



## UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS International General Certificate of Secondary Education

CANDIDATE NAME				_
CENTRE NUMBER		CANDIDATE NUMBER		_

## INFORMATION AND COMMUNICATION TECHNOLOGY

0417/12

Paper 1

October/November 2012

2 hours

Candidates answer on the Question Paper.

No Additional Materials are required.

## **READ THESE INSTRUCTIONS FIRST**

Write your Centre number, candidate number and name on all the work you hand in.

Write in dark blue or black pen.

You may use a soft pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, highlighters, glue or correction fluid.

DO NOT WRITE IN ANY BARCODES.

No marks will be awarded for using brand names of software packages or hardware.

Answer all questions.

At the end of the examination, fasten all your work securely together.

The number of marks is given in brackets [ ] at the end of each question or part question.

For Examiner's Use					

This document consists of 12 printed pages.



1	Name the devices <b>A</b> , <b>B</b> , <b>C</b> and <b>D</b> using the words from the list.					
	Α	В	С		D	
	111111111111111111111111111111111111111					
	bar code	dot matrix printer	flash memory card	inkjet p	orinter	
	monitor	multimedia projector	scanner	tracker	ball	
2	С	ns which are used for data s				
	light pen		etic disc	motoi	-	
	mouse	OCR		ROM		
					[2]	
3	Tick <b>True</b> or <b>I</b>	False next to each of these	statements.			
				True	False	
	A chip rea	der is an example of softwa	re.			
	A hard dis	c drive is an example of har	dware.			
	DTP is a fo	orm of operating system.				
	A blu-ray	disc has a greater storage ca	apacity than a DVD.			
	Flash men					

[5]

4	Draw <b>five</b> lines on the diagram to match the input device to its most <b>appropriate</b> use.				
	Input Device	Use			
	Mouse	to input voiceovers for a present	tation		
	Joystick	to input a PIN			
	Optical Mark Reader	to select options from a menu			
	Microphone	to operate a flight simulator			
	Number pad	to input candidate responses on	examinat	ion papers	
				[5]	
_	Tiek Two or False for the faller	uine etetemente			
5	Tick <b>True</b> or <b>False</b> for the follow	wing statements.			
			True	False	
	ROM is volatile.				
		artup instructions of a computer.			
	The data in ROM is easier to change than that in RAM.				
	ROM is used to store the data the user is currently working on.				
				[4]	
c	Name there items of hardware	athor there a DC recorded to conduct a	videe een	fananaa	
6		, other than a PC, needed to conduct a	video con	rerence.	
	2				
	3			[3]	

## 7 A floor turtle can use the following instructions:

INSTRUCTION	MEANING
FORWARD n	Move <i>n</i> forward
BACKWARD n	Move <i>n</i> backward
LEFT t	Turn left t degrees
RIGHT t	Turn right t degrees
PENUP	Lift the pen
PENDOWN	Lower the pen
REPEAT n	Repeat the following instructions <i>n</i> times
END REPEAT	Finish the REPEAT loop

90 70
50 Start Finish

Complete the set of instructions to draw this shape by filling in the blank lines.

REPEAT		
LEFT	90	
PENDOWN		

[8]

8	A geography teacher wants to build a weather station. She wants to use a computer to collect the results.				
	(a)	Describe <b>three</b> physical variables which would be measured.			
		1			
		2			
		3			
	(b)	The geography teacher wants to create a model to demonstrate basic weather forecasting to her students.  Describe <b>three</b> features of a spreadsheet which make it suitable for modelling purposes.			
		1			
		2			
		3			
		[3]			
	(c)	Describe <b>three</b> other uses of modelling.			
		1			
		2			
		3			
		[3]			
		Lei			

