London Examinations IGCSE

Information and Communication Technology

Paper 1F

Foundation Tier

Friday 16 November 2007 – Morning

Time: 1 hour 30 minutes

Materials required for examination	**Items included with question papers**
Nil	Nil

Instructions to Candidates

In the boxes above, write your centre number, candidate number, your surname, initials and signature.
Check that you have the correct question paper.
Answer ALL the questions. Write your answers in the spaces provided in this question paper.
Do not use pencil. Use blue or black ink.

Information for Candidates

The marks for individual questions and the parts of questions are shown in round brackets: e.g. **(2)**.
There are 14 questions in this question paper. The total mark for this paper is 100.
There are 20 pages in this question paper. Any blank pages are indicated.

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.

Turn over

Answer ALL questions

1. (a) Name the devices **A**, **B**, **C** and **D** using words from the list.

hard drive	**keyboard**	**modem**	**mouse**
printer	**plotter**	**scanner**	**monitor**

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

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

(4)

(b) Two of the devices are input devices. Write down the names of the input devices.

Input device 1 ....

Input device 2 ....

(2)

(Total 6 marks)

2. A student is using software to help with several tasks for the school play.

The choice of software is:

A   Browser
B   Control Software
C   Database
D   Desktop publisher
E   Spreadsheet

Write the letter of the software that the student should use for each task in the table. The first one has been done for you.

Task	Software
Keeping a list of costumes	**C**
Keeping the financial accounts	
Obtaining music files from the Internet	
Creating a poster to advertise the play	
Control of lighting displays	

(Total 4 marks)

3. A company uses a database to keep information about its customers. The database contains **fields**, **records** and **tables**.

   (a) State what is meant by:

   (i) a field,

   ....

   (1)

   (ii) a record,

   ....

   (1)

   (iii) a table.

   ....

   (1)

   (b) The customer number is part of the database. It is used as a key field. State why a key field is necessary.

   ....

   ....

   (1)

   (c) Give **three** benefits to the company of using a computer system, rather than a manual system, to store customer information.

   Benefit 1 ....

   ....

   Benefit 2 ....

   ....

   Benefit 3 ....

   ....

   (3)

   (Total 7 marks)

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4. A school uses a spreadsheet to work out the profit from food sold in the snack bar. Part of the spreadsheet is shown below.

	A	B	C	D	E	F	G
1	Snack	Cost per item	Number sold	Total Cost	Selling price	Total income	Profit
2	Toast	£0.10	200	£20.00	£0.20	£40.00	£20.00
3	Pizza	£0.42	125	£52.50	£0.75	£93.75	£41.25
4	Burger	£0.86	70	£60.20	£1.20	£84.00	£23.80
5	Crisps	£0.45	60	£27.00	£0.54	£32.40	£5.40
6	Apple	£0.12	20	£2.40	£0.18	£3.60	£1.20
7	Biscuit	£0.15	80	£12.00	£0.20	£16.00	£4.00
8							
9						Total profit	£95.65
10						Target profit	£100.00
11							

(a) State the contents of cell C6.

....

(1)

(b) Select the formula used to give the Profit in cell G2.

A F2 * C2

B F2 – D2

C D2 – F2

D D2 * E2

....

(1)

(c) Select the formula that would give the **Total Profit** in cell G9.

A SUM (C2:G2)

B TOTAL (G1:G8)

C G2 + G3 + G4 + G5 + G6 + G7

D SUM (B2:G2)

....

(1)

(d) The cost of the burger in cell B4 is wrong and will be changed to £0.76.
Give **one** other cell in Row 4 that would change as a result of this.

....

(1)

(e) One advantage of using spreadsheets is automatic recalculation of cell values. Give **two** other advantages of using spreadsheets compared to using a manual system.

Advantage 1 ....

Advantage 2 ....

(2)

(Total 6 marks)

Q4

5. A company uses a computer system to calculate its payroll.

(a) Verification is used to check that data has been copied correctly from source documents to the computer files.

Give **two** different types of verification check.

Check 1 ....

....

Check 2 ....

....

(2)

(b) Validation is used to check that data entered into the computer is sensible and reasonable. One item of data is **EMPLOYEE NUMBER**.

Give **two** types of validation check that could be carried out on the **EMPLOYEE NUMBER**.

Check 1 ....

....

Check 2 ....

....

