UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

CANDIDATE NAME				
CENTRE NUMBER			CANDIDATE NUMBER	

1636276360

INFORMATION AND COMMUNICATION TECHNOLOGY **0417/12**

Paper 1 **May/June 2011**

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.

IB11 06_0417_12/5RP
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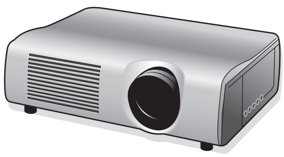
International Examinations

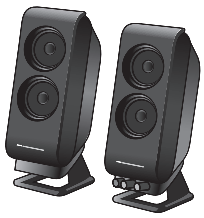
[Turn over

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

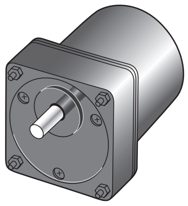
A



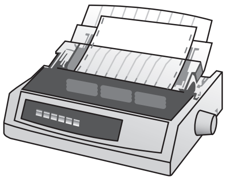
B



C



D



CRT monitor	**Dot matrix printer**	**Inkjet printer**	**Motor**
Multimedia projector	**Plotter**	**Speakers**	**Trackerball**

A .... B ....

C .... D ....

[4]

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

Buzzer	**DVD RAM**	**Keyboard**
Mouse	**Memory stick**	**Sensor**

[2]

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

	TRUE	FALSE
Measuring software is used to write letters		
DTP software is used to create magazines		
PDAs cannot be used unless plugged in to an electricity socket		
Database software is used to create slide shows		
A working knowledge of HTML is helpful when creating web pages		

[5]

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

A bar code reader

A buzzer

A dot matrix print

A graph plotter

A graphics tablet

An inkjet printer

A pressure sensor

OCR

A trackerball

A webcam

(a) .... is used to input a hand drawn image to the computer.

(b) .... is used to input data to a microprocessor controlled weighing scale.

(c) .... is an input device used by people with limited motor skills.

(d) .... is an output device used to produce large hard copies of car designs.

(e) .... is an output device used in microwave ovens.

[5]

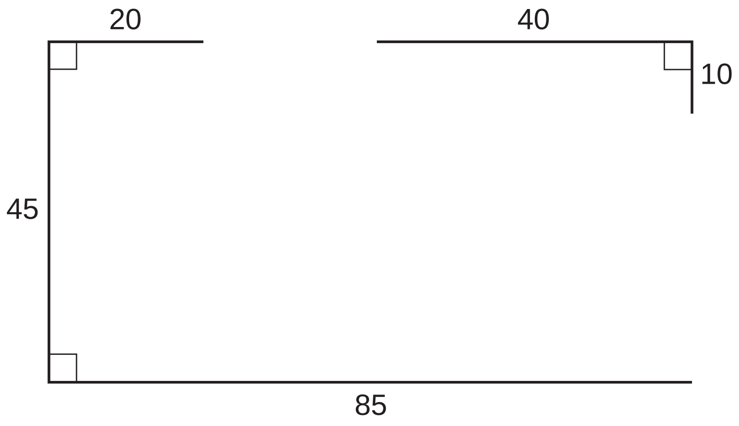
5 Tick **three** appropriate features of spreadsheet software which make it suitable for creating and using computer models.

	✓
What ifs	
Queries	
Automatic recalculation	
Internet browsing	
Animation	
Data and formulae replication	

[3]

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

Name and explain the meaning of **three** instructions that the turtle graphics software wou
need to contain in order to draw the shape.



Instruction 1 ....

Meaning ....

....

Instruction 2 ....

Meaning ....

....

Instruction 3 ....

Meaning ....

.... [6]

7 The Regionalisa Bank sends messages to its customers. Sometimes the messages are sent by fax and sometimes by email. Tick whether the following statements are **TRUE** or **FALSE**.

	TRUE	FALSE
A faxed message is more private		
An emailed message arrives with the customer more quickly		
A faxed document can be used for legal purposes		
An email attachment can be edited electronically		

[4]

8 Describe what real time processing is, using a microprocessor-controlled central system as an example.

.... [4]

9 Car mechanics use expert systems to diagnose car faults.

(a) Describe how an expert system diagnoses these faults.

.... [4]

(b) Give **two** other uses of expert systems.

(i) ....

(ii) .... [2]

10 The manager of a supermarket uses a database to store data about the food he sel
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

For each of the following fields describe an appropriate validation check. You must describe three different validation checks.

(a) Number in stock ....

....

....

(b) Re-order (Y/N) ....

....

....

(c) Last order received ....

....

.... [6]

11 Draw **four** lines on the diagram to match the use to its most **appropriate** input method.

Use	Input method
To input text from a printed document	**Bar code reader**
To input data from a bank cheque	**Chip reader**
To input data from a bank card	**MICR**
To input data about a product at a POS	**OCR**

[4]

12 The manager of a company wants to improve the security of the computer netwo has decided to use authentication techniques so that employees can identify themselve the system.
Name **three** authentication techniques and describe how each technique would help keep the data more secure.

Technique 1 ....

....

....

....

Technique 2 ....

....

....

....

Technique 3 ....

....

....

.... [6]

13 The prolonged use of computers can lead to health and safety problems.

(a) List **two** health problems that may be caused by the prolonged use of computers.

1 ....

....

2 ....

.... [2]

(b) List **two** safety problems that may be caused by the use of computers.

1 ....

....

2 ....

.... [2]

14 A group of international schools wish to hold a video conference instead of a face meeting.

Discuss the advantages and disadvantages to a school of using video conferences.

Advantage 1 ....

....

Advantage 2 ....

....

Advantage 3 ....

....

Disadvantage 1 ....

....

Disadvantage 2 ....

....

Disadvantage 3 ....

.... [6]

15 Joseph wants to type in details of new customers into a database. He needs to design an on-screen input form.

Describe **four** navigation aids that would be part of a well designed on-screen input form.

1 ....

.... [1]

2 ....

.... [1]

3 ....

.... [1]

4 ....

.... [1]

16 A company is developing a new computer system. After the new system is developed be implemented.

(a) Name **two** methods of implementation. Give **one** advantage and **one** disadvantage of each.

Method 1 ....

Advantage ....

....

Disadvantage ....

....

Method 2 ....

Advantage ....

....

Disadvantage ....

.... [6]

(b) After the system is implemented it will be evaluated. Identify **three** activities which would need to be carried out in evaluating the system.

1 ....

....

2 ....

....

3 ....

.... [3]

17 There are many microprocessor-controlled devices in the modern home. Descr
effects of these devices on people’s lifestyles.

....

....

....

....

....

....

....

.... [4]

18 A computer-controlled greenhouse is used by a school in a country with a cold climat

(a) Tick **three** sensors which would have to be used in the greenhouse.

	✓
Pressure sensor	
Movement sensor	
Light sensor	
Temperature sensor	
Moisture sensor	
Infra red sensor	

[3]

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

....

....

....

.... [2]

(c) Describe how the microprocessor uses data from the sensors to control the greenhouse.

....

....

....

....

....

....

....

....

....

.... [5]

For
iner's

19 A number of people use methods to defraud online bank customers. Name and de
two of these methods.

1 ....

....

....

....

2 ....

....

....

.... [4]

20 Mobile telephones are used for accessing the internet. Give **two** advantages and **two** disadvantages of using a mobile telephone rather than using a PC to access the internet.

Advantage 1 ....

....

Advantage 2 ....

....

Disadvantage 1 ....

....

Disadvantage 2 ....

.... [4]

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