	(d)	Give <b>two</b> reasons, other than reducing timescale, why computer models are sometimes used rather than the real thing.
		1
		2
		[2]
9	con	ab owns a company which has a small number of computers. He wants to connect the nputers into a network. He does not wish to connect the computers to the internet but he se want the workers to be able to communicate within the company.
	(a)	Name a network device used to connect the computers together.
		[1]
	(b)	Name an item of software used to send messages between the computers.
		[1]
	(c)	What is the name given to this type of network?
		[1]
	(d)	Give <b>three</b> reasons why Aftab may not want his workers to access the internet.
		1
		2
		3
		[3]

10	A c	ompany owns several stores which offer internet shopping to customers.	For
	(a)	Give <b>three</b> advantages to the company of internet shopping.	Examiner's Use
		1	
		2	
		3	
		[3]	
	(b)	Give <b>three</b> disadvantages to the company of internet shopping.	
		1	
		2	
		[3]	
11	ava Nar	e head teacher wants to replace the current printed school magazine with one slide show illable on a number of machines in a computer room at parents' evenings. The <b>three</b> features available in a slideshow not available in a hard copy magazine. For the one say how it could be used in the school's slideshow.	
	Fea	ature 1	
	Us	e	
	Fea	ature 2	
	Us	e	
	 Fe:	ature 3	
	Us		
		[6]	

Des	scribe <b>two</b> metho	ods of verification and explain why	verification is needed.	For Examine Use
••••	••••••••••••			
*****				
•••••				[4]
Coi	mputers are use	d in supermarkets at point of sales	s terminals.	
(a)	•	ut devices which could be used t		n it is
(u)	purchased.	at devices willon could be used t	o enter data about an item when	
			✓	
		Optical character reader		
		Electronic scales		
		Sound sensor		
		Bar code reader		
		Number pad		
		Trackerball		
			I	[3]
(b)	Describe how to been entered co	the supermarket's computer uses orrectly.	s a check digit to check that data	a has
				[2]
				[4]

This is part of the supermarket's database of items:

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Product name	Number in Stock	Re-order level	Re-order quantity	Supplier code
Kollege Corn Flakes	152	150	50	L93512
Crikey Orange Juice	121	100	40	G63824
Nice Café Coffee	321	170	60	L93512

This is part of the supermarket's database of suppliers:

Supplier code	Name of supplier	Address of supplier	Supplier phone number
L93512	Lu Chen	14, Kinshasa Highway Box 41324	72 34 45 67
G63824	Hameen	2351, Avenue Rios Box 31496	24 17 39 81

(c) The supermarket computer can automatically re-order items when the supermarket is running low on stock.

Describe this process, using the example databases above when two more packets of Kollege Corn Flakes pass through the checkout.

14	Describe what is meant by phishing.			
		[3]		
15	Paul is the headteacher of a school. He has employed Mary, a systems analyst, to create a new database system to store records of his students.			
	Here are some of the questions that Paul might want to answer using the new database system:			
	Which class is Steven Jones in? What are the first names of male students in class 11S? How many IGCSEs is Sara Patel taking?			
	No student takes more than 10 IGCSEs.			
	Typical records would be:			
	Peter Ngong, 11S, 10, M Joan Murugo, 11R, 9, F Francis Uhuru, 11S, 9, M Susan Mathu, 11T, 10, F			
	(a) Complete the design table below, filling in the field names and <b>most</b> appropriate validation rule which could be applied to each field.			
	Field name	Validation rule		
	First_name			
		none		
	class			

[7]

(b)	Na	ame and describe <b>three</b> types of test data which are used when testing a system		For Examiner's	
	1			Use	
	2				
	3				
			[3]		
(c)	(c) After the new system has been implemented it will be evaluated.  Tick three activities which Mary will need to carry out as part of the evaluation.				
		✓			
		Interview users about the current system			
		Design the new system			
		Compare the solution with the original task requirements			
		Decide on the method of implementation			
		Identify any limitations of the system			
		Identify any necessary improvements to the system			
			[3]		

16	Students at a school use the internet to research their work.  Discuss the reliability of information found on the internet.	
	[6]	
17	Give <b>four</b> benefits of using social networking sites.	
	1	
	2	
	3	
	4	
	[4]	

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