(2)

(Total 4 marks)

Q5

6. Ben and Shazzia own a business selling ICT equipment. They use a database for stock control. Two fields in the database are stock number and bar code.

(a) List **three** other fields that would be in the database.

Field 1 ....

Field 2 ....

Field 3 ....

(3)

(b) Give **two** reasons why Ben and Shazzia use bar codes on their goods.

Reason 1 ....

....

Reason 2 ....

....

(2)

(Total 5 marks)

Q6

7. A school monitors the weather. There is an anemometer, which measures the speed of the wind, on the roof. The anemometer sends data to a PC in a classroom.

    (a) The output from the anemometer is in analogue form.

         (i) Explain why this must be converted to digital form.

              ....

              ....
                                                                                                            (1)

         (ii) Name a device that would do this conversion.

              ....
                                                                                                            (1)

    (b) Give **three** reasons why it is sensible to collect wind data automatically, instead of using a manual method.

         Reason 1 ....

         ....

         Reason 2 ....

         ....

         Reason 3 ....

         ....
                                                                                                            (3)

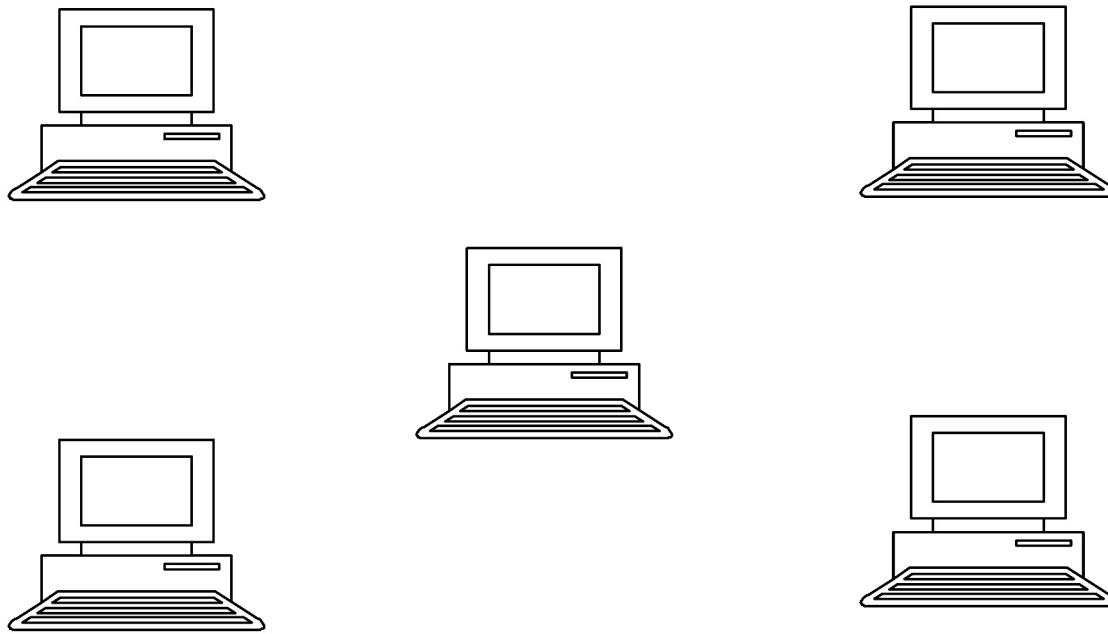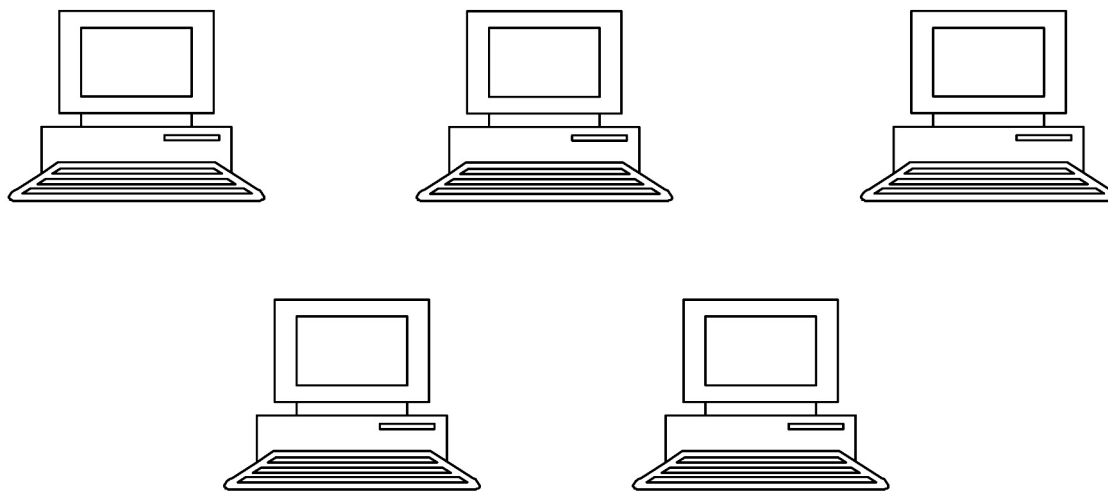   **(Total 5 marks)**

