General Certificate of Secondary Education (Short Course)
June 2013

Information Communication Technology **45204**

(Specification 4520)

Unit 1: Systems and Applications in ICT

Final

Mark Scheme

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 students' 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 students' 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 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.

1	(a)		**G**	(Mouse)		2
			N	(Touch screen)		
			O	(Tracker ball)		
				Correct answer only any 2 x 1 mark		
			May just write the word which is OK. Order not important			

1	(b)		**E**	(Laser printer)		2
			I	(Plotter)		
			M	(Speaker)		
				Correct answer only any 2 x 1 mark		
			May just write the word which is OK. Order not important			

1	(c)		**A**	(CD-RW drive)		2
			B	(Flash memory)		
			C	(Hard disk drive)		
				Correct answer only any 2 x 1 mark		
			May just write the word which is OK. Order not important			

1	(d)		**H**	(Netbook)		1
			K	(Smart mobile phone)		
				Correct answer only any 1 x 1 mark		
			May just write the word which is OK. Order not important			

| 2 | (a) | (i) | **A** | (Bar code reader) | **Correct answer only** | 1 |

| 2 | (a) | (ii) | **C** | (Chip and pin) | **Correct answer only** | 1 |

| 2 | (a) | (iii) | **B** | (Biometrics) | **Correct answer only** | 1 |

2	(b)		Telephone number (day)	at least 11	3
			Telephone number (evening)	at least 11	
			Contact tel. Number	at least 11	
			Mobile tel. Number	at least 11	
			Phone number (no.)	at least 11	
			NOTE MAX TWO TELEPHONE NUMBERS		
			Title	at least 3	
			Membership type	at least 10 /memo / list	
			E-mail address	at least 20 / memo	
			Gender	at least 6 or M / F	
			Photo	box to fit	
			Date of membership / expiry of membership	at least 8(2-2-2/4)	
			DOB	at least 8(2-2-2/4)	
			Health / medical / access issues (max 1)	at least 15 / memo	
			(also allow health problems / condition)		
			Doctor info max 1 (suitable 'boxes') eg name at least 12		
			NB – could use the date at end of form **NOT NI NOT Age**		
			[_] – open boxes are OK – boxes with small vertical lines are OK		
			Dashes are OK but not just lines unless memos		
			Memo = lines / boxes / dashes IGNORE FILLING IN		
			Mark only the first 3 fields		
			Ignore correct duplicate fields eg more address lines / name lines – these do not count in the THREE. Class them as **repeats**		
			Tick correct field name – do not penalise lack of capitals		
			Tick correct number of boxes / dashes / memo field for the corresponding field name.		
			Count ticks - divide by 2 - round down		

3	(a)		**D**	This mark is for the first stage being correct	1
			A, B, E, C	This mark is for ALL FOUR being in the Correct order	1
			F	This mark is for the last stage being correct	1

3	(b)		Data from the test plan are input to check the system works as expected **Correct answer only**	1
			The actual outcomes are compared with the expected results in the test plan **Correct answer only**	1

3	(c)		Interviews	1
			Questionnaires / survey	
			Observation	
			Looking at existing documentation	
			NOT Data Capture Form	
			Any 1 answer x 1 mark	

4	(a)	(i)	**Cheaper / free**	2
			Can download books quickly / instantly on demand / from abroad	
			More portable / mobile / easier to **carry around / take with you** thousands / many of your books / all your books	
			Can **change font (text)** size / style to help **readability**	
			Less space (in house / suitcase) needed to **store** books	
			Environmental friendly – saves paper / saves trees	
			Transferability between electronic devices becoming possible.	
			Most can be **read in the dark**	
			Can read to you / turn text into spoken speech	
			Less likely to lose pages	
			Extra **privacy** – cannot see what is being read	
			Automatic access to dictionary	
			Any 2 answers x 1 mark each	
			NOT – just store more than one book / many books / thousands of books **without an explanation**	

4	(a)	(ii)	Original **cost of buying** the e-reader/cost of recharging	1
			Some books still **not available** for the e-reader	
			If e-reader **breaks**, no books can be read	
			More likely/easier to **damage** an e-reader	
			Readability in direct sunlight still an issue for some models	
			Battery issues/runs out/needs charging etc	
			More likely to be **stolen/** could **lose all** of the books if stolen	
			Technophobe or prefers the 'feel' of paper books	
			Don't always own the book (right to read)	
			Any 1 answer x 1 mark	

| 4 | (b) | (i) | A website where users can add, modify, or delete its content | 1 |
| | | | **Correct answer only** | |

