



UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

CANDIDATE
NAME

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CENTRE
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INFORMATION AND COMMUNICATION TECHNOLOGY

0417/11

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

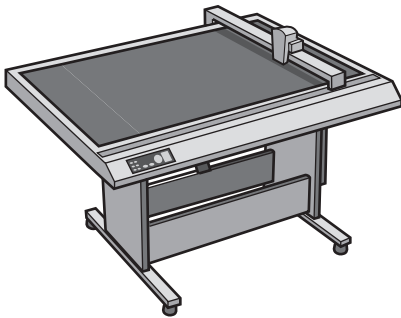
A



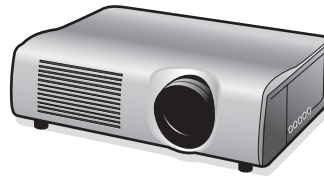
B



C



D



CRT monitor

digital camera

graph plotter

laser printer

multimedia projector

scanner

TFT monitor

web cam

A

B

C

D

[4]

2 Ring **two** items which are input devices.

DVD RAM

laser printer

magnetic disc

number pad

speakers

trackerball

[2]

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

	True	False
Presentation software is used to create slide shows.		
All laptop computers have touch screens.		
Spreadsheet software can be used to produce databases.		
An Internet browser is used by web designers to test web pages.		
Motors are input devices.		

[5]

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

DTP software

Double data entry

A graphics tablet

A laser printer

A microphone

A multimedia projector

A length check

A speaker

A temperature sensor

A magnetic tape

- (a) is a form of verification.
- (b) is used to input data in a computer-controlled greenhouse.
- (c) is used to create magazines.
- (d) is a validation rule.
- (e) is used to input freehand drawings to a computer.

[5]

- 5 Hospitals often use computers to continuously monitor patients. The pulse rate of the patient is one measurement that would be monitored.

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List **three** other measurements that would be monitored.

- 1
- 2
- 3 [3]

- 6 Draw **four** lines to match each storage medium to the **most appropriate** use in this list.

Storage medium

Use

Fixed hard disc

To transfer files from one computer to another

DVD ROM

Batch processing applications

Pen drive

To store operating systems

Magnetic tape

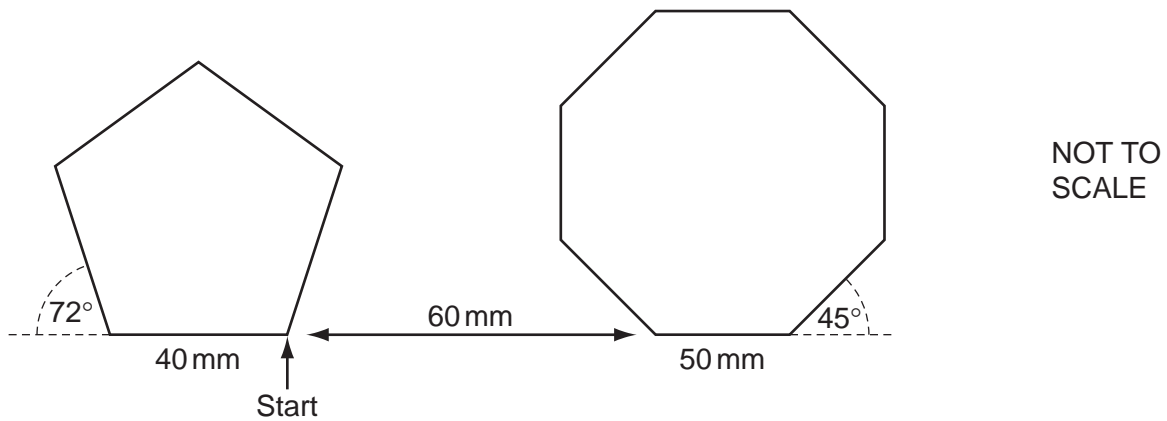
Publishers distributing encyclopaedias

[4]

7 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

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

PENDOWN

BACKWARD

.....

