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 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.

UNIVERSITY *of* **CAMBRIDGE**
International Examinations

[Turn over

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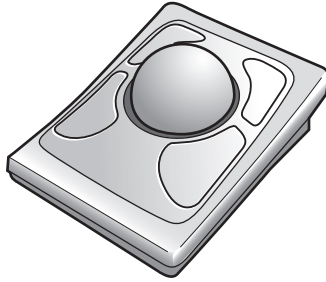
A   **B**

C   **D**
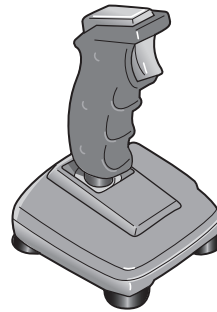
Chip reader   **Digital camera**   **Joystick**   **Light pen**

Microphone   **Remote control**   **Scanner**   **Trackerball**

A ....   B ....

C ....   D ....

[4]

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

Flash memory card   **Graph plotter**   **Magnetic disc**

OCR   **OMR**   **Touch pad**

[2]

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

	TRUE	FALSE
An internet browser is used to look at pages on the world wide web.		
Desktop computers don't have hard disk drives.		
DTP software can be used to produce magazines.		
Measurement software is used for environmental monitoring.		
Sensors are output devices.		

[5]

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

A bar code reader　　　　**A dot matrix printer**　　　　**A graph plotter**

A graphics tablet　　　　**A microphone**　　　　**A multimedia projector**

A pressure sensor　　　　**A speaker**　　　　**A touch pad**

A web cam

(a) .... is used in CAD applications to produce very large printouts.

(b) .... is used to display data from a computer onto a very large screen.

(c) .... sends data to a microprocessor in a washing machine.

(d) .... is used to control the pointer on a laptop screen.

(e) .... is used to input sounds for use in presentation software.

[5]

5   A school teacher keeps records of her students' test scores on a computer. At the end of each term she prints out letters to parents showing these results. She also uses the computer to predict the students' future test scores. Tick **three** items of software which she could use.

	✓
Word processing software	
Measuring software	
Control software	
Spreadsheet software	
Animation software	
Database software	

[3]

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

72°   50 mm   Start
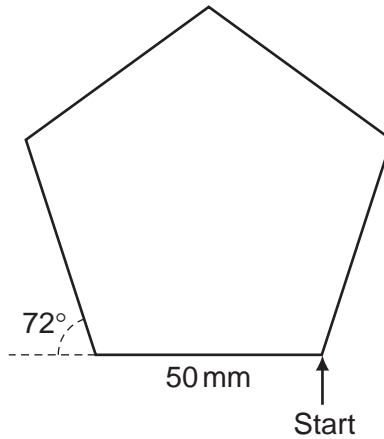
Complete the set of instructions to draw this shape by filling in the blank lines.

PEN DOWN

.... 90

REPEAT   ....

FORWARD   ....

.... 72

....

[5]

7   Give **three** features of a relational database that are not found in a flat file database.

1   ....

....

2   ....

....

3   ....

.... [3]

8   Tick **TRUE** or **FALSE** next to each statement.

	TRUE	FALSE
Online processing requires a transaction file to be created.		
Batch processing results in immediate updating of records.		
Real time processing requires immediate response from a computer.		
Online processing is needed for operating ATMs.		

[4]

9   The manager of a bookshop uses a database to store data about the books she sells. This is part of the database.

Title of book	Fiction	Number in stock	Next order due
Full Circle	N	15	20/11/10
Sanditon	Y	15	18/11/10
Vanity Fair	Y	20	16/12/10
The Old Curiosity Shop	Y	10	23/11/10

Using the data above **only**, write down one item of data for each data type below.

(a) Boolean   ....

(b) Alphanumeric   ....

(c) Date   ....

(d) Numeric   ....

[4]

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

Tick whether the following statements are **TRUE** or **FALSE**.

	TRUE	FALSE
A large hall has to be hired for video conferences to take place.		
Documents can be shared amongst participants in a video conference.		
A microphone or headset is an essential item of equipment in video conferencing.		
A codec is needed to convert data for transmission during a video conference.		

[4]

11 Explain why the following are used with PCs.

Pen drives ....

....

Blu-ray ....

....

Fixed hard disc drives ....

.... [3]

12 An oil company is investigating whether they are likely to find oil at a certain site. They will use an expert system to help them. There are a number of inputs and outputs used with such a system. List **four** examples of these.

1 ....

2 ....

3 ....

4 .... [4]

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

Use   Output device

to produce high quality hard copy   dot matrix printer

to print on multipart forms   motor

to move objects in a computer controlled system   speakers

to output voiceovers   laser printer

[4]

14 A small office has four standalone computers. The office manager wants to connect the computers together to form a LAN.

(a) Name a network device which would have to be present in each computer before they could be networked.

.... [1]

(b) Give **two** reasons why a WLAN would be preferable to a cabled LAN.

1 ....

....

2 ....

.... [2]

(c) Give **two** reasons why the manager should **not** use Bluetooth technology to create the network.

1 ....

....

2 ....

.... [2]

(d) The company's workers are concerned that their payroll data may not be secure as a result of the computers being networked. Explain why the workers are concerned.

....

....

....

....

....

....

....

....

....

....

.... [6]

(e) Give **three** actions that the office manager could take to ensure data security.

1 ....

....

2 ....

....

3 ....

.... [3]

15 Describe **two** health issues, other than RSI, caused by the prolonged use of computers. For each health issue give a method of prevention.

Health issue 1 ....

....

Method of prevention ....

....

Health issue 2 ....

....

Method of prevention ....

.... [4]

16 Aysha wants to enter customer details into her company's database.

(a) In the box below, design a user friendly input screen which has appropriate spacing for each field as well as navigation aids. The fields to be included are:

Name

Address

Date of Birth

Customer Id

Gender

[5]

       [Turn over

After the new system is designed and before it is implemented, Aysha wants to test it with live data.

(b) Describe what is meant by live data and how it is used to test a system.

....

....

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....

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....

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.... [4]

17 Identify **three** methods which could be used to implement a new system.

1 ....

....

2 ....

....

3 ....

.... [3]

18 When a new system is implemented, documentation is provided with it. Identify **four** items which would be found in technical documentation but **not** in user documentation.

....

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....

....

.... [4]

19 A geography teacher wants to use a computer to monitor the weather conditions using the school weather station.

(a) Name **three** sensors in the weather station.

1 ....

2 ....

3 .... [3]

(b) Explain why computers are unable to read the data directly from these sensors.

....

....

....

.... [2]

(c) What device is needed to enable the computer to read the data?

.... [1]

20 A payroll office, which prints out large numbers of payslips every month, has decided to install a new printer. Discuss the advantages and disadvantages of using a laser printer, an inkjet printer or a dot matrix printer in this office.

....

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....

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....

....

.... [6]

21 Describe **four** advantages to businesses of using email to send messages to other businesses rather than using fax machines.

1 ....

....

2 ....

....

3 ....

....

4 ....

.... [4]