to mark this question</b></p> <p>One mark for each point raised and one for any relevant expansion NB equipment.</p>	
	<p><b>Example Answer</b></p> <p>Mobile phones contain toxic materials (1) which could cause pollution of landfill sites (1). Recycling the phones and other equipment such as expended ink cartridges (1) would reduce this pollution (1)</p>	
	<p><b>Area of the Specification and AOs this question covers</b></p> <p>3.2.8 AO1</p>	

<b>6(b)</b>	<p>Look at the leaflet shown in <b>Figure 1</b> in the insert. Some charitable organisations have a scheme which allows people to recycle their mobile phones.</p> <p>Discuss how concern for the environment has affected the ways in which ICT systems are used.</p>	<i>(10 marks)</i>
<p><b>Purpose of the Question</b></p> <p>Knowledge and understanding of the factors affecting ICT and consequences of the use of ICT.</p>		
<p><b>Guidance for examiners on how to mark this question</b></p> <p><b>Low mark range</b> Candidate identifies some environmental concerns or ways to address them. <b>0 – 3 marks</b></p> <p><b>Medium mark range</b> Candidate describes ways to address concerns for the environment showing some understanding. <b>4 – 7 marks</b></p> <p><b>High mark range</b> Candidate discusses ways to address concerns for the environment showing a clear understanding. <b>8-10 marks</b></p>		
<p><b>Area of the Specification and AOs this question covers</b></p> <p>3.2.8 AO1</p>		

7	<p>Advances in ICT have made it possible for people to view, use and store media such as television programmes, films and music in different ways.</p> <p>Discuss this statement.</p>	(14 marks)
	<p><b>Purpose of the Question</b></p> <p>Application of knowledge and understanding of what ICT can provide.</p> <p><b>Guidance for examiners on how to mark this question</b></p> <p>One mark for each valid point/expansion.</p>	
	<p><b>Example answer</b></p> <p>Due to technology having greatly developed, access to a vast amount of information has increased. (1) Fast repetitive processing has enabled large amounts of data to be processed on many ICT systems (1) and therefore television programmes can be streamed off the Internet (1) or are available on TV on demand (1) on digital satellite boxes (1) such as Sky. Vast storage capability has enabled people to store mp3 files and videos on small portable devices (1) such as an mp3 player or a SMART phone. (1) These can also be used to play games (1) or access TV online through an Internet connection. Improved presentation of information has also enabled media players to be more user interactive and have an advanced and more suitable user interface. Each media player can have the function to pause films/programmes or adjust settings to the user's preference. (1) Improved accessibility to information and services has enabled anyone, anywhere, with an ICT system and Internet connection to view media online. (1) Televisions also have the ability to access more functions such as news and weather and new SMART televisions also have the capability to access the Internet. (1) Through the use of standards, video recordings on a digital camera can be played through a television (1) as they both have enabled communication. Storage media have also advanced through vast storage capability as memory is available by using optical disks to store films (1) instead of video cassettes. A range of optical disks are available such as DVDs and CDs and Blu-ray disks also provide people with high definition viewing. (1)</p>	
	<p><b>Area of the Specification and AOs this question covers</b></p> <p>3.2.7 AO1</p>	

8	<p>Many people now use e-commerce for a number of different purposes. Examples of the home pages of e-commerce websites are shown in <b>Figures 2 and 3</b> in the insert.</p> <p>Discuss the effects that e-commerce has had on individuals and society.</p>	(20 marks)
	<p><b>Purpose of the Question</b></p> <p>Application of knowledge and understanding of the consequences of ICT on the way people use e-commerce</p>	
	<p><b>Guidance for examiners on how to mark this question</b></p> <p>Candidates may have approached this question in different ways.</p> <p><b>Low mark range</b></p> <p>Candidate identifies some effects that e-commerce has had on individuals or society.</p> <p><b>AND/OR</b></p> <p>The candidate has attempted to reference the source material.</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 style="text-align: right;"><b>0 - 5 marks</b></p> <p><b>Medium mark range</b></p> <p>Candidate outlines a range of effects that e-commerce has had on individuals or society.</p> <p><b>AND/OR</b></p> <p>Candidate has made some reference to the source material.</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 style="text-align: right;"><b>6 - 10 marks</b></p>	

	<p><b>Good mark range</b></p> <p>Candidate describes a range of effects that e-commerce has had on individuals <b>or</b> society and has made reference to the other demonstrating an understanding of these effects.</p> <p><b>AND/OR</b></p> <p>Candidate has made good reference to the source material.</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 style="text-align: right;"><b>11 - 15 marks</b></p> <p><b>High mark range</b></p> <p>Candidate discusses a range of effects that e-commerce has had on individuals and society and clearly demonstrates in depth understanding of these effects. They may have made good use of the reference material in their response.</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><b>16 - 20 marks</b></p>	
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