UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

CANDIDATE
NAME

CENTRE
NUMBER

CANDIDATE
NUMBER

INFORMATION AND COMMUNICATION TECHNOLOGY   **0417/12**

Paper 1   **May/June 2012**

                                                               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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[Turn over

*For
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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**	**laser printer**	**motor**
multimedia projector	**plotter**	**speakers**	**trackerball**

A ....   B ....

C ....   D ....

[4]

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

buzzer	**DVD R**	**joystick**
magnetic tape	**plotter**	**touch pad**

[2]

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

For iner's

	True	False
Measuring software is used to monitor physical variables.		
Presentation software is used to create models.		
Laptops can be used even when not plugged into an electricity socket.		
Control software is used to create slide shows.		
A graph plotter is used to print newsletters.		

[5]

4   An examination is marked out of 100 and the mark is recorded as an integer. Tick whether each of the following marks is an example of **abnormal** data or **normal** data.

	Abnormal	Normal
101		
21		
thirty		
99		

[4]

5   Tick whether the following statements apply to **Blogs** or apply to **Wikis**.

	Blogs	Wikis
Usually in some form of chronological order		
Usually many contributors and authors		
Usually personal		
Postings tend to be short in length		

[4]

6   Draw **four** lines on the diagram to match the use to its most **appropriate** storage medium.

	Use	Storage medium
	To store a high definition movie	**Fixed hard disc**
	To store school work to take home	**Blu-ray disc**
	To store server backups	**Pen drive**
	To store an online database	**Magnetic tape**

[4]

7   A student wishes to use a floor turtle to draw this shape:
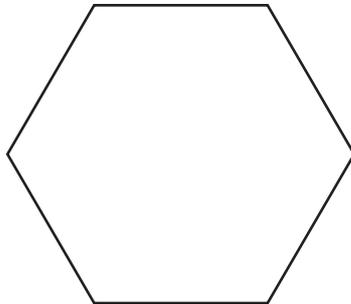
Name **four** instructions, other than PENDOWN and PENUP, which the turtle graphics software could use in order to draw the shape. For each one explain the meaning of the instruction.

Instruction 1 ....

Meaning ....

....

Instruction 2 ....

Meaning ....

....

Instruction 3 ....

Meaning ....

....

Instruction 4 ....

Meaning ....

.... [8]

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

A bar code reader	**A buzzer**	**A dot matrix printer**
A graph plotter	**A monitor**	**A light pen**
A light sensor	**An optical character reader**	**A trackerball**
A web camera		

(a)   .... is used to input data in a computer controlled greenhouse.

(b)   .... is used to input text to a computer ready for processing.

(c)   .... is used to input numbers from products at a POS terminal.

(d)   .... is used to input moving pictures from a fixed position into a computer.

(e)   .... is used for drawing applications where a graphics tablet might be too big.

[5]

9   Tick **three** features of presentation software which would not be found in a hard copy word processed document.

	✓
Sound	
Bullets	
Animation	
Serif fonts	
Graphs	
Video	

[3]

10 Describe how the components of an expert system are used to help a doctor to di   an illness.

....

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....

.... [6]

11 A bank uses a chip and PIN system at its ATMs. A customer withdraws cash by inserting their bank card. Write down the steps involved in the computer processing of the transaction.

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.... [6]

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12 A house has a microprocessor controlled burglar alarm.

(a) Identify **three** input devices which would be used in this system to feed data back
the microprocessor.

1 ....

2 ....

3 .... [3]

(b) Describe how a microprocessor would use these devices to detect the presence of an
intruder and what action it would take.

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.... [5]

13 Ahmed has asked Anna, a systems analyst, to create a new database system for his rental business. He rents out films in DVD and blu-ray formats only. Here are some of questions that customers ask:

Have you got the film 'The King's Speech' in blu-ray format?
Have you any films which are shorter than 2 hours?
Have you any Harry Potter films released since 2005?

(a) Complete the design table below filling in the field names and data types using the **most** appropriate data type to create a database which would answer these questions.

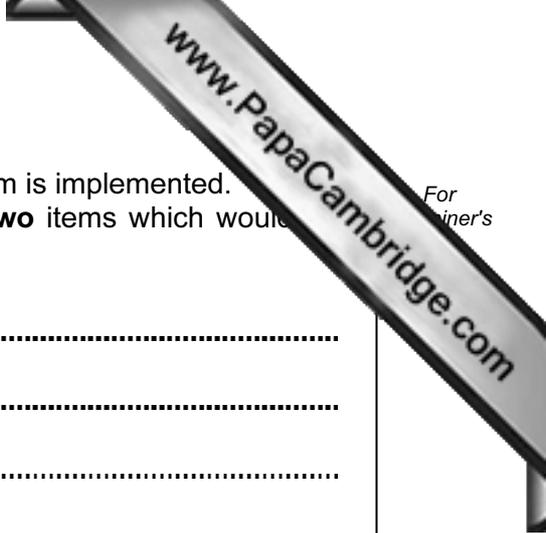| Field name	Data type
	Text
	Date

[6]

(b) Part of the design process is setting an appropriate field length for each field.
Explain why this is so important.

