Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

CANDIDATE NAME	

CENTRE NUMBER		CANDIDATE NUMBER	

INFORMATION AND COMMUNICATION TECHNOLOGY **0417/12**

Paper 1 **October/November 2015**
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 an HB pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, 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.

This document consists of **13** printed pages and **3** blank pages.

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[Turn over

1 These printouts show a document before and after it was finalised.
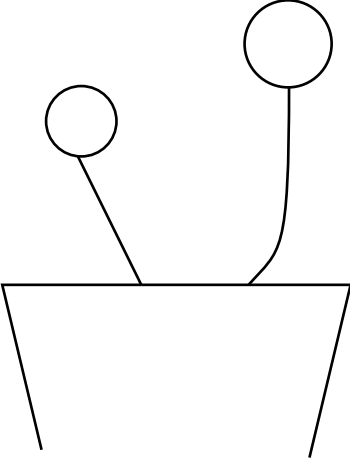
Write down **six** editing techniques which have been used on the image and the text.

This is a flower pot with two flowers. One is growing

Printout before

This is a flower pot with two flowers. One is growing straight up and the other is growing at an angle.

Printout after

straight up and the other is growing at an angle.

1 ....

2 ....

3 ....

4 ....

5 ....

6 ....

[6]

2 For each use, tick the **most** appropriate type of application software.

Use	Modelling ✓	Database ✓	Word processing ✓
Writing a letter			
Flight simulation			
Storing student records in a school			
Producing a business card			

[4]

3   Tick the type of computer which would be **most** appropriate for each use of ICT.

Use	Mainframe ✓	Laptop ✓	Desktop ✓
Entering data from a Biology survey while out of school			
Massive transactions which need the use of many CPUs			
Students who need to transport their computer from home to use in school			
Personal use with better performance at lower cost			

[4]

4   Tick the **most** appropriate method of implementing a new system for each company.

Company	Parallel running ✓	Pilot running ✓	Direct changeover ✓
A company with several branches wishes to test the new system in one branch only.			
A small company that can only afford to spend a small amount of money on implementing the new system.			
If the whole system fails, the company wishes to return to the original existing system.			
A company that wants the quickest method of implementation.			

[4]

5 There are a number of methods of direct data entry.

Complete each sentence using the **most** appropriate words from the following list.

a bar code reader	**a touch pad**	**OCR**
a magnetic stripe reader	**a trackerball**	**a graphics tablet**
a touch screen	**a PIN pad**	

(a) The inbuilt device which moves the cursor when using a laptop is called

....[1]

(b) The device used for selecting an icon so a bar code label can be printed in a supermarket is called

....[1]

(c) The device used for controlling a pointer on a screen when the user has limited motor skills is called

....[1]

6 A student wishes to use a floor turtle to draw this regular shape.
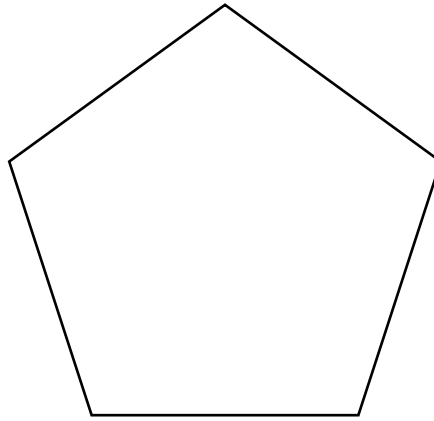
The pen is already lowered and does not need to be lifted.
This turtle can only move in one direction and turn one way.

Give **three** instructions which the turtle graphics software could use to draw the shape. For each one, explain the meaning of the instruction.

Instruction 1 ....

Meaning ....

....

Instruction 2 ....

Meaning ....

....

Instruction 3 ....

Meaning ....

....
[6]

7 Scientists want to find the level of pollution in a river running past a chemical factory. They will use sensors connected to a computer to do this.

