Centre Number		Candidate Number	Name	

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

INFORMATION TECHNOLOGY **0418/01**

Paper 1

May/June 2004

1 hour 15 minutes

Candidates answer on the Question Paper.
No additional materials are required.

READ THESE INSTRUCTIONS FIRST

Write in dark blue or black pen in the spaces provided on the Question Paper.
You may use a soft pencil for any diagrams, graphs, music or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid.

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**
If you have been given a label, look at the details. If any details are incorrect or missing, please fill in your correct details in the space given at the top of this page. Stick your personal label here, if provided.	

This document consists of **12** printed pages.

UNIVERSITY of CAMBRIDGE
International Examinations

[Turn over

1 Name the objects A, B, C, D and E using the words from the list.

A
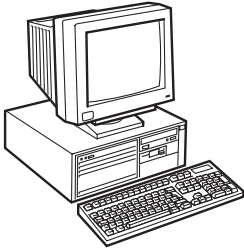
B
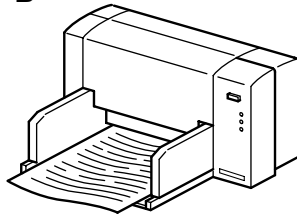
C
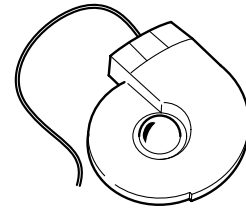
D
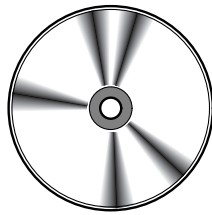
E
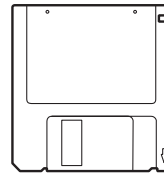
Bar code reader	**CD ROM**	**Deskjet printer**	**Desktop computer**
Floppy disc	**Graph plotter**	**Graphics tablet**	**Laptop computer**
Laser printer	**Mouse**	**Scanner**	**Tracker ball**

A ....   **B** ....

C ....   **D** ....

E ....   [5]

2 Ring two items which are used to output data from a computer.

Keyboard	**Light pen**	**Monitor**
Mouse	**Plotter**	**Scanner** [2]

3 Give **two** ways in which a hard disc is different from a floppy disc.

1 ....

....

2 ....

.... [2]

4 Tick whether the following statements are TRUE or FALSE.

	TRUE ✓	FALSE ✓
OMR is used to read data from school registers.		
OCR is used to read data from bank cheques.		
DTP is used to store pupil records on a school computer system.		
Regular use of computers improves your eyesight.		

[4]

5 A floor turtle can use the following instructions:

INSTRUCTION	MEANING
FORWARD n	Move n units forward
BACKWARD n	Move n units backward
LEFT t	Turn left t degrees
RIGHT t	Turn right t degrees
PENUP	Lift the pen
PENDOWN	Lower the pen

```
     20         40        20
   ┌────              ────┐
75 │                      │ 75
   │                      │
      Start      Finish
   20                    20
```
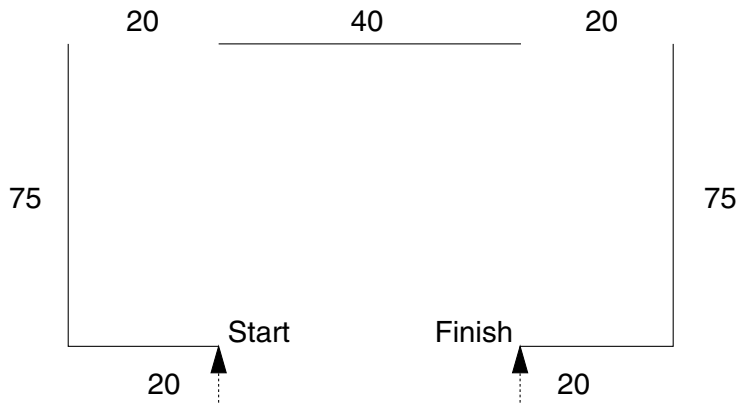
Complete the set of instructions to draw this shape by filling in the blank lines.

PEN DOWN	....	....
LEFT 90	....	....
FORWARD 20	....	....
....	....	....
....	....	....
....	....	.... [5]

6 Tick **two** changes which have occurred in libraries due to the introduction of computers.

Letters are sent out automatically when books are late.	
More books can be borrowed.	
Libraries can stay open longer.	
Libraries have more books.	
More people work at the library.	
It is easier to see if a certain book is available.	

[2]

7 Office workers now use computers a lot in their work and this can cause them to suffer problems with their health. Name two possible health problems and two precautions which could be taken to prevent them.

Health problems

1 ....

....

2 ....

....

Precautions

1 ....

....

2 ....

.... [4]

8 A Biology teacher uses a spreadsheet to record the test scores of his pupils. The spreadsheet below shows the test scores of some of those pupils.

	A	B	C	D	E	F
1	Name	Test 1	Test 2	Test 3	Total mark	
2	Me Te Loan	78	66	63	207	
3	Surinder Singh	56	59	89	204	
4	Mohammed Ali	89	48	73	210	
5	Alan Porter	41	76	96	213	
6		41	48	63		
7						

(a) Write down the formula which should go in cell E2.

