Centre No.						Surname		Initial(s)
Candidate No.						Signature		

4385/1F

London Examinations IGCSE

Information and Communication Technology

Paper 1F

Foundation Tier

Wednesday 18 May 2005 – Morning

Time: 1 hour 30 minutes

Examiner's use only

Team Leader's use only

Question Number	Leave Blank
1	
2	
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8	
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10	
11	
12	
13	
14	
Total	

Materials required for examination	Items included with question papers
Nil	Nil

Instructions to Candidates

In the boxes above, write your centre number and candidate number, your surname, initial(s) and signature.
The paper reference is shown at the top of this page. Check that you have the correct question paper.
Answer **ALL** the questions in the spaces provided in this question paper.

Information for Candidates

There are 20 pages in this question paper. All blank pages are indicated.
The total mark for this paper is 100. The marks for the various parts of questions are shown in round brackets: e.g. (**2**).

Advice to Candidates

You are reminded of the importance of clear English and careful presentation in your answers.
Include diagrams in your answers where these are helpful.

N 2 2 1 1 3 A 0 1 2 0

Turn over

edexcel
INTERNATIONAL
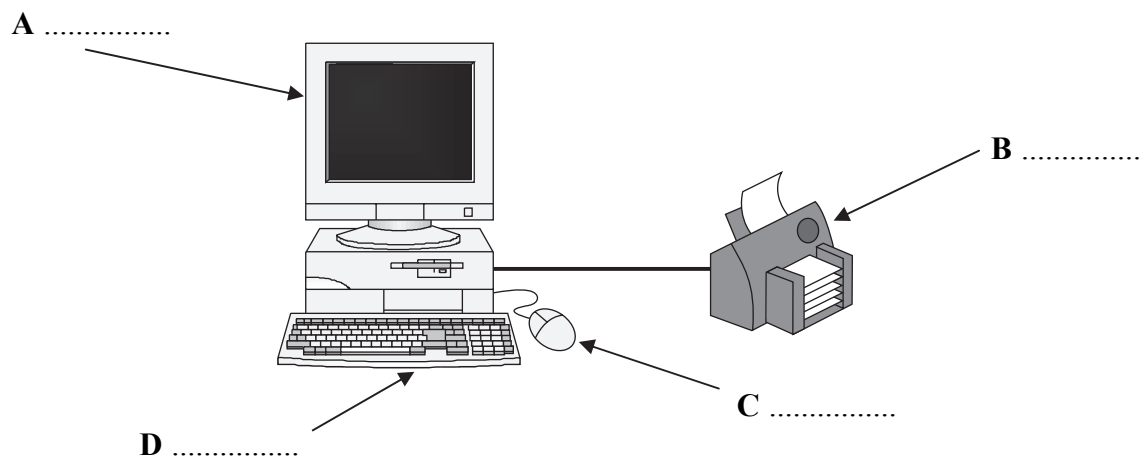
Answer ALL questions

1. (a) The diagram below shows a computer and its input and output devices.

    Label devices **A**, **B**, **C** and **D**.

    A ....

    B ....

    C ....

    D ....

    (4)

    (b) For each device tick (✓) the box to show if it is an input device or an output device.
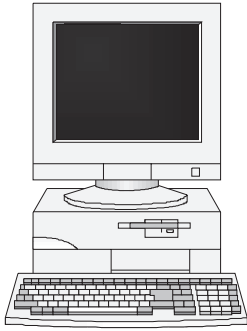
Device	Input device	Output device
A		
B		
C		
D		

    (4)

    (Total 8 marks)

    Q1

2. Read the following advertisement.

Universal Computers

3.6 GHz Processor

256 Mb RAM

Plasma Screen

(a) A computer has two types of memory: RAM and ROM.

    (i) One use of RAM is to store data. State **one** other use.

    ....

    (1)

    (ii) State the difference between RAM and ROM.

    ....

    (1)

(b) State **two** advantages of a plasma screen compared with a normal (CRT) screen.