(a) Name **three** sensors that the scientists would place in the river.

1 ....

2 ....

3 ....

[3]

(b) Explain why it is so important to carefully consider the position of sensors placed in the river.

....

....

....

....[2]

(c) Describe how the computer would monitor the level of pollution in the river.

....

....

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....[5]

8 A school has introduced a system so that parents of its students can access data about their children.

(a) Give **three** reasons why the school has introduced this system.

1 ....

....

2 ....

....

3 ....

....
[3]

(b) In order to access this data, parents will need to log on to the school's website.

Describe the purpose of the following two items of data they will need to enter.

User id ....

....

Password ....

....
[2]

9 Describe **four** items which can be provided by an ISP.

1 ....

....

2 ....

....

3 ....

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4 ....

....
[4]

10 A video shop owner uses a spreadsheet to calculate his costs.

This is part of the spreadsheet.

	A	B	C	D
1	**Book title**	**Number in stock**	**Cost price**	**Total cost**
2	The Wolf Of Wall Street	4	$18	$72
3	Thinking Fast And Slow	5	$17	$85
4	Be Careful What You Wish For	8	$15	$120
5	The Fell Sword	4	$20	$80
6	Metro 2034	2	$15	$30
7				
8			**Overall cost**	$387

(a) Give the cell reference of the cell that contains $20.

....[1]

(b) Give the number of rows shown in the spreadsheet.

....[1]

(c) Write down the formula which should go in cell D2.

....[1]

(d) Write down the formula which should go in cell D8. Make the **most** efficient use of a function.

....[2]

(e) Explain why financial models are often used to predict future profitability.

....

....

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....[3]

11 Explain why encryption is needed when transmitting data.

....

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....

....

....[3]

12 Many database software packages have a report generation feature.

The following is part of a video hire shop database showing films available in Blu-ray format.

Film_name	Director	Price ($)	Regions	Length (min)
Rush	Ron Howard	12.99	A	122
Last Vegas	Jon Turtletaub	17.72	B	105
Captain Phillips	Paul Greengrass	14.99	Free	134
Saving Mr Banks	John Lee Hancock	15.00	C	125

(a) Each of the following fields contains data that is numeric. Give a more precise data type for each of these fields.

Price ....

Length ....
[2]

(b) Blu-ray discs have one of three region codes or are region-free.

Describe how the field **Regions** could be set up to reduce the possibility of inaccurate data entry.

....

....

....

....[2]

 [Turn over

(c) Describe, in detail, how you would create a formatted report which does not show regions and only shows films which are longer than 110 minutes.

....

....

....

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....

....

....

....

....[6]

13 (a) Tick **three** components of an expert system.

	✓
Word processor	
Spreadsheet	
Rules base	
Search engine	
Inference engine	
Control software	
Knowledge base	
Presentation software	

[3]

(b) Give **three** examples of applications which use expert systems other than diagnosis systems.

1 ....

2 ....

3 ....

[3]

14 A large company has asked a systems analyst to research the current system.

(a) Describe how this will take place.

....

....

....

....

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....

....

....[4]

(b) Describe what information will be identified as a result of this research.

....

....

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....

....

....

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....[4]

15 There are many safety issues associated with the use of computers.

Describe **three** of these issues.

1 ....

....

2 ....

....

3 ....

....
                                                                                                                                        [3]

16 Ajit has been set homework by her Geography teacher. She has the choice of using her text book or the internet to find the necessary information.

Discuss the advantages and disadvantages to Ajit using the text book rather than the internet.

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....[7]

17 Give **three** reasons why some companies have intranets.

1 ....

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2 ....

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3 ....

....

[3]

18 Give **three** reasons why files are backed up.

1 ....

....

2 ....

....

3 ....

....

[3]

19 Give **three** specific examples of work that are carried out by a robot in the car industry.

1 ....

....

2 ....

....

3 ....

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[3]

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