



**General Certificate of Secondary Education
June 2011**

ICT	45201
(Specification 4520)	45201/S

Unit 1: Systems and Applications in ICT

Final

<i>Mark Scheme</i>

Mark schemes are prepared by the Principal Examiner 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 examiners participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the candidates' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for standardisation each examiner analyses a number of candidates' scripts: alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, examiners encounter unusual answers which have not been raised they are required to refer these to the Principal Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of candidates' 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.

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1	(a)	(i)	E Printer	Correct answer only	1
1	(a)	(ii)	C Monitor/Screen	Correct answer only	1
1	(a)	(iii)	B Digital projector	Correct answer only	1
1	(b)		B CD-ROM	Correct answer only	1
1	(c)		Any sensible/suitable electronic device likely to be found in a kitchen. Examples include: food processor oven/cooker fridge washing machine TV freezer dishwasher heating system microwave Any 2 x 1 mark		2
1	(d)	(i)	Laptop computer PDA	Correct answer only Correct answer only	1 1
1	(d)	(ii)	The idea of portability – lightweight / easy to carry The device can be used almost anywhere Battery can power mobile device 2 x 1 mark		2
2	(a)		16 Gigabytes (Gb)	Correct answer only	1
2	(b)		RAM is volatile ROM is not volatile Difference in use - user data store in RAM -permanent data stored in ROM		1 1
3	(a)	(i)	D (Menu) F (Toolbar)	Correct answer only Correct answer only Either answer 1 mark	1
3	(a)	(ii)	C (Hyperlink)	Correct answer only	1
3	(a)	(iii)	E (Pointer)	Correct answer only	1
3	(b)	(i)	Close the window (or explained in words)		1
3	(b)	(ii)	Minimise the window (or explained in words)		1
4	(a)	(i)	C (Hacking)	Correct answer only	1
4	(a)	(ii)	E (Plagiarism)	Correct answer only	1
4	(a)	(iii)	D (Phishing)	Correct answer only	1

4	(b)		<ul style="list-style-type: none"> Regular breaks/walk around/relaxation techniques Correctly fitting /adjustable chair Set the screen at the right height/distance from eyes Foot rest <p style="text-align: right;">Any 2 x 1 mark</p>	2
4	(c)		<ul style="list-style-type: none"> Eye strain Neck pain/problems Headaches/ migraine Wrist problems/Carpel Tunnel Syndrome/RSI(finger problems) Possible radiation from monitor Possible epilepsy Stress Overweight/lack of exercise <p>NOT BACK</p> <p style="text-align: right;">Any 2 x 1 mark</p>	2
5	(a)	(i)	E (Sat Nav) Correct answer only	1
5	(a)	(ii)	C (DVD-ROM) Correct answer only	1
5	(a)	(iii)	A (Blog) Correct answer only	1
5	(b)		<p>A podcast is a series of digital media files (audio or video files).</p> <p>Often released episodically (daily/weekly/monthly)</p> <p>Often downloaded through web syndication (from the Internet).</p> <p style="text-align: right;">Any 2 x 1 mark</p>	2
5	(c)	(i)	Internal storage has not got enough memory/room/space download/store a file.	1
5	(c)	(ii)	<p>Remove/delete/save/ elsewhere other files or programs</p> <p>Compress/zip the file</p> <p>Increase the size of / add extra storage/ store online</p> <p style="text-align: right;">Any 2 x 1 mark</p>	2
6	(a)	(i)	<p>C (Curves)</p> <p>B (Brush)</p> <p style="text-align: right;">Correct answer only Correct answer only Either answer 1 mark</p>	1
6	(a)	(ii)	E (Repeating pattern) Correct answer only	1
6	(b)	(i)	C (Pause) Correct answer only	1
6	(b)	(ii)	F (Volume adjustment) Correct answer only	1
6	(b)	(iii)	D (Playlist) Correct answer only	1

