



UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS  
International General Certificate of Secondary Education

CANDIDATE  
NAME

CENTRE  
NUMBER

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NUMBER

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**INFORMATION AND COMMUNICATION TECHNOLOGY**

**0417/13**

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.

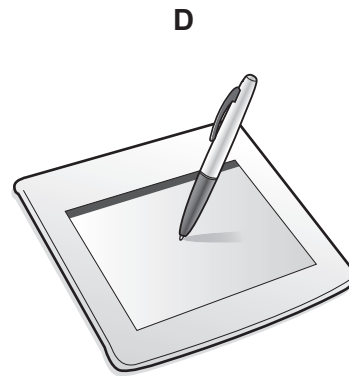
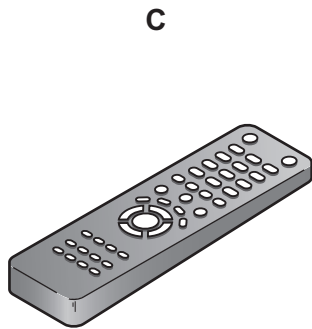
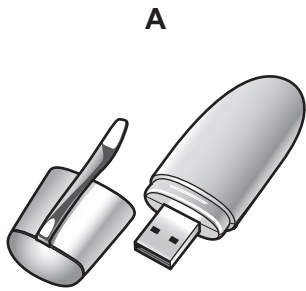
**For Examiner's Use**

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This document consists of **14** printed pages and **2** blank pages.



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



bar code reader

chip reader

graphics tablet

laser printer

magnetic stripe reader

pen drive

remote control

touch pad

A .....

B .....

C .....

D .....

[4]

2 Ring **two** network devices.

CD RW

hard disc

hub

PIN

plotter

switch

[2]

3 Tick whether the following items will appear in **User** or **Technical** documentation.

	User	Technical
frequently asked questions		
program coding		
system flowcharts		
trouble-shooting guide		

[4]

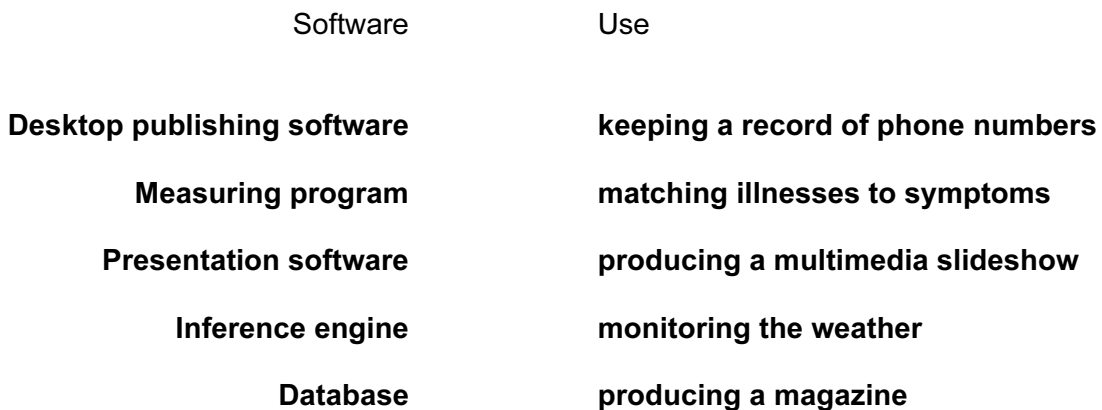
4 Complete each sentence below using **one** item from the list.

- a bar code reader**                      **a CD ROM**                      **an inkjet printer**  
**a keyboard**                              **a knowledge base**                      **a magnetic hard disc**

- (a) The **most suitable** storage medium for storing data on a network server is .....
- (b) Lists of illnesses and their symptoms are stored as .....
- (c) An optical disc which cannot have data updated is .....
- (d) Photos are output using .....

[4]

5 Draw **five** lines on the diagram to match the software to its most **appropriate** use.



[5]

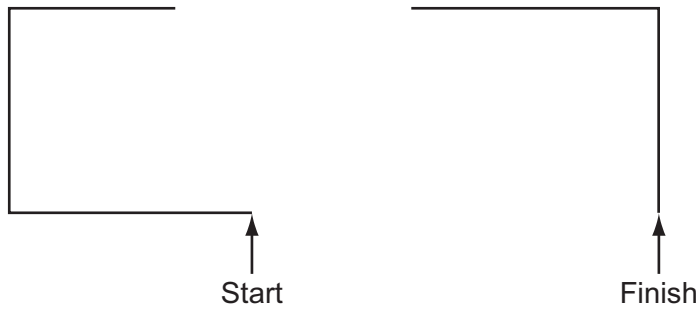
6 Tick whether the following statements apply to a **CLI** (Command Line Interface) or a **GUI** (Graphical User Interface).

	CLI	GUI
Instructions must be typed to get a computer to carry out an action.		
Icons represent programs.		
It is more important that users understand how a computer works.		
Menus are offered to help choose an action.		