    Advantage 1 ....

    Advantage 2...

    (2)   **Q2**

(Total 4 marks)

3. Operating systems have become more user friendly with the development of graphical user interfaces (GUI).

Give **four** features of a graphical user interface that make it user friendly.

(i)   ....

(ii)   ....

(iii) ....

(iv) **Q3**

(Total 4 marks)

4. The diagrams represent two local area networks (LANs). One of them is a star network. The other is a bus network.

(a) Clearly label the server in the star network.

(1)

(b) The lines represent the cables connecting the terminals.

(i) State what happens in the star network when the cable is broken at X.

....

....

(2)

(ii) State what happens in the bus network when the cable is broken at Y.

....

....

(2)

(c) A network can be either a local area network (LAN) or a wide area network (WAN).
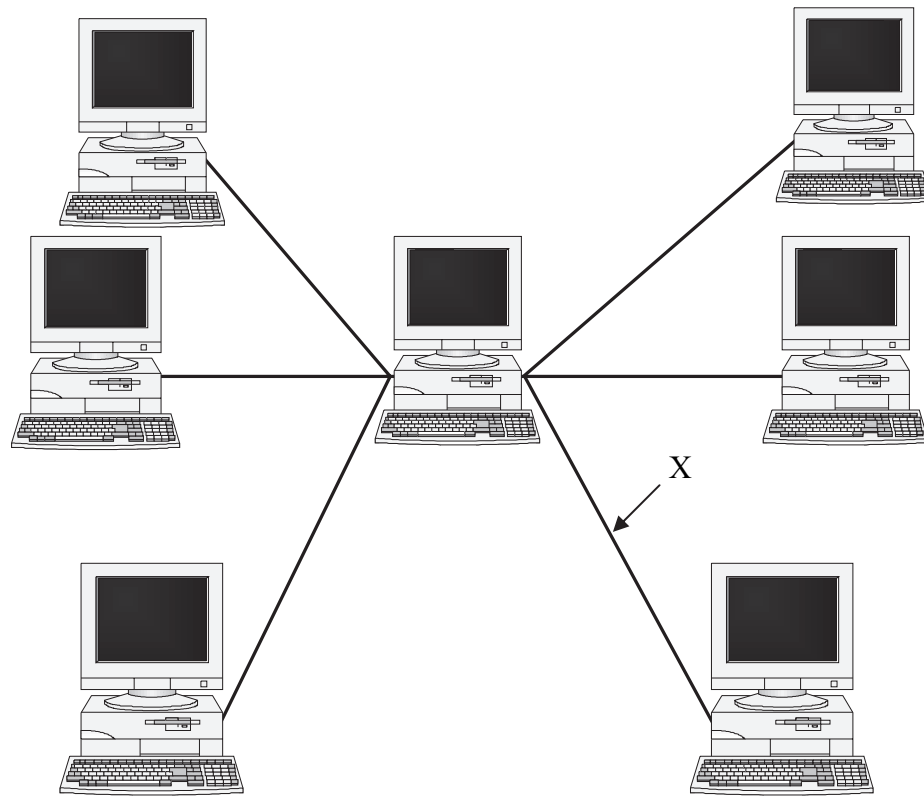
For each network location, tick the box (✓) to show if it is part of a LAN or part of a WAN.

Network Location	LAN	WAN
Classroom not connected to the Internet		
Internet		
Cash Machine (ATM)		
Ticket Office for an airline		

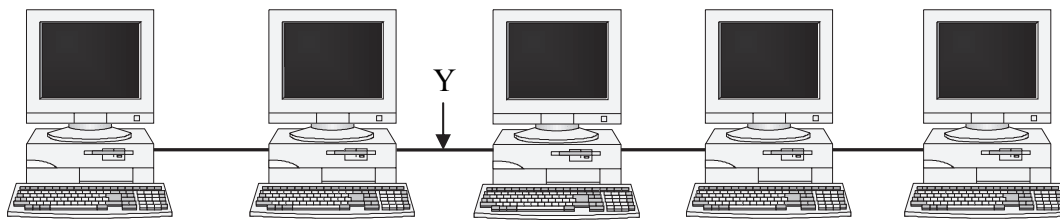**(4)**

Star Network

Bus Network

(Total 9 marks)

5. The Internet is widely used in schools and colleges.

(a) (i) State **one** problem which might occur when students have uncontrolled access to the Internet.