LEFT 90

PENDOWN

REPEAT

..... 8

..... 40

FORWARD

RIGHT

..... 45

.....

END REPEAT

PENUP

[8]

- 8 A customer uses a bank card to purchase a product at a supermarket checkout. The checkout operator uses a number of devices to input data about the customer and the product.

Identify **four** of these input devices and for each one describe a different item of data that will be input.

Device 1

Data

Device 2

Data

Device 3

Data

Device 4

Data

[8]

- 9 Tick **True** or **False** next to each statement.

	True	False
Using a password always prevents unauthorised access to data.		
A strong password is one that is difficult for a hacker to guess.		
Giving your password to a friend is a good idea in case you forget it.		
If you forget your user ID you can still gain access to data using your password.		

[4]

- 10 (a) Describe batch processing of data, using the processing of bank cheques as an example.

.....

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.....

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..... [4]

- (b) Explain why the booking of airline tickets using batch processing would **not** be a good idea.

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..... [3]

- 11 Robots are now used on many car production lines.

Tick **four** ways that their use has affected workers in the car industry.

	✓
More technical staff have been employed	
Car workers can have more breaks	
Car workers have to lift all the heavy parts	
Car workers get paid less	
Car workers have been made unemployed	
Car workers have had to be retrained	
Work areas are dirtier	
There are fewer manual tasks to do	

[4]

- 12 A Sports Science student had to analyse the performance of athletes after the 2012 Olympic Games. He created a spreadsheet to do this. Below is his analysis of the shot put event. It is split into two sheets. Sheet 1 contains the Code for each nationality. Sheet 2 contains a list of athletes and the results they achieved in events since the Olympics. In Sheet 2 he included the distance achieved by the 2012 Olympic gold medal winners.

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	A	B
1	Code	Country
2	AUS	Australia
3	BRA	Brazil
4	CHN	China
5	EGY	Egypt
6	GBR	Great Britain
7	GER	Germany
8	IND	India
9	NZL	New Zealand
10	RSA	South Africa
11	RUS	Russia
12	USA	America

Sheet 1

(Commas are used as delimiters in the functions shown below.)