[4]

7 A student wishes to use floor turtle to draw this shape:

Name and explain the meaning of **four** instructions that the turtle graphics software would need to contain in order to draw the shape. No two lines are the same length.



Instruction 1 .....

Meaning .....

Instruction 2 .....

Meaning .....

Instruction 3 .....

Meaning .....

Instruction 4 .....

Meaning .....

[8]

8 A greenhouse is controlled by a microprocessor.

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(a) Tick **three** physical variables that would be monitored.

	✓
Humidity	
Temperature	
Pressure	
Wind speed	
Light	
Wind direction	

[3]

(b) Explain the difference between measurement and control.

.....  
.....  
.....  
..... [2]

(c) Give **four** advantages of using a computer rather than allowing the students to control the growing conditions.

1 .....  
.....  
2 .....  
.....  
3 .....  
.....  
4 .....  
..... [4]

9 A sports shop owner uses a spreadsheet to calculate his profits. This is part of the spreadsheet.

	A	B	C	D	E
1	Item	Selling Price	Cost price	Profit per item	Number in stock
2	Kino Trainers	\$45.00	\$40.00	\$5.00	126
3	Goalagame Boots	\$44.00	\$38.00	\$6.00	145
4	Melchester Rovers shirt	\$78.00	\$65.00	\$13.00	104
5	IOM football	\$51.00	\$42.00	\$9.00	56
6	Beckett shinpads	\$40.00	\$32.00	\$8.00	101

(a) Give the cell reference of the cell that contains \$42.00  
 ..... [1]

(b) Give the cell reference of a cell that contains an integer.  
 ..... [1]

(c) How many rows are shown in the spreadsheet?  
 ..... [1]

(d) Write down the formula which should go in cell D2.  
 ..... [1]

(e) When the spreadsheet was created a similar formula to D2 had to go in cells D3 to D6. Describe how to enter these formulae without typing them.  
 .....  
 .....  
 .....  
 ..... [2]

- (f) This spreadsheet is an example of a financial model.  
Give **two** examples of computer models, other than financial models.

1 .....

.....

2 .....

..... [2]

- (g) Tick **three** reasons why computer models are used.

	✓
The real thing may need too large a timescale.	
Computer models waste a lot of raw materials.	
The real thing is quicker to build.	
If a computer model fails it does not need rebuilding.	
Once a computer model is built it does not cost a lot to run.	
A model does not cost anything to make.	

[3]

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10 Aftab owns a company which has a small network of computers.

(a) Give **two** advantages of having computers networked.

1 .....

.....

2 .....

..... [2]

He wants to connect the computers to the internet.

(b) Name the device he would need to be able to do this.

..... [1]

(c) Give **two** benefits and **two** drawbacks of connecting to the internet.

Benefit 1 .....

.....

Benefit 2 .....

.....

Drawback 1 .....

.....

Drawback 2 .....

..... [4]



11 Many banks offer internet banking. To access this online service customers have to log on to the system.

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(a) Explain why authentication techniques are necessary.

.....  
.....  
.....  
.....  
.....  
..... [3]

(b) Customer data is encrypted. Explain what encryption is and why it is used.

.....  
.....  
.....  
.....  
.....  
..... [3]

12 The growth of the internet has led to many new developments.

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Explain what the following terms mean.

Spyware .....

.....

.....

.....

Spam .....

.....

.....

.....

Social networking site .....

.....

.....

..... [6]

13 Anya has employed Raymond, a systems analyst, to create a new database system for sports day at her school. Here are some of the questions teachers and students might ask about the results of the athletics competition:

- What position did Peter Njoka come in the 100 metres?
- Who won the 1500 metres?
- The winner of the 800 metres was wearing which Race ID?

Each athlete wore a Race ID consisting of one letter followed by three digits. The longest race is the 1500 metres.

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

Field name	Data type
Race_ID	

[7]

(b) Name and describe the most appropriate validation check which would be carried out on the Race\_ID field.

Name .....

Description .....

..... [2]

(c) Anya wants to have a system which will make it easy to enter data.  
Describe **five** features of a well designed input screen.

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1 .....

.....

2 .....

.....

3 .....

.....

4 .....

.....

5 .....

..... [5]

**14** Sarbjit has a desktop computer at home which he uses for internet banking.

**(a)** Identify **two** other computer systems he could use to do internet banking when away from home.

1 .....

.....

2 .....

..... [2]

**(b)** Discuss the advantages and disadvantages to banks of using internet banking.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

..... [6]

15 Give **four** advantages to bank customers of using ATMs rather than going to the bank to withdraw cash.

- 1 .....
- 2 .....
- 3 .....
- 4 ..... [4]

16 Some mobile telephones (cell phones) can be used to make video calls. Describe **four** advantages of making video calls rather than sending messages by email.

- 1 .....
- 2 .....
- 3 .....
- 4 ..... [4]



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