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UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

CANDIDATE NAME

CENTRE NUMBER

CANDIDATE NUMBER

0458775703

INFORMATION AND COMMUNICATION TECHNOLOGY **0417/12**

Paper 1 **October/November 2010**

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.

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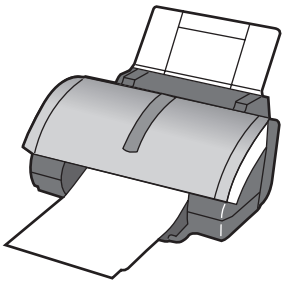
1 Name the output devices **A**, **B**, **C** and **D** using the words from the list.

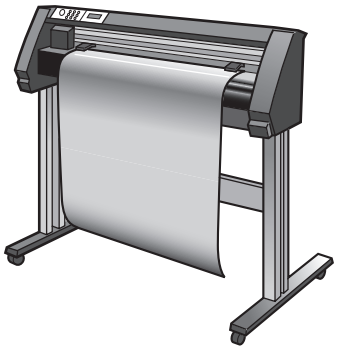
A

B

C



D



CRT monitor	**Dot matrix printer**	**Graph plotter**	**Inkjet printer**
Joystick	**Multimedia projector**	**TFT monitor**	**Trackerball**

A ..... B .....

C ..... D .....

[4]

2 Ring **two** items which are storage media.

Blu-ray disc	**CD ROM**	**MICR**
Motor	**Sensor**	**Trackerball**

[2]

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3 Tick **TRUE** or **FALSE** next to each of these statements.

	TRUE	FALSE
Control software is used to access the internet		
A Graphical User Interface has windows, icons, menus and pointers		
Laptop computers are popular because they are portable		
Word processing software is used to monitor physical variables		
Presentation software is used to create slide shows		

[5]

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

A bar code reader **A dot matrix printer** **A graphic tablet**

An inkjet printer **A joystick** **A motor**

OCR **A sensor** **A trackerball**

A web camera

(a) ..... is used to convert an image into text for use in a word processor.

(b) ..... is used to input moving pictures into a computer.

(c) ..... is used to output photographs.

(d) ..... is an output device used in robotics.

(e) ..... is used to read the ISBN from a book.

[5]

5 A school librarian is preparing a slideshow to explain to students how the library works. Tick **three** items she could use to prepare and show the slides.

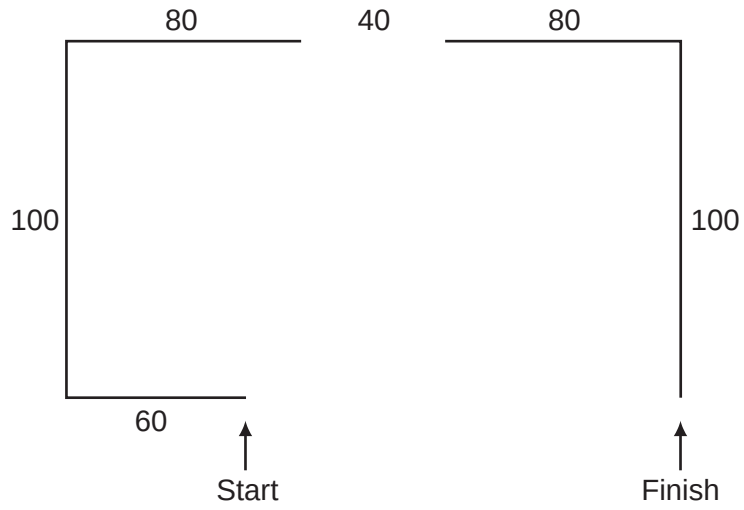
	✓
A multimedia projector	
A dot matrix printer	
Measuring software	
A chip reader	
A remote control	
Presentation software	

[3]

For Examiner's Use

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



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

PEN DOWN ....

LEFT 90 ....

FORWARD 60 ....

....

.....

[5]

For Examiner's Use

7 A school has a relational database consisting of a number of tables. One table contains each student's personal details and others consist of class lists for each subject. Every student has a unique identifying number. Tick whether the following statements are **TRUE** or **FALSE**.