6	(c)		Sends messages between computers via the Internet Correct answer only	1
6	(d)	(i)	Where incoming e-mails/messages are stored/located/ delivered /received	1
6	(d)	(ii)	An exact copy of an e-mail sent to another person/e-mail address	1
6	(d)	(iii)	A computer file/picture/document which is sent along with an e-mail	1
7	(a)		A broadband connection A screen Correct answer only Correct answer only	1 1
7	(b)	(i)	See the students at the other school/see who you are talking to/face to face Communication is interactive/real time/ don't have to wait for a reply Can show objects etc. found during the project Can see presentations/displays by the other school Too much time to type in/read long questions or answers Any 2 x 1 mark	2
7	(b)	(ii)	Time difference issues Meetings need to be scheduled and synchronised – timetable issues More likely to have technical issues Cost in (NOT just cost) minimum equipment Easy to attach documents to emails Any 1 x 1 mark	1
7	(c)	(i)	Two or more people working together (students, other people, organisations etc.) Towards meeting common targets/goals Targets agreed in advance but The process is recursive/iterative/feedback Any 2 x 1 mark	2
7	(c)	(ii)	Share expertise/ideas/helping each other More detailed evidence/resources may be available in one of the countries Learn more than just history (culture etc.) See other teaching/learning methods/styles Team bonding/making friends Working down the work/jobs between them. Any 2 x 1 mark	2
8	(a)	(i)	Presence Check Correct answer only	1
8	(a)	(ii)	Lookup List Correct answer only	1
8	(a)	(iii)	Range Check Correct answer only	1

8	(b)	(i)	Visual Check Double entry	1 1
8	(b)	(ii)	<p>Answers must relate to reducing mistakes</p> <p>Visual Check/Proof read Read on screen the original version Correct on screen each error as it is found Can use 'checking software'</p> <p style="text-align: right;">Any 2 x 1 mark</p> <p style="text-align: center;">OR</p> <p>Double entry Data typed in a second time Same source document Second operator Software compares the two versions Any errors signalled Next version accepted</p> <p style="text-align: right;">Any 2 x 1 mark</p>	2
9	(a)		FD5 RT90 <p style="text-align: right;">1st two instructions</p> FD5 RT90 FD5 RT90 FD5 (or FD4) (RT90) <p style="text-align: right;">next five/six instructions</p>	1 1
9	(b)		RP4 <p style="text-align: right;">1st and last instructions</p> FD5 RT90 <p style="text-align: right;">Middle two instructions</p> END	1 1

7

11	(e)	<div>No rewardable material 0 marks</div> <div>Lower mark range 1 – 2 marks There are simple even vague statements relating to changing data (increasing or decreasing a value). These statements relate to ideas/examples below. There are NO real consequences given.</div> <div>Mid mark range 3 – 4 marks There is evidence of some understanding shown through the use of mostly correct examples that describe the need to increasing some values and the need to decrease others. Examples given are supported by some relevant description/reasoning. These examples will cover some of ideas/examples given below. Changes are linked to consequences.</div> <div>High mark 5 marks There is evidence of a clear understanding shown through the use of correct examples that clearly discusses the need to increasing some values and the need to decrease others. Examples given are well supported by reasoned arguments. These examples will cover all of the ideas/examples given below. Read the full answer first before you start to mark it. Examples Reduce some costs e.g. cost of printing Increase others such as the price of tickets Idea of continually checking the profit /loss is at least £1000/recursive process</div>		5
12	(a)	(i)	Part of a record Contains data relating to one element of a record Column headings Suitable example e.g. Resort Any 1 x 1 mark	1
12	(a)	(ii)	8 Correct answer only	1
12	(a)	(iii)	Booking code Correct answer only	1
12	(a)	(iv)	Unique identifier (or equivalent)	1
12	(b)		Sorted by country Sorted A-Z by country scores a second mark Then sorted A-Z by Resort within each country	1 1 1