4	(b)	(ii)	Information can be **wrong / unreliable / incorrect / false**	1
			Information can be updated by anyone so **bias** as well as errors creep in	
			Worry about the **'expertise'** of the people who update the wiki / anyone can write to it.	
			Not from a trusted source	
			NB- not just change / modify without clarification	
			Any 1 answer x 1 mark	

5	(a)	(i)	Any **two** from Essay, Letter, Memo **Correct answer only**	1
			Close spelling / obviously the correct word OK	
			Need **both** for 1 mark, either order	

5	(a)	(ii)	These documents are about **processing text / creating text / editing text** (allow writing)	1
			Only text needed / only need to type in	
			No pictures / images needed	
			Any 1 answer x 1 mark	

5	(b)	(i)	Any **two** from Catalogue, Magazine, Poster	1
			Correct answer only	
			Close spelling / obviously the correct word OK	
			Need **both** for 1 mark, either order	

5	(b)	(ii)	These documents are about **text / writing and graphics publications**	1
			Pictures / images needed (add pictures / edit position of pictures)	
			Layout templates available	
			Any 1 answer x 1 mark	

5	(c)		**First mark (both needed) - takes a**	1
			• word processed **document** (e.g. a letter) and	
			• **data file/from a database / spreadsheet** (often a **list of people's names** and addresses)	
			Second mark (any one x 1 mark) – to produce	
			Used to produce **integrated / combined** document / details from database put into the word processed document.	
			Personalised / separate / different letters produced.	1

Section B

6	(a)		They pay by using credit card details when they place the order **Correct answer only**	1

6	(b)		Not feel a personal service Cannot choose own groceries / cannot see what you are getting / damaged goods Virus issues / Hacking issues / buying due to credit card security Not everyone has access to / knows how to use Internet / computers / network or Internet down / supermarket site down. Arrives late / does not arrive / wrong goods delivered / have to wait for goods / have to wait for delivery Cost to have goods delivered Unsuitable substitutes Miss out on in store deals / offers Don't always see what goods are in stock. **NOT** just more expensive **Any 1 answers x 1 mark**	1

6	(c)	(i)	A small text file **Correct answer only**	1

6	(c)	(ii)	Small possibility of profile / details being **hacked / virus** **Stop** personalised, unsolicited e-mails / adverts from the supermarket **Reduced storage** used, regularly review and delete unwanted cookies **Privacy issues** – stop supermarket 'watching' the customer. Because they can build up a **detailed profile** of the customer **Any 1 answer x 1 mark**	1

6	(d)		5
		Read the full answer first before you start to mark it.	
		No rewardable material 0 marks	
		Lower mark range 1 – 2 marks State/give simple **statement(s)** or example(s) relating to the advantages of buying groceries online. Statement(s) relate to the ideas below. Sometimes a bullet list of statements (no description)	
		Mid mark range 3 – 4 marks There is evidence of **some understanding** shown through the use of at least **three** mostly correct **descriptions** and examples of advantages of buying groceries online.	
		High mark 5 marks There is evidence of a **clear understanding** shown through the use of at least **three correct** descriptions and examples relating to the advantages of buying groceries online.	
		Key Issues (take care not to start crediting disadvantages) • Cheaper / quicker in the long run because - Saves lots of their time travelling there and doing the shopping - Saves money on petrol and putting mileage on the car/ bus fare • Do not have to leave the house / order from comfort of their home • Can order them 24/7 not just when the supermarket is open • Use repeat orders to save time • Can see a running total of what is spent • Not tempted to buy other items / offers as you walk around the supermarket • Faster to search (on-line) • Home delivery • Disability access issues **NOT** just cheaper or faster	

7	(a)		There are **mistakes** / Yer **is a spelling mistake**	2
			Column **not wide enough** to see all the words / not all information can be seen	
			Poor presentation / Some parts are **difficult to read**	
			Inconsistent fonts used / text different sizes	
			Needs a **title** which relates to the **school**	
			Any 2 answers x 1 mark	

7	(b)		**Graph A**	2
			The information is **clearer / easier to see / read / less confusing**	
			Better / more appropriate for showing **discrete data**	
			Better / more appropriate title	
			Easier to read off **the values / totals**	
			Any 2 answer x 1 mark	

7	(c)			5
			Read the full answer first before you start to mark it.	
			No rewardable material 0 marks	
			Lower mark range 1 – 2 marks	
			State/give simple **statement(s)** relating to changing one or two data items. Very little consideration is given to how the profit will change. Statements relate to ideas / examples below.	
			Mid mark range 3 – 4 marks	
			There is evidence of **some understanding** shown through the use of at least **two mostly correct** examples that start to **explain** the need to increase some values or the need to decrease others.	
			At the bottom end of this mark range, examples given will start to describe the effects of changing values on the profit.	
			At the top end of this mark range, examples given will start to describe the effects of changing values on the profit and start to consider maximising profit.	
			These examples will cover **a range** of ideas / examples given below.	

