Paper Reference

4 3 8 5 / 1 F

Surname

Initial(s)

Signature

Paper Reference(s)

4385/1F

London Examinations IGCSE

Information and Communication Technology

Paper 1F

Foundation Tier

Thursday 5 November 2009 – Afternoon

Time: 1 hour 30 minutes

Materials required for examination
Nil

Items included with question papers
Nil

Instructions to Candidates

In the boxes above, write your centre number, candidate number, your surname, initial(s) 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 13 questions in this question paper. The total mark for this paper is 100.
There are 16 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

edexcel
advancing learning, changing lives

Answer ALL questions

1. Each statement in the table refers either to stand-alone computers, networked computers, or to both. Put a tick ✓ in the column that best describes the computer in the statement. The first one has been done for you.

Statement	Stand-alone	Networked	Both
The computer shares a printer with another computer		✓	
The computer can read data files on another computer			
The computer cannot read data files on another computer			
The computer is connected to the Internet			
The computer has an external hard drive			

(Total 4 marks)

2. The manufacturer of a computer game states the minimum requirements of a computer to run all the game's features.

   (a) Some of the requirements and some of the game's features are listed below. Match each requirement to its game feature by drawing a line between them. The first one has been done for you.

Minimum requirement

DVD-ROM drive: 4X speed

Video Card: 256 MB RAM and a 1 GHz processor on the card

400 MB hard drive space

Keyboard and mouse

Ethernet port

Game feature

The game can be played over the Internet

Videos load and play at several points in the game

Playing the game involves using a large number of on-screen controls

The game installs itself the first time the DVD is run

The game has a smoothly scrolling, 3D display

(4)

(b) The computer comes with a standard mouse and keyboard.
State **two** other input devices which would be suitable to use with the game.

Device 1 ....

Device 2 ....

(2)

(c) The computer may be used either with an LCD monitor or with a CRT monitor.
State which of these would be better; give **two** reasons for your choice.

Monitor type ....

Reason 1 ....

Reason 2 ....

(2)

Q2

(Total 8 marks)

3. Sunil is a plasterer. He uses a spreadsheet to calculate a price for plastering walls and ceilings. Sunil assumes that rooms are rectangular and he ignores doors and windows when making his measurements. The spreadsheet shows the figures for his latest job.

	A	B	C	D	E	F
1	**Room**	**Width m**	**Length m**	**Height m**	**Wall area m^2**	**Ceiling area m^2**
2	Lounge	3.2	3.6	3.2	43.52	11.52
3	Dining room	3.0	3.5	3.2	41.60	10.50
4	Bedroom 1	2.6	2.8	2.9	31.32	7.28
5	Bedroom 2	2.7	2.9	2.9	32.48	7.83
6	Bedroom 3	3.1	2.2	2.9	30.74	6.82
7					Total area m^2	Total area m^2
8					179.66	43.95
9	Wall		Ceiling		Price	Price
10	Price per m^2	£5.50	Price per m^2	£7.25	£988.13	£318.64
11					Total price	£1306.77
12						

Each cell in the table is named by a column letter and a row number. For example, the word Lounge is in the cell named A2.

Each cell in the spreadsheet is formatted as text, number, or currency.

(a) State the format for the following cells.

cell A6 ....

cell B10 ....

cell C2 ....

cell E8 ....

(4)

N 3 4 9 3 5 A 0 4 1 6

Each cell may contain a formula or a function.

(b) Name a cell which contains a SUM function. ....

(1)

(c) If Sunil changed the price in B10, some other cells would also change.

Name the cells which would change. ....

(2)

(d) State a formula to calculate the Total price in cell F11. ....

(2)

(e) Select the formula to calculate the Ceiling area in cell F2.

   A   B2*C2

   B   C2*D2

   C   C2 + B2

   D   SUM(C2...D2)

....
(1)

Q3

(Total 10 marks)

4. The manager of a new stadium wishes to test that crowds of people can leave quickly if there is a fire. A programmer makes a computer model which simulates crowd movements in a virtual stadium.

(a) Explain the difference between a model and a simulation.

....

....

....

....

(2)

(b) State **three** reasons for using a simulation rather than people for this purpose.

Reason 1 ....

....

Reason 2 ....

....

Reason 3 ....

....

(3)

(c) State **one** advantage of using people rather than a simulation for this purpose.

....

....

(1) Q4

(Total 6 marks)

5. People can buy books from a bookshop by:

- visiting the shop
- using a mail order catalogue
- using a web site to order and pay for books on-line.

(a) Give **two** reasons why the shop owner saves money if customers use the web site rather than mail order.