.... [1]

(b) Write down the formula which should go in cell B6.

.... [1]

9 As part of their Business Studies coursework, students are carrying out a survey at a company. They are going to construct a database to store the results of their survey.

Each worker at the company has an individual payroll number which starts with a letter and has 5 digits e.g. L12345.

Below is part of a questionnaire which some students have created to collect the results.

How do you travel to work?

1.   What is your payroll number?

_____

2.   Which of the following do you mainly use to get to work (please tick one)?

Bus   [ ]
Walk   [ ]
Train   [ ]
Car   [ ]
Cycle   [ ]

3.   How many days per week do you work?

_____

(a) What would be a suitable field type for:

(i) question 1?

....

(ii) question 2?

....

(iii) question 3?

....

[3]

(b) Name and describe the validation check which would be most suitable to ensure that data entered for question 3 of the questionnaire is acceptable.

....

....

....

....

.... [3]

10 The Geography department in a school wants to set up an automatic weather station connected to a computer.

(a) Name three variables which will be measured by sensors.

1   ....

2   ....

3   .... [3]

(b) Why is the computer unable to read the data directly from the sensors?

.... [1]

(c) What device is needed to enable it to do so?

.... [1]

(d) Give **three** advantages to the Geography department of having a computerised system rather than a manual weather system.

1   ....

....

2   ....

....

3   ....

.... [3]

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11 A student is going to create a database. Put the following steps into the correct order for her to follow.

Print the results.
Verify the data.
Collect the data.
Enter the data.

1 ....

2 ....

3 ....

4 .... [4]

12 For a home central heating system name **one** input and **one** output and describe the processing which occurs.

Input ....

Output ....

Processing ....

....

....

....

.... [5]

13 A publisher sells a CD ROM of Shakespeare's plays. This is the same price as the book. Give **two** advantages and **two** disadvantages of using the CD ROM compared to the book.

Advantage 1 ....

....

Advantage 2 ....

....

Disadvantage 1 ....

....

Disadvantage 2 ....

.... [4]

14 A school newsletter contains only text. The head teacher wants to use a computer to add graphics including a picture of the school.
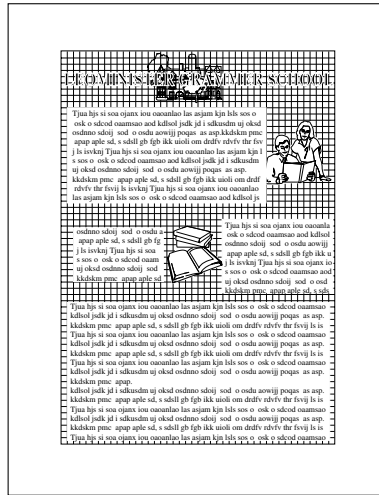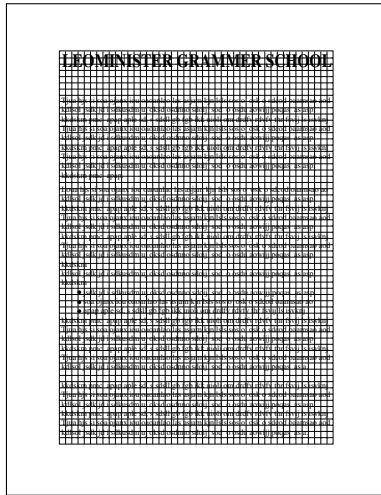
(a) Describe how he could obtain a picture of the school and how he could place it in the document.

....

....

....

....

.... [3]

(b) Name two suitable sources of graphics, other than that described in **(a)**. Suggest a method which would be used to include these in the document.

....

....

....

....

.... [3]

(c) The head teacher needs 1000 of these newsletters and would like them in colour. Give **two** reasons why this may not be a good idea.

1 ....

....

2 ....

.... [2]

15 A school is going to introduce an automatic registration system controlled by computer. Students will carry a card which will be automatically read by an input device every morning so that the school office will know that they are present.

(a) Name a suitable input device to read the card.

.... [1]

(b) List one item of information which will be recorded on the card.

.... [1]

(c) Instead of using the card-based system the school IT teacher suggests using student fingerprints. Describe the advantages and disadvantages of either system.

....

....

....

....

.... [3]

16 Describe the advantages and disadvantages of using the Internet for home shopping.

....

....

....

....

....

....

....

.... [4]

17 A school has just received its IGCSE examination results which are better than the previous year.

The results for the last three years are stored in this spreadsheet.

	A	B	C
1			Percentage of
2	Year		students passing
3			
4	2001		89.4
5	2002		92.3
6	2003		94.6
7			

(a) Explain how the head teacher will present these figures in the form of a graph.

....

....

....

....

.... [3]

(b) The head teacher wants to include this graph in a multimedia presentation to parents. Describe how he would do this.

....

....

....

.... [2]

       [Turn over

18 Describe how a microprocessor-controlled streetlight works. In your description include the input, processing and output involved.

....

....

....

....

....

....

....

....

....

....

.... [5]