



General Certificate of Education (A-level)
June 2011

ICT

INFO2

(Specification 2520)

Unit 2: Living in the Digital World

Final

Mark Scheme

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SECTION A

1	<i>What is meant by an ICT system?</i>	<i>(4 marks)</i>
	Guidance for examiners on how to mark this question A description of what an ICT system is Identification of the components of an ICT system Description of specific system and its components Diagrams are creditworthy	
	Example answers <ul style="list-style-type: none">• An ICT system is one that involves input (1), processing (1) and output (1) which goes directly to a human being (1)• An ICT system consists of data (1), information (1), software (1) and hardware (1)• An example of an ICT system is a company payroll system (1) where the input would be the hours worked (1), the processing would be calculating the pay by multiplying the hours worked by the hourly rate (1) and the output would be the wage slip (1)	

2

Classify the following as malpractice or crime in the context of using ICT systems by placing a tick in the correct column.

(4 marks)

	Malpractice	Crime
(a) Leaving your computer logged on and unattended		
(b) Gaining unauthorised access to a bank database and changing an account balance		
(c) Writing down your password on a piece of paper and sticking it to your screen		
(d) Using pirated software without a licence		

Guidance for examiners on how to mark this question

Grid completed correctly as shown below

Example answer

	Malpractice	Crime
(a) Leaving your computer logged on and unattended	✓	
(b) Gaining unauthorised access to a Bank database and changing an account balance		✓
(c) Writing down your password on a piece of paper and sticking it to your screen	✓	
(d) Using pirated software without a licence		✓

3(a)	<i>Describe, using examples, how data can arise.</i>	<i>(6 marks)</i>
	Guidance for examiners on how to mark this question Max 5 marks if no expansions or no examples No credit for forms of data Answers implying the source of data are creditworthy	
	Example answers <ul style="list-style-type: none">• Data can arise from a transaction (1) when you withdraw money from a bank account (1) or book a seat on a plane. (1) Data can arise from a questionnaire such as a shopping survey. (1) Data can arise from making a purchase. (1) Data can arise from phishing. (1)• Data can be from a direct source (1) where the data is used for the purpose for which it is collected. (1) or indirect source (1) where data is collected for one purpose and used for another. (1) An example of direct data is counting cars as they enter a car park. (1) An example of indirect data is using sales data from a credit card for promotional marketing. (1)	

3(b)	<i>Give reasons why coded airport names are used in ICT systems.</i>	<i>(4 marks)</i>
	Guidance for examiners on how to mark this question 1 mark per reason and 1 mark for each valid expansion Must have at least 2 reasons for full marks	
	Example answer Data is coded so that it saves time on manual data capture. (1) Another reason is that search times are reduced (1) and it will also take up less storage space. (1) It is easier to validate coded data. (1)	

4	<i>Describe the characteristics of local area networks and wide area networks</i>	<i>(6 marks)</i>
	Guidance for examiners on how to mark this question Max 5 if only one type of network covered	
	Example answer A local area network covers a small geographical area (1) such as a single building (1) whereas a wide area network covers a large geographical area (1) such as a continent. (1) LANs can be connected via copper/fibre optic cable (1) whereas WANs can be connected by Radio/satellite/microwave links. (1)	

SECTION B

5(a)	<i>Explain what the designers of the different types of interface used would have to consider to enable players with different characteristics to interact with games consoles.</i>	(10 marks)
	<p>Guidance for examiners on how to mark this question</p> <p>1 mark for characteristic and 1 mark for each valid expansion.</p> <p>Accept only one example of a physical characteristic but that characteristic can have more than one related expansion.</p>	
	<p>Example answer</p> <p>The physical characteristics of the user would have to be considered (1) for example if the user was very heavy (1), the interface would have to support him without collapsing. (1)</p> <p>The age of the user would have to be considered. (1) Older users may have poor eyesight. (1)</p> <p>The environment of use would need to be considered. (1) For example if the interface were to be used outside (1) it would have to be weather-proofed. (1)</p> <p>The task to be undertaken (1) for example does the user need to step on and off the interface. (1)</p>	

5(b)	<i>Explain what type of processing should be used to allow games to be played on a games console.</i>	<i>(2 marks)</i>
	Guidance for examiners on how to mark this question Interactive processing (1) with a reason (1)	
	Example answer Interactive processing (1) could be used because game playing involves a dialogue between the user and the computer (1).	

5(c)	<i>Discuss the possible consequences of playing computer games for individuals and society.</i>	<i>(10 marks)</i>
	Guidance for examiners on how to mark this question 1 mark for every relevant point made or expansion thereof	
	Example answer There are positive and negative health risks to consider. (1) People who spend too much time playing computer games can become obese through lack of exercise (1) but if they make use of the fitness games then their health may improve. (1) There is the view that some games are not suitable for people below a certain age (1) and that they can promote violence in the real world. (1) Playing these games prevents people from going out and meeting friends (1) that could lead to a loss of social skills. (1) Also playing games rather than doing schoolwork (1) could mean that children underachieve at school. (1) It is possible that using a games console may improve a person's keyboard skills/typing. (1)	

6	<i>Discuss the relationship between ICT systems and the environment.</i>	<i>(14 marks)</i>
	<p>Guidance for examiners on how to mark this question</p> <p>This covers both factors affecting and consequences of.</p>	
	<p>Low mark range Candidate identifies issues. Candidate makes little attempt to discuss these in relation to ICT systems and the environment. 0 – 4 marks</p> <p>Medium mark range Candidate outlines relevant issues. The discussion lacks depth and shows limited understanding of the relationship between ICT systems and the environment. 5 – 9 marks</p> <p>High mark range Candidate discusses relevant issues. Candidate shows a clear understanding of the relationship between ICT systems and the environment. 10 – 14 marks</p>	

7	<p><i>The things that people use ICT for are changing all the time. Legislation and regulations have to keep up with these changes. Discuss, using examples, how ICT legislation and/or regulations affect your life and suggest, with reasons, future improvements to legislation and/or regulations that could be needed.</i></p>	(20 marks)
	<p>Guidance for examiners on how to mark this question Discussion may include reference to the following or any other appropriate legislation/regulations:</p> <ul style="list-style-type: none"> • Data Protection Act • Copyright Designs and Patents Act • Regulation of Investigatory Powers Act • Computer Misuse Act • Health and Safety legislation • Waste electrical and electronic equipment (WEEE) 	
<p>Guidance for examiners on how to mark this question</p> <p>Low mark range Candidate identifies current legislation and/or regulations or the candidate indicates changes that might be needed in the future. 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;">0 – 5 marks</p> <p>Medium mark range Candidate outlines current legislation and/or regulations. The candidate demonstrates some understanding of these and/or changes that might be needed in the future. 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;">6 – 10 marks</p> <p>Good mark range Candidate describes how current legislation and/or regulations affect them and the changes that might be needed in the future, demonstrating an understanding of these effects and changes. 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;">11 – 15 marks</p> <p>High mark range Candidate analyses how current legislation and/or regulations affect them and the changes that might be needed in the future, clearly demonstrating an in depth understanding of these effects and changes. 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 style="text-align: right;">16 – 20 marks</p>		