....

....

(1)

(ii) Explain how this problem may be prevented.

....

....

(2)

(b) A teacher enters her user name and password to access the Internet.

(i) State **one** reason why the password should be changed regularly.

....

(1)

(ii) Explain why the new password must be keyed in twice before the computer accepts it.

....

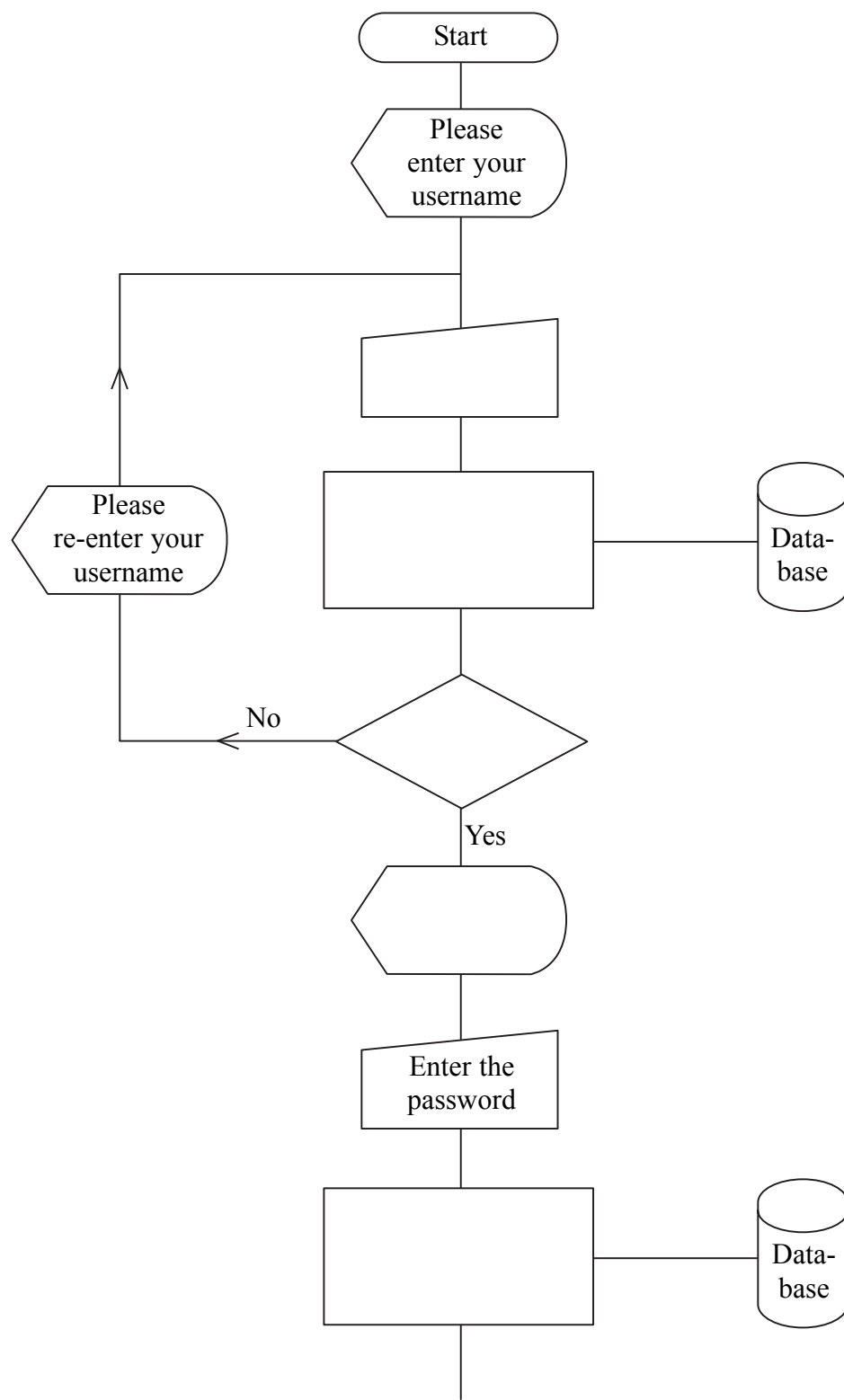..