Reason 1 ....

....

Reason 2 ....

....

(2)

(b) Give **two** reasons why customers prefer to use the web site rather than visit the shop.

Reason 1 ....

....

Reason 2 ....

....

(2)

(c) State **three** ways that the shop owner can attract customers to use the web site.

Way 1 ....

....

Way 2 ....

....

Way 3 ....

....
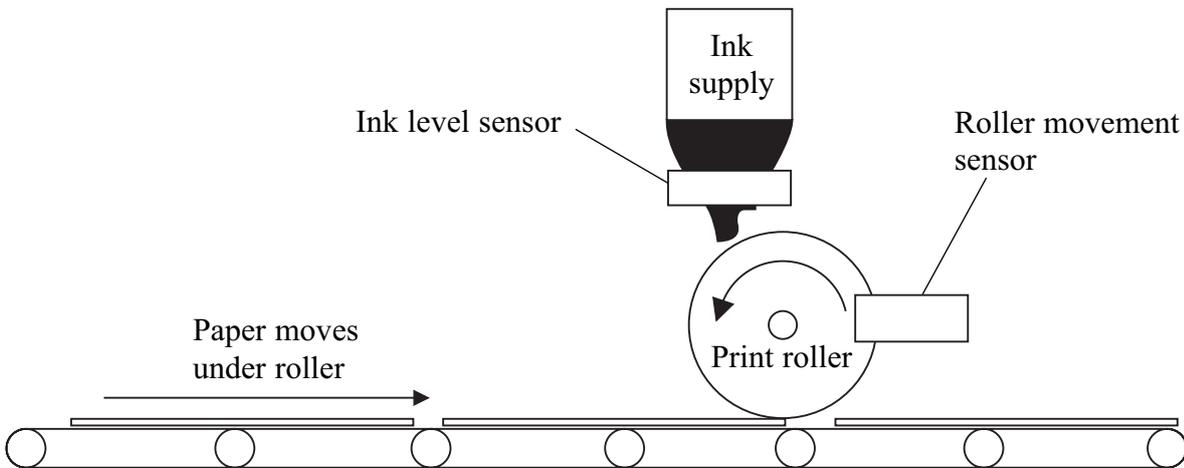
(3) Q5

(Total 7 marks)

6. A company has a computer-controlled printing press. The printing press and sensors are shown in the diagram.

Ink supply

Ink level sensor

Roller movement sensor

Paper moves under roller

Print roller

The print roller is controlled by a microprocessor.

(a) The roller movement sensor sends the roller speed to the microprocessor.

(i) State how the microprocessor decides if the roller is turning at the correct speed.

....

....

(2)

(ii) State what the microprocessor does if the roller is turning too quickly.

....

....

(1)

The paper movement and ink flow are controlled by a microprocessor.

(b) The microprocessor receives signals from the roller movement and ink level sensors.

(i) Describe a sensor mechanism that could detect whether or not paper is present.

....

....

(2)

(ii) If the ink level drops below the minimum allowed, the printing press stops. State the sequence of events between the ink level dropping below the minimum and the press stopping.

....

....

....

....

....

....

(3)

Q6

(Total 8 marks)

7. The flowchart shows an algorithm that inputs an integer **N**, counts it down to 0 and then stops.

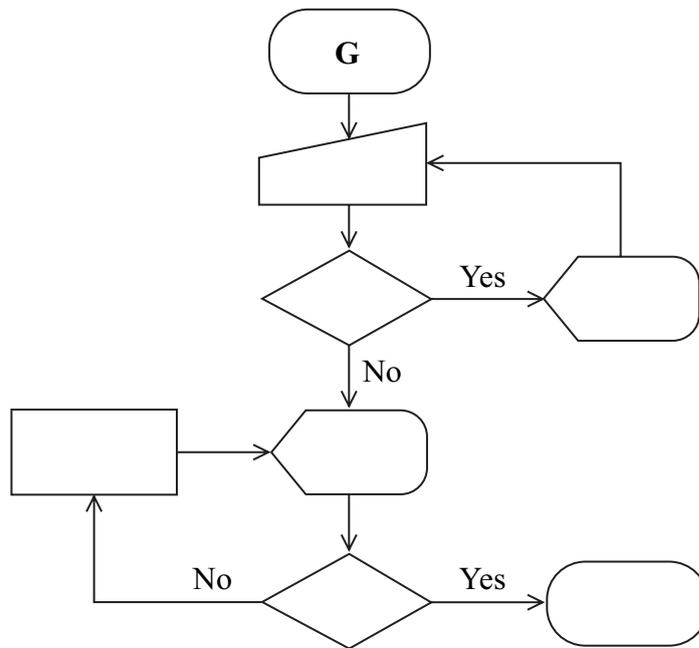The value of **N** lies in the range 1 to 99.

