UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

CANDIDATE NAME

CENTRE NUMBER

CANDIDATE NUMBER

INFORMATION AND COMMUNICATION TECHNOLOGY

0417/13

Paper 1

October/November 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

This document consists of **12** printed pages.

UNIVERSITY *of* CAMBRIDGE
International Examinations

[Turn over

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

| **A** | **B** | **C** | **D** |

bar code reader **dot matrix printer** **joystick** **laser printer**
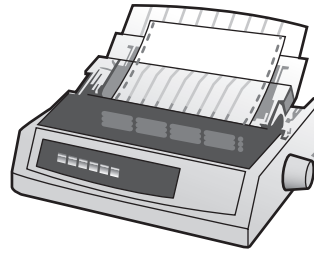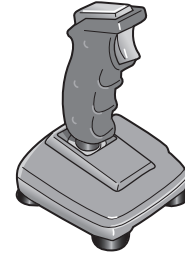
microphone **scanner** **speakers** **trackerball**

A .... B ....

C .... D ....

[4]

2 Ring **two** network devices.

hub **CD ROM** **graph plotter**

magnetic disc **router** **trackerball**

[2]

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

	True	**False**
A network card is an example of hardware.		
A light sensor is an example of software.		
Icons are part of a Graphical User Interface.		
A magnetic tape has a greater storage capacity than a CD.		
Laser printers are quieter than a dot matrix printer.		

[5]

4   Draw **five** lines on the diagram to match the input device to its **most appropriate** use.

Input Device   Use

Remote control   **to input data at a POS**

Electronic scales   **playing a video game**

Joystick   **inputting text so it can be processed by a software package**

Optical Character Reader   **an input device in a burglar alarm system**

Sound sensor   **to operate a multimedia projector**

[5]

5   Tick **True** or **False** for the following statements.

	True	False
A magnetic tape has faster data access than a DVD ROM.		
A CD is used to store a two hour high definition movie.		
A magnetic disc is used for online processing.		
Pen drives are used to copy data from one computer to another.		

[4]

4

6   A floor turtle can use the following instructions:

INSTRUCTION	MEANING
FORWARD n	Move n mm forward
BACKWARD n	Move n mm 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 n times
END REPEAT	Finish the REPEAT loop

```
        50          30          70
                              Finish      NOT TO
  50                                      SCALE

        50
      Start
```
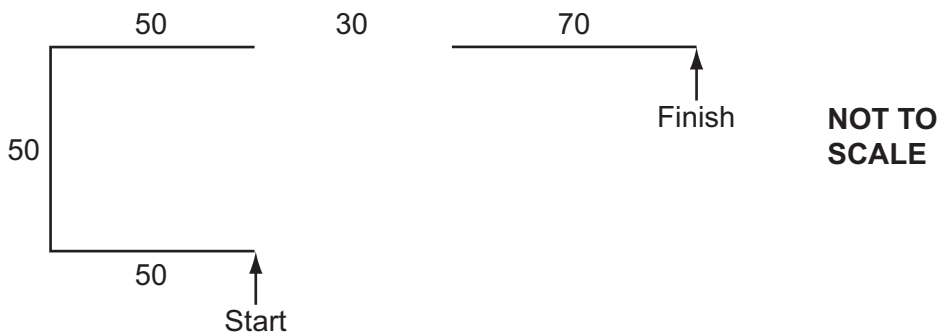
Complete the set of instructions to draw this shape by filling in the blank lines. Do **not** use additional lines.

PENDOWN   ....

LEFT   90   ....

FORWARD   50   ....

REPEAT   ....

....

....

[8]

7 Multi-national companies often use video conferencing instead of face-to-face meetings.

(a) Tick **three** advantages of video conferencing.

	✓
Companies do not have to buy any equipment	
Companies can arrange the meeting for any time of day	✓
It is safer as employees do not have to travel	
Companies do not have to pay hotel expenses	
Employees don't have to carry so many documents with them	
Employees are paid less	

[3]

(b) Tick **three** disadvantages of video conferencing.

	✓
Video conferences can only last a short time	
Employees are unable to see who they are talking to	
It is difficult to call international meetings because of time differences	
There is sometimes a time lag between video and sound	
It is difficult to share documents	
Legal documents may need to be signed	

[3]

8 There are many health risks associated with the use of computers.

Tick **three** of these risks.

	✓
Electrocution from touching bare wires	
Fire from overheating of equipment	
Fire from overloading of sockets	
Neck pain due to bad positioning of the screen	
RSI due to continuous typing	
Sight problems from staring at the screen continuously	

[3]

9 **(a)** Describe what is meant by hacking, including ways that a hacker can misuse data held on a computer.

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.... [4]

(b) Describe **two** methods which would help prevent hackers accessing a computer network.

1 ....

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2 ....

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.... [4]

10 Many people now use internet shopping sites.

(a) Apart from not having to travel, give **three** benefits to the customer of internet shopping.

1 ....

....

2 ....

....

3 ....

.... [3]

(b) Apart from data security give **three** drawbacks to the customer of internet shopping.

1 ....

....

2 ....

....

3 ....

.... [3]

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11 Explain why information found on websites is not always reliable and describe how the reliability of the information can be evaluated.

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.... [5]

12 Chad has developed a new computer system. He now needs to implement it. He has decided against using phased implementation.

Name and describe **three** other methods which could be used to implement a new system.

1 ....

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2 ....

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3 ....

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.... [6]

13 Computers are used in supermarkets at checkouts.

 (a) Identify **three** output devices which could be used when an item is purchased.

 1 ....

 ....

 2 ....

 ....

 3 ....

 .... [3]

When paying for goods the customer uses a bank card.

 (b) Identify the input device which will be used to directly input data from the card.

 .... [1]

 (c) Describe the processing which takes place during an electronic funds transfer. Include reasons why the card might be rejected.

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 .... [7]

14 Describe what phishing is and explain its purpose.

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.... [4]

15 Paul owns a shop. He has employed Jean, a systems analyst, to write software for a new database system to store data about the CDs he sells. Jean wrote down three of the questions that customers might ask which Paul might need to find the answers to quickly:

Have you got the CD recorded by the artist 'Bett Lyryx' in 2008?
How much does the CD called 'Let It Be' cost?
How many tracks are on the CD?

(a) Complete the data dictionary table below giving the field names which would be used in the database and identify the data types needed to answer these questions.

Field name	Data type
Artist_name	text
	text

[7]

(b) No CD lasts for longer than 90 minutes or is shorter than 20 minutes. Paul wants to add a field to the database to include this data. He will use test data on this field.

Name **three** types of test data, giving an example of the data which would be used.

Type 1 ....

Example 1 ....

Type 2 ....

Example 2 ....

Type 3 ....

Example 3 .... [6]

(c) When the system is implemented, documentation will be provided.

Tick **four** items that would be included in the technical documentation but not in the user documentation.

	✓
purpose of the system	
limitations of the system	
program coding	
system flowcharts	
hardware and software requirements	
file structures	
list of variables	
frequently asked questions	

[4]

   [Turn over

16 Libraries make use of both batch processing and online processing.

Describe the differences between these types of processing giving examples of situations where each would be used in a library.

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.... [6]