(1)

(c) A teacher enters her username and password to access the Internet. The flowchart is intended to show the first part of this process. Place the letters A–E in the appropriate flowchart boxes.

A   check the password
B   search for username
C   enter the username
D   "please enter your password"
E   is the username in the database?

```
              ┌─────────┐
              │  Start  │
              └────┬────┘
              ┌────┴─────┐
             ╱  Please    ╲
            ╱  enter your  │
            ╲  username   ╱
             └─────┬──────┘
                   │
          ┌────────┴────────┐
          │  (process)      │
          └────────┬────────┘
                   │
     ┌─────────────┴──────────┐         ┌──────────┐
    ╱ Please                    ╲        │          │
   ╱  re-enter your              │       │  Data-   │
   ╲  username                  ╱        │  base    │
    └─────────────┬──────────┘           └──────────┘
                  │
         No  ◄────◆────►
                  │ Yes
          ┌───────┴────────┐
          │                │
          └───────┬────────┘
          ┌───────┴────────┐
          │  Enter the     │
          │  password      │
          └───────┬────────┘
          ┌───────┴────────┐         ┌──────────┐
          │                │         │  Data-   │
          │                │─────────│  base    │
          └───────┬────────┘         └──────────┘
                  │
```

<div align="right">

(5)

(Total 10 marks)

</div>

6. (a) A computer user wishes to connect to the Internet.

State **one** item of hardware and **one** type of software that the user needs to connect to the Internet.

Hardware ....

(1)

Software ....

(1)

(b) People who buy goods using the Internet are worried about paying by credit card.

Give **two** reasons why they might be worried.

(i) ....

....

(ii) ....

....

(2)

Q6

(Total 4 marks)

7. A café has computer terminals to enable customers to access the Internet. The owner allows drinks and food to be served to customers whilst they are using the terminals.

(a) Give **one** safety precaution that must be in place to protect the terminals.

....

(1)

(b) The owner has considered possible health risks to customers. The health risks are eyestrain, backache and repetitive strain injury (RSI). Give **two** ways of reducing each risk. **Do not repeat your answers.**

(i) Eyestrain

Reduction 1 ....

Reduction 2 ....

(2)

(ii) Backache

Reduction 1 ....

Reduction 2 ....

(2)

(iii) Repetitive strain injury (RSI)

Reduction 1 ....

Reduction 2 ....

(2) Q7

(Total 7 marks)

8. A small robot controlled by a computer is placed in a maze. The robot travels through the maze and learns the correct path.

(a) The robot detects obstacles using a built-in sensor. State **one** sensor that could be used by the robot and describe how it would detect obstacles.

Sensor ....

(1)

Method of detection ....

....

(2)

The sensor produces a continuously varying signal but the computer requires digital information.

(b) State the name of the interface device required.

....

(1)

(Total 4 marks)

Q8

9. A college uses an information system that holds large amounts of data about students and staff.

(a) *Validation* and *verification* are carried out on the data.

(i) Describe the validation process.

....

....

(2)

(ii) Describe the verification process.

....

....

(2)

(b) Describe **two** measures that could be taken to protect the data against deliberate theft or corruption.

(i) ....

(ii) ....

(2)

(c) Describe **two** measures that could be taken to protect the data against accidental loss.

(i) ....

