

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS International General Certificate of Secondary Education

CANDIDATE NAME			
CENTRE NUMBER		CANDIDATE NUMBER	
INFORMATION Paper 1	N AND COMMUNICATION TECH	HNOLOGY	0417/13 May/June 2013
	swer on the Question Paper.		2 hours

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 13 printed pages and 3 blank pages.



В

D

.....

.....

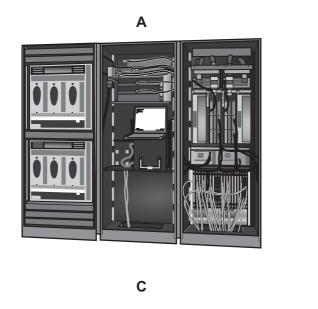
mainframe computer

printer

laptop computer

personal digital assistant

1 Name the devices A, B, C and D using the words from the list.







CRT Monitor	desktop computer
microphone	multimedia projector

- A С
- 2 Ring two items which are used to store data.

buzzer	DVD R	fixed hard disc
joystick	plotter	touch pad

В

D

[2]

[4]

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3 Tick **True** or **False** next to each of these statements.

	True	False
Database software is the best software to use to write letters.		
DTP software is used to create models.		
Palmtop computers are bigger than PCs.		
Graph plotters are used to output car designs.		
A dot matrix printer is used to print magazines.		

[5]

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4 An examination mark is recorded as an integer in a database. The marks are between 0 and 100.

Name and describe **two** validation checks which would be used to check the marks as they are entered.

1		
•••••		
2		
2		
•••••		
	[[4]

5 Tick whether the following statements apply to **RAM** or apply to **ROM**.

	RAM	ROM
This memory can only be read from not written to.		
This memory is not volatile.		
This memory is used to store the data the user is currently working on.		
This memory is used to store the startup instructions of a computer.		

[4]

6	Draw four lines of	on the diagram to	match the use to its	s most appropriate	input device.
---	--------------------	-------------------	----------------------	--------------------	---------------

UseInput deviceTo input details from a bank cardJoystickTo input data from a school registerChip readerTo input details of a product in a supermarketOptical mark readerTo control an object in a computer gameBar code reader

[4]

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7 A student wishes to use a floor turtle to draw this shape which has no two lines the same length:

Name four different instructions which the turtle graphics software could use in order to

draw the shape. For each one explain the meaning of the instruction.

Instruction 1
Meaning
Instruction 2
Meaning
Instruction 3
Meaning
Instruction 4
Meaning
[8]

8	Explain	what is	meant by	OCR	and give	one	example	of its use.
---	---------	---------	----------	-----	----------	-----	---------	-------------

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•••••	 ••••••
	 [3]

- **9** A head teacher has decided that the school magazine will now be included in the school's website.
 - (a) Tick three features of a website which would not be found in a magazine printed on paper.

	✓
Hyperlinks	
Colour	
Large font size	
Photos	
Sound	
Video	

[3]

(b) Give three other reasons why the head teacher thinks it is a good idea to replace the paper version with a website version.

1 _____ 2 _____ 3 _____[3]

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10 Describe what is meant by a blog.

	[4]
11	Car mechanics often use an expert system to help them with their work in diagnosing car engine faults.
	Describe how this system would work.
	[5]

12	Ah	ouse has a microprocessor controlled central heating system.	For
	(a)	Describe the use of the following input devices in such a system.	Examiner's Use
		Keypad	
		Sensor	
		[2]	
	(b)	Describe how the microprocessor would use the data from these devices to control the system.	
		[4]	

13 Davina has asked Boris, a systems analyst, to create a new database system for her zoo. She keeps animals of all types. Here are some of the questions that visitors to the zoo ask:

What is the name of the female lion you have? How heavy is Jumbo the elephant? How much does it cost to adopt a tiger?

(a) Complete the data dictionary below filling in the field names and **most appropriate** data type to create a database which would answer these questions.

Field name	Data type
Name	Text
Species	
Weight (kg)	
	Currency

[5]

For

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(b) Boris will provide two types of documentation when the system is implemented.

Name each type of documentation and for each one give **two** items which would be included.

Name
Item 1
Item 2
Name
Item 1
Item 2
[6]

14 Mobile phones (cellphones) are used for accessing the Internet.

Give **two** advantages and **two** disadvantages of using a mobile phone rather than using a desktop computer to access the Internet.

