



UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS  
International General Certificate of Secondary Education

CANDIDATE  
NAME

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NUMBER

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**INFORMATION AND COMMUNICATION TECHNOLOGY**

**0417/13**

Paper 1

**May/June 2013**

**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.

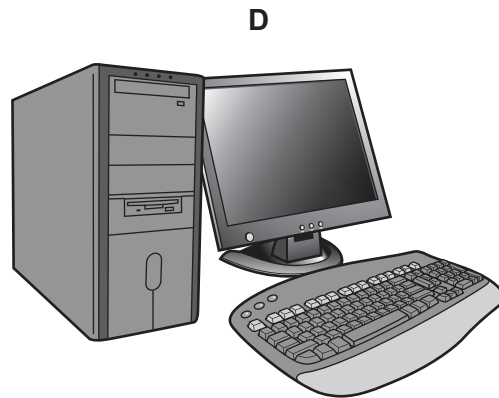
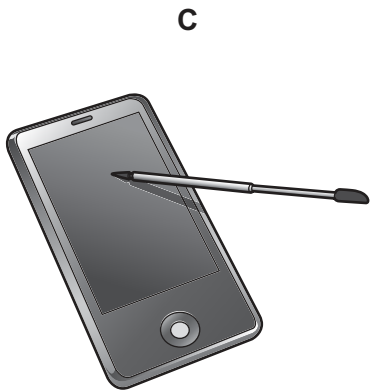
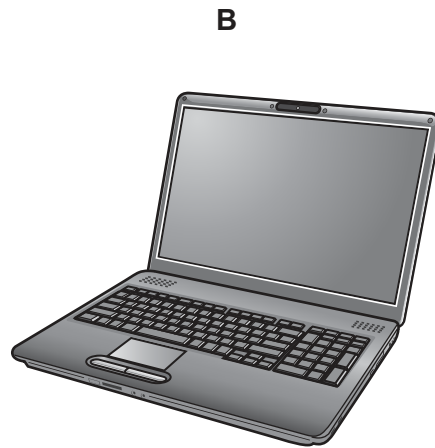
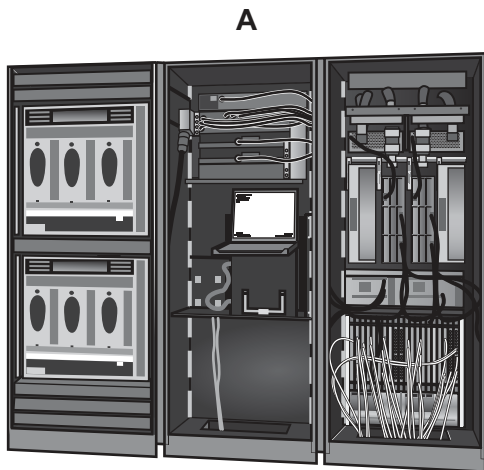
**For Examiner's Use**

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This document consists of **13** printed pages and **3** blank pages.



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



- |                    |                             |                                   |                           |
|--------------------|-----------------------------|-----------------------------------|---------------------------|
| <b>CRT Monitor</b> | <b>desktop computer</b>     | <b>laptop computer</b>            | <b>mainframe computer</b> |
| <b>microphone</b>  | <b>multimedia projector</b> | <b>personal digital assistant</b> | <b>printer</b>            |

A .....

B .....

C .....

D .....

[4]

2 Ring **two** items which are used to store data.

- |                 |                |                        |
|-----------------|----------------|------------------------|
| <b>buzzer</b>   | <b>DVD R</b>   | <b>fixed hard disc</b> |
| <b>joystick</b> | <b>plotter</b> | <b>touch pad</b>       |

[2]

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]

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 .....

.....

.....

..... [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 on the diagram to match the use to its **most appropriate** input device.

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Use	Input device
<b>To input details from a bank card</b>	<b>Joystick</b>
<b>To input data from a school register</b>	<b>Chip reader</b>
<b>To input details of a product in a supermarket</b>	<b>Optical mark reader</b>
<b>To control an object in a computer game</b>	<b>Bar code reader</b>

[4]

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.

.....

.....

.....

.....

.....

..... [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]

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 A house has a microprocessor controlled central heating system.

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Use

(a) Describe the use of the following input devices in such a system.

Keypad .....

.....

Sensor .....

..... [2]

(b) Describe how the microprocessor would use the data from these devices to control the system.

.....

.....

.....

.....

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.....

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..... [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]

- (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.

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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]



(b) What value would you expect to see in cell A6?

..... [1]

(c) Explain what the function in cell G3 does.

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

(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 School networks often contain a router and a proxy server.

(a) Describe the role of a proxy server in such a network.

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

(b) Explain the purpose of a router.

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

17 (a) Explain what is meant by software copyright.

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

(b) Explain how software manufacturers attempt to prevent copyright being broken.

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







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