	TRUE	FALSE
The identifying number is the foreign key in a class list table		
The student's surname would be the primary key		
In order to have relational tables there must be a primary key		
The school's database is an example of a flat file		

[4]

8 Tick **TRUE** or **FALSE** next to each statement to indicate whether or not it is an example of real time processing.

	TRUE	FALSE
Payroll processing		
Microprocessor controlled central heating		
The use of robots in manufacture		
Printing monthly utility bills		

[4]

9 The manager of a supermarket uses a database to store data about the food he sells. This is part of the database.

Food type	Number in stock	Re-order (Y/N)	Last order received
Potato flakes	123	N	23/10/10
Chocolate bar	158	N	25/10/10
Beefburgers	135	N	24/10/10
Gravy	89	Y	17/10/10

Write down the name of the field which is best suited to the data type given.

Boolean .....

Date .....

Alphanumeric .....

Numeric .....

[4]

For Examiner's Use

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

Participants already have a PC with keyboard and mouse.

(a) Tick **four** items essential to a video conference.

	✓
Web cam	
Dot matrix printer	
Magnetic tape drive	
Modem/Router	
A trackerball	
Codec	
Broadband	
A telephone	

[4]

(b) List **two** other items of hardware essential to a video conference.

1 .....

2 ..... [2]

11 Most PCs come with a hard disc drive. Give a reason why each of the following are also used with PCs.

Magnetic tape .....

.....

CD R .....

.....

DVD ROM .....

..... [3]

For Examiner's Use

12 **(a)** Doctors use expert systems to diagnose illnesses. There are a number of inputs and outputs used with such a system. List **four** examples of these.

1 .....

2 .....

3 .....

4 ..... [4]

(b) Name one other use of expert systems.

..... [1]

13 Draw **four** lines on the diagram to match the use to its most **appropriate** input device.

Use	Input device
to input data at an information kiosk	**Graphics tablet**
to input data from a product in a supermarket	**Touch screen**
to input a PIN	**Bar code reader**
to input freehand drawings	**Numeric keypad**

[4]

For Examiner's Use

14 A small office consists of three rooms each of which has a PC with devices connected to it using cables. The office manager thinks the cables are a safety hazard and wants to remove them.

(a) Name **three** devices which could be connected to a PC using Bluetooth.

1 .....

2 .....

3 ..... [3]

(b) The manager wants to connect the PCs to form a WLAN. Give **two** disadvantages of this compared to using cabling.

1 .....

.....

2 .....

..... [2]

(c) The company's workers are concerned that their data may not be secure. Name and describe **three** methods, other than authentication techniques, which would help to keep the data more secure.

1 .....

.....

.....

.....

2 .....

.....

.....

.....

3 .....

.....

.....

..... [6]

For Examiner's Use

15 **(a)** Describe **two** ways of reducing the risk of RSI.

1 .....

.....

2 .....

..... [2]

(b) There are sometimes safety risks associated with the use of computers. Describe **two** ways these risks can be minimised.

1 .....

.....

2 .....

..... [2]

16 Aysha wants to collect details of new customers for entry into a database. She has asked her friend Ali to design a paper-based data capture form for customers to complete.

Describe **four** features of the layout of the form that Ali will need to consider to make it easy for the customer to use.

1 .....

.....

2 .....

.....

3 .....

.....

4 .....

..... [4]

For Examiner's Use

17 A school library is developing a new database of books. After the new system is developed, it will be tested.

(a) Name **three** items of the system which would need to be tested.

1 .....

2 .....

3 ..... [3]

(b) The school librarian is asking students to rate books which they have read and wishes to include these ratings in the database of books. Each rating will be between 0 and 10.

Below are three different types of test data. For each one name the type of test data it represents and explain why it is that type of data.

(i) 8 .....

.....

.....

..... [2]

(ii) 10 .....

.....

.....

..... [2]

(iii) 13 .....

.....

.....

..... [2]

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18 When a new system is implemented, different types of documentation are provided.

(a) Identify **two** items which would be found in both technical documentation **and** in user documentation.

.....

.....

.....

..... [2]

(b) Identify **two** items which would be found in user documentation but would **not** be found in technical documentation.

.....

.....

.....

..... [2]

19 **(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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[Turn over

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20 A car manufacturer has laser printers, graph plotters and dot matrix printers. Explain why each of these is used.

.....

.....

.....

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.....

.....

.....

.....

.....

.....

..... [6]

21 VOIP is an example of an internet telephony service. Describe **four** advantages of using VOIP rather than sending messages using email.

1 .....

.....

2 .....

.....

3 .....

.....

4 .....

..... [4]

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