The algorithm validates the input and displays an error message if the input is incorrect.

The algorithm displays the current value of **N** as it is counted down.

The contents of the flowchart boxes are shown below, but they are not in the correct order.

A N = 0?   **B** N = N – 1   **C** Output N

D N < 1 OR N > 99?   **E** Output error message   **F** Input N

G Start   **H** Stop

Complete the flowchart by writing the correct letter in each flowchart box. The first one has been done for you.

(Total 7 marks)

8. Helen manages an athletics club. She uses a database to store details about club equipment.

(a) Complete the following table about some of the fields within an equipment item's record. The first one has been done for you.

Field name	Example data	Type	Length	Reason
Item	Javelin	Text	15	Example data shows letters, and an item name is unlikely to be longer than 15 characters
Quantity	8			
Purchased	22/09/2005			
Cost	£105.99			

(9)

When data is entered into the database, it is validated by software. The software uses range checks, length checks, and format checks.

(b) Choose **two** fields from the table. For each field, name a validation check which would be suitable, and describe how the named validation check would work. The two fields must use different validation checks.

Choice 1

Field name .... Validation check ....

Description..

....

Choice 2

Field name .... Validation check ....

Description..

....

(4)

(Total 13 marks)

9. Peter wishes to buy a video camera. The one he likes has the following options for recording:

- mini hard drive
- mini DVD
- flash memory card.

(a) Explain why using a flash memory card for recording video is better than each of the other two methods.

A flash memory card is better than a mini hard drive because.....................................

....

....

A flash memory card is better than a mini DVD because...

....

....

(4)

(b) State **one** disadvantage of using a flash memory card rather than the other two methods for recording video.

....

....

(1)

(Total 5 marks)

N 3 4 9 3 5 A 0 1 2 1 6

10. Workers in an office have complained about health problems. The manager thinks that these problems are caused by poor working practices and not by the computers or the furniture. The manager issues a set of simple health and safety instructions to help to solve the problems.

(a) Give **three** simple health and safety instructions which the manager might issue. In each case give a health problem that would be reduced by following the instruction.

Instruction 1 ....

....

Health problem reduced..

....

Instruction 2 ....

....

Health problem reduced..

....

Instruction 3 ....

....

Health problem reduced..

....

(6)

(b) Some health problems are caused by the environment inside an office. For example, overheating can cause tiredness or headaches. These can be reduced by using air conditioning.

State **one** other environmental factor and a health problem caused by it.
State how this problem might be reduced.

Environmental factor ....

Health problem ....

Way of reducing this problem ....

....

(3)

(Total 9 marks)

Q10

11. Three schools in a town each have their own local area network (LAN). The LANs are connected by a wide area network (WAN).

(a) Explain the difference between a LAN and a WAN.

....

....

....

....

....

....

(3)

(b) The schools share classes so that they can offer a greater choice of subjects. Some teachers want to use video conferencing to run classes in all three schools at the same time.

(i) There is a standard PC in each classroom. State **three** other items of hardware which would be needed to run a video conferencing system for this purpose. Give a reason for each item.

Item 1 ....

Reason ....

....

Item 2 ....

Reason ....

....

Item 3 ....

Reason ....

....

(6)

(ii) The PCs are running standard network-enabled operating systems. State **two** other items of software which would be needed to run the video conferencing system.

Item 1 ....

Item 2 ....

(2)

(Total 11 marks)

Q11

12. As part of her IGCSE ICT course, Kara has been asked to prepare a short presentation. It is about the problems of using the Internet as an information source. Her teacher has suggested that one problem is viruses. For example, when downloading from an infected site, a virus might be installed on her computer and damage her files.

Describe **three** other problems which Kara might include in her presentation.

Problem 1 ....

....

....

Problem 2 ....

....

....

Problem 3 ....

....

....

(Total 6 marks)

Q12

13. A company has a multi-user database which is accessed through a web page. The company's sales staff use it to store information about customers and their orders.

(a) Anyone who wishes to use the database must first log in with a user name and password. The database administrator only allows strong passwords.

(i) Describe, with an example, what is meant by a 'strong password'.

....

....

....

....

(2)

(ii) Explain why the database administrator only allows strong passwords.

....

....

....

....

(2)

(b) State **two** problems related to the use of strong passwords.

Problem 1..

....

Problem 2..

....

(2)

Q13

(Total 6 marks)

TOTAL FOR PAPER: 100 MARKS

END