12	(c)	<div>No rewardable material 0 marks</div> <div>Lower mark range 1 – 2 marks There are simple even vague statements relating to checking or naming of sources. These statements relate to ideas/examples below. There are NO real consequences given.</div> <div>Mid mark range 3 – 4 marks There is evidence of some understanding shown through the use of mostly correct examples that describe the need the need to check sources. Examples given are supported by some relevant description/reasoning. These examples will cover some of ideas/examples given below. Consequences are reasonably considered for most issues</div> <div>High mark 5 marks There is evidence of a clear understanding shown through the use of correct examples that clearly discuss the need (and ways) to check sources. Examples given are well supported by reasoned arguments. These examples will cover several of the ideas/examples given below. Clear consequences are clear in all examples</div> <div>Read the full answer first before you start to mark it. Examples Sources maybe fake so.... Sources may not be reputable/reliable so..... Sources maybe out of date/closed down so Sources have security against hackers so Sources need to be 'bonded' e.g. ATOL because</div>	5
13	(a)	<div><ul style="list-style-type: none">Cheaper/quicker in the long run because.....<ul style="list-style-type: none">Saves lots of their time travelling there and doing the shoppingSaves money on petrol and putting mileage on the car/ bus fareDelivered to their doorDo not have to leave the house/ order from comfort of their homeCan order them 24/7 not just when the supermarket is openUse repeat orders to save timeFaster to search (on-line)Home deliverySometimes a wider range of choice<div>NOT just cheaper or faster</div><div>Any 2 x 1 mark</div></div>	2
13	(b)	<div>(i) A small piece of text</div> <div>Correct answer only</div>	1

13	(b)	(ii)	See what customers are looking at Gives a personalised 'interface' for the customer Provide pages used 'favourites' list for the customer Allow Send customer 'targeted' e-mails/ advertisements – know their shopping preferences Market profiling <div>Any 2 x 1 mark</div>	2
13	(b)	(iii)	Stop personalised, unsolicited/junk e-mails from the supermarket Reduced storage used <div>Any 2 x 1 mark</div>	2
13	(c)	<div>No rewardable material 0 marks</div> <div>Lower mark range 1 – 2 marks</div> <div>There are a few simple even vague statements relating to disadvantages or risks. These relate to ideas/examples below. Possible consequences are NOT really considered</div> <div>Mid mark range 3 – 4 marks</div> <div>There is evidence of some understanding shown through the use of mostly correct examples that describe disadvantages or risks. Examples given are supported by some relevant description/reasoning. These examples will cover some of ideas/examples given below. Consequences are reasonably considered for most issues</div> <div>High mark 5 marks</div> <div>There is evidence of a clear understanding shown through the use of correct examples that clearly discuss the disadvantages or risks. Examples given are well supported by reasoned arguments. These examples will cover some ideas/examples given below. Clear consequences are clear in all examples</div> <div>Examples of disadvantages or risks</div> <div>Not feel a personal service/ cannot choose own groceries Cannot see the actual items they are getting/damaged Virus issues/Hacking issues Fear of buying due to credit card security/fraud Not everyone has access to/knows how to use Internet/computers /network down. Arrives late/ does not arrive /wrong goods delivered/ have to wait for goods Charge for delivery Have to be at home when the goods arrive</div>		5