High mark 5 marks

There is evidence of a **clear understanding** shown through the use of at least **two correct** examples that clearly **explains** the need to increase some values or the need to decrease others. Examples given are well supported by reasoned arguments.

At this mark range, examples describe the effects changing values have on the profit and consider maximising profit.

These examples will cover **several** ideas / examples given below.

Examples

Reduce some costs eg cost of printing

Increase others such as the price of books

Idea of continually checking the profit / loss

Idea of an iterative process, until 'outcomes' are met.

Section C

8		12
	Read the full answer first before you start to mark it.	
	No rewardable material	**0 marks**
	Level 1 Lower mark range	**1-3 marks**
	Subject Criterion Context One or two simple statements about the processes of monitoring and managing sustainable resources and recycling with limited reference to ICT. Examples are supported by very limited descriptions. **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.	
	Level 2 Lower mid mark range	**4-6 marks**
	Subject Criterion Context There is evidence of **some understanding or use** shown by giving examples of at least two reasonably valid brief **descriptions** about how ICT can aid the processes of monitoring and managing sustainable resources and recycling. Examples are supported by limited descriptions. **Possible effects 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.		
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 at the bottom end, **describe** at least **two** ways ICT can aid the processes of monitoring and managing sustainable resources and recycling. And at the top, **describe** at least **three** ways ICT can aid the processes of monitoring and managing sustainable resources and recycling. Examples are supported by suitable descriptions. **Possible effects 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 **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.	**7-9 marks**	
Level 4 High mark range **Subject Criterion Context** There is evidence of a **clear understanding** shown through the use of at least **three relevant** examples that **discuss** valid **ways** about how ICT can aid the processes of monitoring and managing sustainable resources and recycling. Examples are well supported by reasoned arguments. **Possible effects are clearly discussed (for and against thought about).** **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	**10-12 marks**	

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.

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.

Examples

- Smart waste bins
- Green ICT
- Business online
- ICT tracking of recycled parts
- "moving bits rather than molecules"

9		12
	Read the full answer first before you start to mark it.	
	No rewardable material	**0 marks**
	Level 1 Lower mark range **Subject Criterion Context** Simple statements/examples about at **least one** possible advantage or disadvantage of using social network sites. These are supported by no comments or very limited comments. Lots of **just** these statements, still remain in this mark range. **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** shown by considering sensible issues that each briefly look at possible advantages and disadvantages of using social network sites. At the lower end of this mark range **at least two** points need to be considered including advantages and disadvantages. At the higher end of this mark range **at least three** points need to be considered including advantages and disadvantages. Examples are supported by limited descriptions. **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**	**4-6 marks**

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.

Level 3 Higher mid mark range **Subject Criterion Context** There is evidence of a more **developed understanding** shown by describing sensible issues that each look at possible advantages and disadvantages of using social network sites. At **least five** points need to be considered, including advantages and disadvantages. Examples are supported by descriptions. **Quality of Written Communication** The candidate has **mostly** used a form and style of writing **appropriate** to purpose and has expressed some complex ideas **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.	**7-9 marks**	
Level 4 High mark range **Subject Criterion Context** There is evidence of a **clear understanding** shown by clearly describing sensible issues that each look at possible advantages and disadvantages of using social network sites. At **least five** points need to be considered, including advantages and disadvantages. Examples are well supported by reasoned arguments. **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	**10-12 marks**	

errors of spelling, punctuation and grammar.

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 are indicated above.

Social network

Possible advantages

- Keep **in touch / chat** with family and friends
- **Share** pictures, videos etc
- 'Meet' with people with a **shared interest** from all over the world
- Play **games** against/with others

Possible disadvantages

- Stranger danger
- Being groomed
- Cyber bullying
- Need Internet connection/equipment – cost

NB don't give credit for previous H&S

UMS conversion calculator www.aqa.org.uk/umsconversion