....

....

....

.... [2]

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(c) Anna will provide two types of documentation when the system is implemented. Name each type of documentation and for each one give **two** items which would be included.

Name ....

Item 1 ....

....

Item 2 ....

....

Name ....

Item 1 ....

....

Item 2 ....

.... [6]

14 Mobile telephones (cellphones) are used for accessing the internet.
Give **two** advantages and **two** disadvantages of using a mobile telephone rather than using a laptop computer to access the internet.

Advantage 1 ....

....

Advantage 2 ....

....

Disadvantage 1 ....

....

Disadvantage 2 ....

.... [4]

For
iner's

15 A travel agent keeps a spreadsheet record of his customers' holiday bookings to destinations.
(Commas are used as delimiters in the functions shown below.)

	A	B	C	D
1	Destination	Code	Trips	Days
2	Brazil	BRA	=COUNTIF($A$8:$A$18,B2)	=SUMIF($A$8:$A$18,B2,$B$8:$B$18)
3	Cuba	CUB	=COUNTIF($A$8:$A$18,B3)	=SUMIF($A$8:$A$18,B3,$B$8:$B$18)
4	Jamaica	JAM	=COUNTIF($A$8:$A$18,B4)	=SUMIF($A$8:$A$18,B4,$B$8:$B$18)
5	India	IND	=COUNTIF($A$8:$A$18,B5)	=SUMIF($A$8:$A$18,B5,$B$8:$B$18)
6				
7	DCode	Duration		
8	BRA	10		
9	BRA	14		
10	CUB	7		
11	JAM	10		
12	JAM	14		
13	IND	21		
14	CUB	14		
15	BRA	10		
16	JAM	14		
17	BRA	14		
18	IND	10		
19				
20				

(a) Explain what the function in cell C2 does.

[3]

(b) What value would you expect to see in cell C3?

[1]

For
iner's
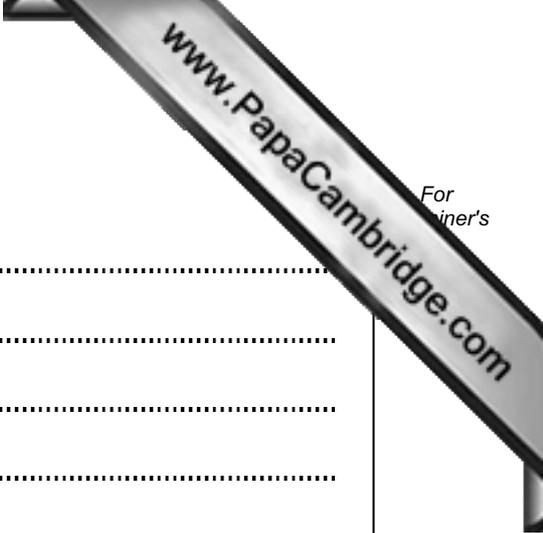
(c) Explain what the function in cell D2 does.

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.... [3]

(d) What value would you expect to see in cell D5?

.... [1]
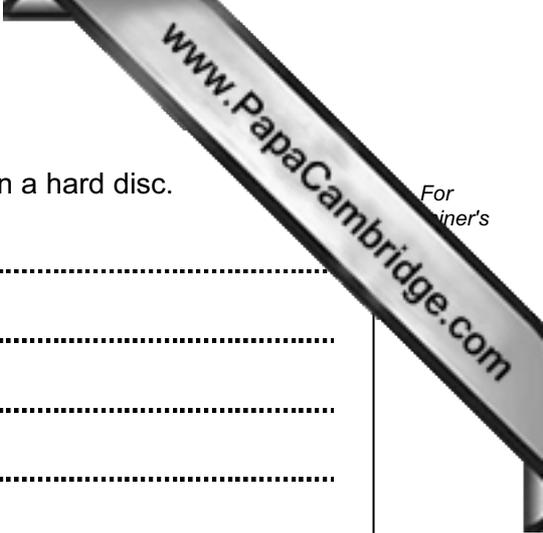
(e) Describe, with examples, how you would use formulae to check that the total Duration and total number of Days are the same.
(You may use cells B19, D6 and D7 to help you.)

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....

....

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....

.... [3]

(f) Explain why the $ symbol is used in some of the cells in the spreadsheet above.

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....

.... [3]

16 Describe what a virus is and what effect it may have on the data on a hard disc.

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.... [3]

17 Discuss the benefits and drawbacks of students using the internet to carry out research.

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.... [6]