14	<table><tr><td>No rewardable material</td><td>0 marks</td></tr><tr><td>Level 1 Lower mark range Subject Criterion Context There are simple statements about at least one simple valid statement about the effects on people who the people who live in the developing country having no access or limited access to ICT. Examples are supported by very limited descriptions. Possible effects on the people are NOT really considered Quality of Written Communication The candidate has used a form and style of writing which has many deficiencies. Ideas are not often clearly expressed. Sentences and paragraphs are often not well-connected or at times bullet points may have been used. Specialist vocabulary has been used inappropriately or not at all. Much of the text is legible and some of the meaning is clear. There are many errors of spelling, punctuation and grammar but it should still be possible to understand much of the response.</td><td>1-3 marks</td></tr><tr><td>Level 2 Lower mid mark range Subject Criterion Context There is evidence of some understanding or use shown by giving examples of at least two reasonably valid effects on people who the people who live in the developing country having no access or limited access to ICT. This will often be two valid effects. Examples are supported by limited descriptions. Possible effects on the people are only briefly considered Quality of Written Communication The candidate has used a form and style of writing which has some deficiencies. Ideas are not always clearly expressed. Sentences and paragraphs may not be well-connected or at times bullet points may have been used. Specialist vocabulary has been used on a limited number of occasions. Most of the text is legible and some of the meaning is clear. There are some errors of spelling, punctuation and grammar but it should still be possible to understand most of the response.</td><td>4-6 marks</td></tr><tr><td>Level 3 Higher mid mark range Subject Criterion Context There is evidence of a more developed understanding shown through the use of suitable examples that describe at least two valid effects on the people who live in the developing country. Examples are supported by suitable descriptions. Possible effects on people are clearly described. Quality of Written Communication The candidate has mostly used a form and style of writing appropriate to purpose and has expressed some complex ideas</td><td>7-9 marks</td></tr></table>	No rewardable material	0 marks	Level 1 Lower mark range Subject Criterion Context There are simple statements about at least one simple valid statement about the effects on people who the people who live in the developing country having no access or limited access to ICT. Examples are supported by very limited descriptions. Possible effects on the people are NOT really considered Quality of Written Communication The candidate has used a form and style of writing which has many deficiencies. Ideas are not often clearly expressed. Sentences and paragraphs are often not well-connected or at times bullet points may have been used. Specialist vocabulary has been used inappropriately or not at all . Much of the text is legible and some of the meaning is clear . There are many errors of spelling, punctuation and grammar but it should still be possible to understand much of the response.	1-3 marks	Level 2 Lower mid mark range Subject Criterion Context There is evidence of some understanding or use shown by giving examples of at least two reasonably valid effects on people who the people who live in the developing country having no access or limited access to ICT. This will often be two valid effects. Examples are supported by limited descriptions. Possible effects on the people are only briefly considered Quality of Written Communication The candidate has used a form and style of writing which has some deficiencies. Ideas are not always clearly expressed. Sentences and paragraphs may not be well-connected or at times bullet points may have been used. Specialist vocabulary has been used on a limited number of occasions. Most of the text is legible and some of the meaning is clear . There are some errors of spelling, punctuation and grammar but it should still be possible to understand most of the response.	4-6 marks	Level 3 Higher mid mark range Subject Criterion Context There is evidence of a more developed understanding shown through the use of suitable examples that describe at least two valid effects on the people who live in the developing country. Examples are supported by suitable descriptions. Possible effects on people are clearly described. Quality of Written Communication The candidate has mostly used a form and style of writing appropriate to purpose and has expressed some complex ideas	7-9 marks	12
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	<p>reasonably clearly and fluently. The candidate has usually used well linked sentences and paragraphs. Specialist vocabulary has been used on a number of occasions but not always appropriately. Text is legible and most of the meaning is clear. There are occasional errors of spelling, punctuation and grammar.</p>		
	<p>Level 4 High mark range</p> <p>Subject Criterion Context There is evidence of a clear understanding shown through the use of at least two relevant examples that discuss valid effects on the people who live in the developing country. Examples are well supported by reasoned arguments. Possible effects on companies are clearly discussed (for and against thought about)</p> <p>Quality of Written Communication 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 throughout. Text is legible and the meaning is clear. There are few if any errors of spelling, punctuation and grammar.</p>	10-12 marks	
	<p>Quality of Written Communication Skills The candidate's quality of written communication skills will be one of the factors influencing the actual mark an examiner will give within a level of response. The quality of written communication skills associated with each level is indicated above</p>		
	<p>Examples</p> <ul style="list-style-type: none"> • Financial/Economic issues • Educational issues • Political issues • Isolation issues • Religious issues • Communication issues • Health issues • Other ICT related issues 		