Advantage 1	
Advantage 2	
Disadvantage 1	
Disadvantage 2	[4]

For Examiner's Use **15** A Sports Science student had to analyse the performance of athletes prior to the 2012 Olympic Games. He created a spreadsheet to do this. Below is his analysis of the javelin event. It is split into two sheets. Sheet 1 contains the Code for each nationality. Sheet 2 contains a list of athletes and the results they achieved in a pre-Olympic event.

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	А	В
1	Code	Country
2	AUS	Australia
3	FRA	France
4	GHA	Ghana
5	RUS	Russia
6	THA	Thailand
7	TUN	Tunisia
8	TUR	Turkey
9	USA	America
10		

Sheet 1

(Commas are used as delimiters in the functions shown below.)

Because athletes sometimes miss a throw or throw outside the area, this is recorded in the spreadsheet as a no throw using the letters NT.

	Α	В	С	D	Е	F	G	н
1	Country	Athlete	Code	Throw	Throw	Throw	Total	Number
2				1	2	3	thrown	of throws
3	=LOOKUP(C3,Sheet1!\$A\$2:\$B\$9)	Chevonne Baines	USA	85.02	73.29	76.9	=SUM(D3:F3)	=COUNTIF(D3:F3,"<>NT")
4	=LOOKUP(C4,Sheet1!\$A\$2:\$B\$9)	Mary Bempe	GHA	NT	66.64	70.61	=SUM(D4:F4)	=COUNTIF(D4:F4,"<>NT")
5	=LOOKUP(C5,Sheet1!\$A\$2:\$B\$9)	Rhiannon Jones	USA	81.22	68.4	71.18	=SUM(D5:F5)	=COUNTIF(D5:F5,"<>NT")
6	=LOOKUP(C6,Sheet1!\$A\$2:\$B\$9)	Abhasra Boonme	THA	83.04	76.43	60.35	=SUM(D6:F6)	=COUNTIF(D6:F6,"<>NT")
7	=LOOKUP(C7,Sheet1!\$A\$2:\$B\$9)	Jean Claude Devandre	FRA	68.04	45.98	62.62	=SUM(D7:F7)	=COUNTIF(D7:F7,"<>NT")
8	=LOOKUP(C8,Sheet1!\$A\$2:\$B\$9)	Brett Lewis	AUS	79.98	68.78	NT	=SUM(D8:F8)	=COUNTIF(D8:F8,"<>NT")
9	=LOOKUP(C9,Sheet1!\$A\$2:\$B\$9)	Vera Stepanov	RUS	70.42	49.88	90.18	=SUM(D9:F9)	=COUNTIF(D9:F9,"<>NT")
10	=LOOKUP(C10,Sheet1!\$A\$2:\$B\$9)	Murat Mehmet	TUR	49.81	67.51	53.66	=SUM(D10:F10)	=COUNTIF(D10:F10,"<>NT")
11	=LOOKUP(C11,Sheet1!\$A\$2:\$B\$9)	Joan Lewington	USA	88.85	NT	69.44	=SUM(D11:F11)	=COUNTIF(D11:F11,"<>NT")
12	=LOOKUP(C12,Sheet1!\$A\$2:\$B\$9)	Youssef Ibrahim	TUN	93.39	63.1	47.14	=SUM(D12:F12)	=COUNTIF(D12:F12,"<>NT")
13	=LOOKUP(C13,Sheet1!\$A\$2:\$B\$9)	Laura Bennett	AUS	55.97	49.45	70.07	=SUM(D13:F13)	=COUNTIF(D13:F13,"<>NT")

Sheet 2

(a) Explain what the function in cell A3 does.

[3]

(b)	What value would you expect to see in cell A6?	For
	[1]	Examiner's Use
(c)	Explain what the function in cell G3 does.	
	[2]	
<i>.</i>		
(d)	Explain what the function in cell H4 does.	
	[3]	
(e)	What value would you expect to see in cell H6?	
	[1]	
(f)	Spreadsheets are often used to produce computer models. There are however, other forms of models such as simulations.	
	Explain, using air pilot training as an example, what is meant by simulation.	
	[3]	

16	Sch	nool networks often contain a router and a proxy server.	For
	(a)	Describe the role of a proxy server in such a network.	Examiner's Use
		[3]	
	(b)	Explain the purpose of a router.	
		[3]	
17	(a)	Explain what is meant by software copyright.	
		[2]	
		L_1	
	(b)	Explain how software manufacturers attempt to prevent copyright being broken.	
		ורט	

18	Robots are now used on many car production lines.	For Examiner's
	Discuss the benefits and drawbacks to the car company of using robots.	Use
	[7]	

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