	A	B	C	D	E	F
1	Olympic record					
2	Shot Put	Name	Country	Distance		
3	Men	Tomasz Majewski	Poland	21.89		
4	Women	Valerie Adams	New Zealand	20.70		
5						
6	Country	Athlete	Code	Gender	Best	Record
7					throw	breaking
8	=LOOKUP(C8,Sheet1!\$A\$2:\$B\$12)	Tanya Safina	RUS	female	22.01	=IF(D8="male",IF(E8>\$D\$3,"yes","no"),IF(E8>\$D\$4,"yes","no"))
9	=LOOKUP(C9,Sheet1!\$A\$2:\$B\$12)	Mary Jones	GBR	female	22.12	=IF(D9="male",IF(E9>\$D\$3,"yes","no"),IF(E9>\$D\$4,"yes","no"))
10	=LOOKUP(C10,Sheet1!\$A\$2:\$B\$12)	Zhang Daniu	CHN	male	21.65	=IF(D10="male",IF(E10>\$D\$3,"yes","no"),IF(E10>\$D\$4,"yes","no"))
11	=LOOKUP(C11,Sheet1!\$A\$2:\$B\$12)	Lisa Sanderson	USA	female	17.52	=IF(D11="male",IF(E11>\$D\$3,"yes","no"),IF(E11>\$D\$4,"yes","no"))
12	=LOOKUP(C12,Sheet1!\$A\$2:\$B\$12)	Joanne Phelps	USA	female	19.42	=IF(D12="male",IF(E12>\$D\$3,"yes","no"),IF(E12>\$D\$4,"yes","no"))
13	=LOOKUP(C13,Sheet1!\$A\$2:\$B\$12)	Rory Gemell	GBR	male	21.13	=IF(D13="male",IF(E13>\$D\$3,"yes","no"),IF(E13>\$D\$4,"yes","no"))
14	=LOOKUP(C14,Sheet1!\$A\$2:\$B\$12)	Mary Rankin	NZL	female	22.44	=IF(D14="male",IF(E14>\$D\$3,"yes","no"),IF(E14>\$D\$4,"yes","no"))
15	=LOOKUP(C15,Sheet1!\$A\$2:\$B\$12)	Kimberley Brown	RSA	female	19.87	=IF(D15="male",IF(E15>\$D\$3,"yes","no"),IF(E15>\$D\$4,"yes","no"))
16	=LOOKUP(C16,Sheet1!\$A\$2:\$B\$12)	David Lewis	NZL	male	19.76	=IF(D16="male",IF(E16>\$D\$3,"yes","no"),IF(E16>\$D\$4,"yes","no"))
17	=LOOKUP(C17,Sheet1!\$A\$2:\$B\$12)	Maria Simplova	USA	female	20.04	=IF(D17="male",IF(E17>\$D\$3,"yes","no"),IF(E17>\$D\$4,"yes","no"))
18	=LOOKUP(C18,Sheet1!\$A\$2:\$B\$12)	Geraldine Pine	NZL	female	22.32	=IF(D18="male",IF(E18>\$D\$3,"yes","no"),IF(E18>\$D\$4,"yes","no"))
19	=LOOKUP(C19,Sheet1!\$A\$2:\$B\$12)	Joseph Swift	GBR	male	21.12	=IF(D19="male",IF(E19>\$D\$3,"yes","no"),IF(E19>\$D\$4,"yes","no"))
20	=LOOKUP(C20,Sheet1!\$A\$2:\$B\$12)	Li Song	CHN	male	19.23	=IF(D20="male",IF(E20>\$D\$3,"yes","no"),IF(E20>\$D\$4,"yes","no"))

Sheet 2

(a) Explain what the function in cell A8 in Sheet 2 does.

.....

.....

.....

.....

.....

..... [3]

(b) What country would you expect to see in cell A12 in Sheet 2?

..... [1]

(c) Explain what the function in cell F8 in Sheet 2 does.

.....

.....

.....

.....

.....

..... [4]

(d) What value would you expect to see in cell F10 in Sheet 2?

..... [1]

(e) Spreadsheets are often used to produce computer models.

Give **three** reasons why computer modelling is used instead of the real thing.

1

.....

2

.....

3

..... [3]

- “Have you got a computer with a hard disc which stores more than 1000 Gigabytes?”
 “Have you got a laptop which has a separate number pad?”
 “Have you got a PC which costs less than \$500?”

- | Field name | Data type |
|---------------------|-----------|
| | Integer |
| Separate_Number_Pad | |
| | |
| | |

(b) Explain the differences between parallel running and direct changeover as ways of implementing the new database.

[5]

14 Describe **three** drawbacks of using a command line interface (CLI) operating system.

- 1
-
- 2
-
- 3
- [3]

15 Optical discs and magnetic tapes are both used to store computer data.

Give **two** uses of optical discs and for each use give a reason why they are preferred to magnetic tapes.

- Use 1
-
- Reason 1
-
- Use 2
-
- Reason 2
- [4]

- 16** Iqbal wants to test the new computerised payroll system he would like to introduce to his company. No company worker is paid less than \$100 and no worker is paid more than \$500.

Explain what is meant by the following three types of test data using examples of the wages paid to workers.

Normal

.....

.....

.....

Abnormal

.....

.....

.....

Extreme

.....

.....

..... [6]

- 17** The head teacher of a school is concerned that students may be hacking into the exam scores database to change their marks.

Other than passwords, describe ICT methods that could be used to prevent this from happening.

.....

.....

.....

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.....

.....

..... [4]

[6]

[6]

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