15	<table><tr><td>No rewardable material</td><td>0 marks</td></tr><tr><td>Level 1 Lower mark range Subject Criterion Context There are simple statements about at least one valid statement on companies increased use of ICT and network technology. Examples are supported by very limited descriptions Possible effects on companies are NOT really considered Quality of Written Communication The candidate has used a form and style of writing which has many deficiencies. Ideas are not often clearly expressed. Sentences and paragraphs are often not well-connected or at times bullet points may have been used. Specialist vocabulary has been used inappropriately or not at all. Much of the text is legible and some of the meaning is clear. There are many errors of spelling, punctuation and grammar but it should still be possible to understand much of the response.</td><td>1-3 marks</td></tr><tr><td>Level 2 Lower mid mark range Subject Criterion Context There is evidence of some understanding or use shown by giving examples of at least two valid effects on companies increased use of ICT and network technology. Examples are supported by limited descriptions. Possible effects on companies are only briefly considered/stated Quality of Written Communication The candidate has used a form and style of writing which has some deficiencies. Ideas are not always clearly expressed. Sentences and paragraphs may not be well-connected or at times bullet points may have been used. Specialist vocabulary has been used on a limited number of occasions. Most of the text is legible and some of the meaning is clear. There are some errors of spelling, punctuation and grammar but it should still be possible to understand most of the response.</td><td>4-6 marks</td></tr><tr><td>Level 3 Higher mid mark range Subject Criterion Context There is evidence of a more developed understanding shown through the use of suitable examples that describe than two valid effects on companies increased use of ICT and network technology. Examples are supported by suitable descriptions. Possible effects on companies are clearly described. Quality of Written Communication The candidate has mostly used a form and style of writing appropriate to purpose and has expressed some complex ideas</td><td>7-9 marks</td></tr></table>	No rewardable material	0 marks	Level 1 Lower mark range Subject Criterion Context There are simple statements about at least one valid statement on companies increased use of ICT and network technology. Examples are supported by very limited descriptions Possible effects on companies are NOT really considered Quality of Written Communication The candidate has used a form and style of writing which has many deficiencies. Ideas are not often clearly expressed. Sentences and paragraphs are often not well-connected or at times bullet points may have been used. Specialist vocabulary has been used inappropriately or not at all . Much of the text is legible and some of the meaning is clear . There are many errors of spelling, punctuation and grammar but it should still be possible to understand much of the response.	1-3 marks	Level 2 Lower mid mark range Subject Criterion Context There is evidence of some understanding or use shown by giving examples of at least two valid effects on companies increased use of ICT and network technology. Examples are supported by limited descriptions. Possible effects on companies are only briefly considered/stated Quality of Written Communication The candidate has used a form and style of writing which has some deficiencies. Ideas are not always clearly expressed. Sentences and paragraphs may not be well-connected or at times bullet points may have been used. Specialist vocabulary has been used on a limited number of occasions. Most of the text is legible and some of the meaning is clear . There are some errors of spelling, punctuation and grammar but it should still be possible to understand most of the response.	4-6 marks	Level 3 Higher mid mark range Subject Criterion Context There is evidence of a more developed understanding shown through the use of suitable examples that describe than two valid effects on companies increased use of ICT and network technology. Examples are supported by suitable descriptions. Possible effects on companies are clearly described. Quality of Written Communication The candidate has mostly used a form and style of writing appropriate to purpose and has expressed some complex ideas	7-9 marks	12
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	<p>Level 4 High mark range</p> <p>Subject Criterion Context There is evidence of a clear understanding shown through the use of relevant examples that discuss at least 2 valid effects on companies increased use of ICT and network technology. Examples are well supported by reasoned arguments. Possible effects on companies are clearly discussed (for at least one)</p> <p>Quality of Written Communication 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 throughout. Text is legible and the meaning is clear. There are few if any errors of spelling, punctuation and grammar.</p>	<p>10-12 marks</p>	
	<p>Quality of Written Communication Skills The candidate's quality of written communication skills will be one of the factors influencing the actual mark an examiner will give within a level of response. The quality of written communication skills associated with each level is indicated above</p>		
	<p>Examples</p> <ul style="list-style-type: none"> • Increased flexibility, flexible hours, home working • Size of workforce, jobs loss because of introduction of ICT (unemployment), new jobs being created, mainly in ICT. • Location of workplace, centralised, out of town, home working, mobile computing. • Change in jobs, as with size of workforce but also training and retraining issues. Plus job satisfaction, ease of tasks etc. • Video conferencing • Web site • Wireless/Wi-/Fi access..... 		