Q7

8. Two network topologies are **star** and **bus**.

(a) Here is a star network. Clearly label the file server and draw lines to represent the network cables.

(2)

(b) Here is a bus network. Clearly label the file server and draw lines to represent the network cables.

(2)

(c) Describe **two** benefits that a network of computers provides, compared to a number of stand-alone computers.

Benefit 1 ....

....

Benefit 2 ....

....

(4)

(d) Describe how a Local Area Network (LAN) differs from a Wide Area Network (WAN).

....

....

....

....

(2)

(Total 10 marks)

Q8

9. The following list shows tasks that can be performed on a computer. Three of the tasks are performed by the operating system. Identify these tasks from the list below.

   A   Output control
   B   Resource allocation
   C   Word-processing
   D   Finding a database record
   E   Input control
   F   Editing a photograph

Task 1 ....

Task 2 ....

Task 3 ....

(Total 3 marks)

Q9

10. State, giving a reason in **each** case, the most suitable storage medium for **each** of the following applications.

(a) A secondary school teacher giving a copy of a 30-kilobyte computer program to all members of her computing class.

Storage medium ....

Reason ....

....

....

(3)

(b) A publisher distributing a 500-megabyte electronic encyclopaedia.

Storage medium ....

Reason ....

....

....

(3)

(c) A school computer technician backing up a 100-gigabyte hard disk on a network file server.

Storage medium ....

Reason ....

....

....

(3)

Q10

(Total 9 marks)

11. A company provides all new employees with a booklet giving guidelines for working with computers.

(a) State, giving a reason in each case, **three** health and safety guidelines for PC users.

Guideline 1 ....

Reason 1 ....

....

Guideline 2 ....

Reason 2 ....

....

Guideline 3 ....

Reason 3 ....

....

(6)

(b) State, giving a reason in each case, **two** guidelines for protecting company data held on computers from deliberate theft.

Guideline 1 ....

Reason 1 ....

....

Guideline 2 ....

Reason 2 ....

....

(4)

(Total 10 marks)

Q11

12. The diagram shows part of a supermarket stock control system.
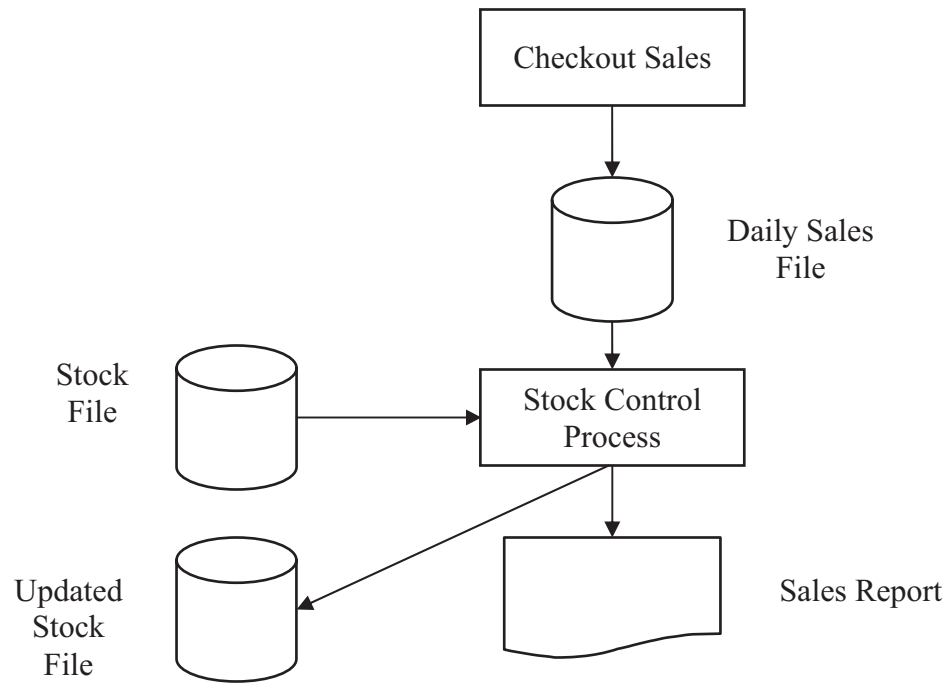
(a) In the diagram, the Daily Sales File is the **transaction file** and the Stock File is the **master file**. Explain what is meant by the terms:

(i) transaction file ....

....

....

(2)

(ii) master file ....

....

....

(2)

(b) The stock control system uses a generation backup system.

(i) State which file in the diagram is the father file.

....

(1)

(ii) State which file in the diagram is the son file.

....

(1)

(iii) Describe how the father file would be regenerated if it becomes corrupted.

....

....

....

(2)

(c) Explain how the sales report is generated.

....

....

....

....

....

....
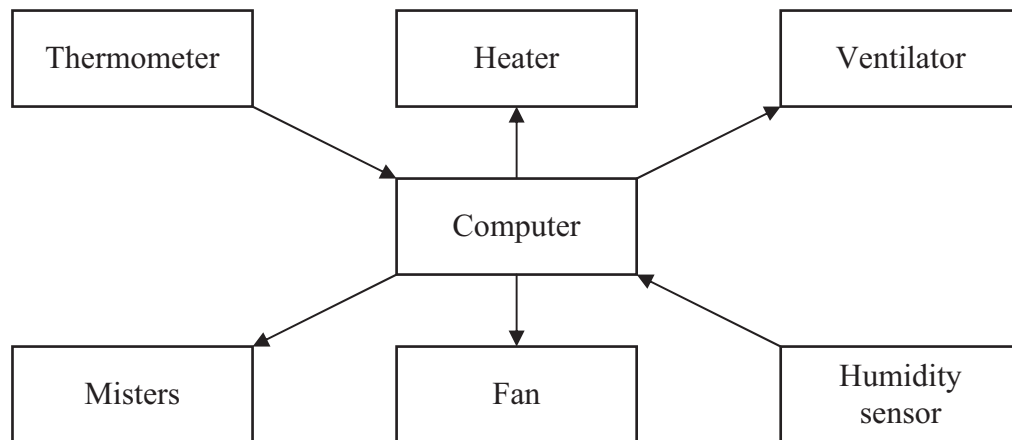
(3)

Q12

(Total 11 marks)

13. The head gardener looks after a large greenhouse and its control system. A computer controls the temperature and humidity in the greenhouse.

The temperature and humidity in the greenhouse can be controlled by heaters, cooling fans, misters that spray water and ventilators.

```
Thermometer        Heater              Ventilator


                   Computer


   Misters          Fan               Humidity
                                      sensor
```

(a) Complete the table below.

	Temperature	**Humidity**
Too high	Switch off heaters. Switch on cooling fans.	Switch off misters. Switch on ventilators.
Too low		Switch on misters. Switch off ventilators.

(2)

The computer controls the equipment by sending a digital signal. A **1** turns the equipment on and a **0** turns it off.

(b) Complete the table below to show the digital signal sent to the equipment if the temperature and humidity in the greenhouse are too high.

Heater	
Cooling fan	
Mister	
Ventilator	

(2)

(c) Explain why the head gardener would be worried if each item of equipment were sent a **1** at the same time.

....

....

....

....

(2)

(d) Explain how the computer would use feedback to maintain a temperature of 25°C in the greenhouse.

....

....

....

....

....

....

....

....

....

....

....

(5)

Q13

(Total 11 marks)

PLEASE TURN OVER FOR QUESTION 14

14. The college librarian has called in a systems analyst to advise on a new computer system for the library. Describe **three** activities the analyst would carry out at each of the following stages.

(a) Analysing the current system.

....

....

....

....

....

(3)

(b) Designing the new system.

....

....

....

....

....

(3)

(c) Implementing the new system.

....

....

....

....

....

(3)

Q14

(Total 9 marks)

TOTAL FOR PAPER: 100 MARKS

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