(ii) ....

(2) Q9

(Total 8 marks)

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10. Shops often use computerised systems to add up sales, produce receipts and control the level of stock. When goods are purchased they are taken to the checkout or point of sale (POS) terminal.

(a) A bar code scanner is part of a point of sale terminal. List **three** other devices that belong to a point of sale terminal.

(i) ....

(ii) ....

(iii) ....

(3)

(b) Some goods have bar codes similar to this.

State **two** items of data encoded in a bar code.

(i) ....

(ii) ....

(2)

(c) Point of sale systems have brought advantages to shops and customers.

(i) State **one** advantage for the customer.

....

....

(1)

(ii) State **two** advantages for shops.

Advantage 1 ....

....

Advantage 2 ....

....

(2)

Q10

(Total 8 marks)

11. Serina is organising a disco to raise money. She wishes to know the minimum number of tickets that must be sold to make a profit of $120.

Serina has created this spreadsheet to help her.

	A	B	C	D	E	F	G
1	**No. of tickets sold**	**Selling price ($)**	**Total sales ($)**	**Cost of disco ($)**	**Cost of printing ($)**	**Total cost ($)**	**Profit ($)**
2	0	5.00	0.00	60.00	0.00	60.00	−60.00
3	10	5.00	50.00	60.00	5.00	65.00	−15.00
4	20	5.00	100.00	60.00	10.00	70.00	30.00
5	30	5.00	150.00	60.00	15.00	75.00	75.00
6	40	5.00	200.00	60.00	20.00	80.00	120.00
7	50	5.00	250.00	60.00	25.00	85.00	165.00

(a) Choose words from the list to complete the sentences.

number
text
spreadsheet
formula
model

(i)   In the spreadsheet, CELL C1 contains ....

(ii) In the spreadsheet, CELL B7 contains a ....

(iii) In the spreadsheet, CELL C3 contains a ....

(3)

(b) State how many tickets Serina must sell to make a profit of $120.

....

(1)

(c) Serina used a formula to work out the total cost in column F.

Select from the following formulae the one that could be used to calculate the total cost of 10 tickets.

1   D3 + E3
2   E2 * D2
3   D3 * E3

....
(1)

(d) Serina changes the selling price in column B to $7.00.

Give **two** other columns which would change as a result.

....

....
(2)   Q11

(Total 7 marks)

12. *Homes International* is a magazine that advertises houses for sale around the world. Agents travel to locations and e-mail photographs to the head office in London.

(a) Name a suitable input device for the agents to use.

Give **two** reasons for your choice.

Name ....

(1)

Reason 1 ....

Reason 2 ....

(2)

(b) The agents are asked to compress photograph files before e-mailing them.

Give **two** reasons why these files should be compressed.

Reason 1 ....

....

(2)

Reason 2 ....

....

(2)

(c) The agents need to make backups of their photographs.

(i) Name **one** suitable storage device for this purpose.

....

(1)

(ii) State **one** feature that makes it suitable.

....

(1)

(iii) Explain why backups are necessary.

....

....

(2)

Q12

(Total 11 marks)

13. Several schools and colleges are considering the use of video conferencing.

(a) Explain the term video conferencing.

....

....

....

(3)

(b) The schools and colleges already have networks consisting of linked computers but have no video conferencing facilities.

Give **three** additional items of hardware needed for video conferencing.

(i) ....

(ii) ....

(iii) ....

(3)

(Total 6 marks)

Q13

14. Computers can be used to collect data from experiments.

(a) Give **three** reasons why computers are used for this purpose.

(i) ....

....

(ii) ....

....

(iii) ....

....

(3)

(b) Give **one** example of data logging.

....

(1)

(c) Describe how information technology could be used to display, in a printed format, an analysis of the data logging.

....

....

....

....

(4)

(d) State, with a reason, a suitable type of printer for printing the analysis.

Printer ....

Reason ....

(2)

(Total 10 marks)

TOTAL FOR PAPER: 100 MARKS

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