

Centre Number	Candidate Number	Name
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CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

INFORMATION TECHNOLOGY

0418/02

Paper 2

May/June 2003

1 hour 15 minutes

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 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 **11** printed pages and **1** blank page.



- 1 Ring **two** output devices.

CD ROM drive	Keyboard	Plotter	
Scanner	Speaker	Touchpad	[2]

- 2 Ring **two** items which can store large amounts of data.

Bar code	CD ROM	Graphics tablet	
Magnetic strip	Magnetic tape	Sensor	[2]

- 3 Ring **one** item which allows musical instruments to be connected to a computer.

Floppy disc	Keyboard	MIDI	ROM	[1]
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- 4 A very large gas bill is received because the customer's meter reading has been typed incorrectly into the customer database. Complete the sentence by ringing the correct answer.

This mistake is caused by a

computer breakdown	computer error	human error	virus	[1]
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- 5 Complete each sentence below using **one** item from the list.

coding	control	data logging
encryption	a flowchart	hacking
an interview	a virus	the world wide web

Maintaining the temperature of a room using a computer is an example of

Space in a data file can be saved using

Analysis of an existing system can be done carrying out

Illegal accessing of data is called[4]

- 6 Tick **two** benefits of using computers in the office of a company which designs buildings. The company has a large number of customers.

The employees know the names of the customers	
It is quick to find a customer's record.	
Employees can produce the correct drawing.	
It is easier to edit drawings.	
Employees have more information about a customer.	
Employees can produce more drawings.	

[2]

- 7 A car showroom buys a computer with database software. The employees in the office will use it to keep records of the showroom's customers and cars.

- (a) In the customer database, records can be searched to find particular customers. Give **two** other features which would be included in the database software.

1

.....

2

.....[2]

- (b) The customer database is stored on a hard disc. State the type of access needed to retrieve a single record quickly.

.....[1]

- (c) An employee has to type a car's details into the car database. State **two** ways the data can be verified.

1

.....

2

.....[2]

- (d) Name a device which could be used to input a photograph of a car into the database.

.....[1]

(e) Some customers of the car showroom are worried that their personal data might be misused. State **two** ways in which the law prevents this data being misused?

1

.....

2

.....[2]

(f) Give **two** ways in which office employees have been affected by the introduction of computers.

1

.....

2

.....[2]

8 State **two** reasons why it is easier to steal data when it is stored on computer rather than on paper.

1

.....

2

.....[2]

9 Complete the sentences.

(a) Bank cheques are read using

(b) Many items can be accessed from a magnetic tape one after the other. This is called access.

(c) A software package which allows a computer to automatically manufacture goods from drawings is called

[3]

10 Computers are now widely used in supermarkets.

(a) Each item in a supermarket has a code number. State **two** ways in which this number may be entered into a point of sales (POS) terminal.

1

.....

2

.....[2]

(b) Write down a validation check which would be used to make sure the number had been entered correctly.

.....[1]

(c) Customers can pay for their shopping using credit or debit cards. Name **two** items of information stored on the magnetic strip of these cards.

Item 1

.....

Item 2

.....[2]

(d) State **two** checks that the computer would perform on the credit card.

1

.....

2

.....[2]

11 Every day a school makes a back-up of all students' files. Give **two** reasons why a back-up is made.

1

.....

2

.....[2]

- 12 Tick **two** applications which use batch processing.

On-line theatre reservation systems.	
Producing gas bills.	
Sending out reminders for overdue books.	
Controlling the temperature in a greenhouse.	
Air traffic control.	
Monitoring a patient's heartbeat.	

[2]

- 13 A bookshop is in the process of computerising its stock keeping. A systems analyst is designing a database structure for the bookshop.

The data about books will be stored in a book file. Each record will contain information about ISBN, title, name of author, paperback or hardback, price. The layout will be like:

ISBN	Title	Name of Author	Paperback or Hardback	Price
0718102096	John Wyndham Omnibus	John Wyndham	H	£14.99
0709165595	Edward Longshanks	Jean Plaidy	H	£12.99
0006163831	The One Tree	Stephen Donaldson	P	£4.99
0590554662	The Vile Victorians	Terry Deary	P	£3.99
1852251980	Clough – The Autobiography	Brian Clough	H	£16.99

(a) State **one** field where the currency data type would be most appropriate.

.....[1]

(b) State **one** field where the Boolean/logical data type would be most appropriate.

.....[1]

(c) Write down which field would be best for use as the key field and give a reason for your choice.

Field

Reason

.....[2]

(d) After the system is designed it will be implemented. Describe **two** ways that the system could be implemented.

1

.....

2

.....[2]

(e) The systems analyst will provide the shop owner with technical documentation. List **two** items which will be contained in the documentation.

1

.....

2

.....[2]

(f) The systems analyst will provide the shop owner with user documentation. List **two** items, other than those above, which will be contained in the documentation.

1

.....

2

.....[2]

14 An oil company has decided that it is easier to communicate with their employees around the world by using video conferencing. They already have a networked computer system with several workstations.

(a) Describe what is meant by video conferencing. Include in your answer a list of the additional hardware the company will have to buy for each workstation.

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.....
.....
.....
.....
.....
.....
.....[4]

(b) Describe **two** advantages to the company of such a system.

1

.....

2

.....[2]

15 A computer company has decided to develop an expert system to help doctors with their diagnoses of patient illnesses.

(a) Describe the steps it will need to go through in order to create this system.

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....[4]

17 More and more people are using home banking services for organising their finances. Apart from security, describe **one** advantage and **one** disadvantage to the bank and the customer arising from these developments.

To the bank: Advantage

.....

Disadvantage

.....[2]

To the customer: Advantage

.....

Disadvantage

.....[2]

18 A company makes toys and then delivers them to shops.

Throughout the day phone operators speak with shop owners and write down their orders on pieces of paper.

At particular times during the day office employees take these pieces of paper and type up the orders. They then produce invoices for the shop owner.

As soon as the drivers arrive in the morning they pick up the invoices. They spend the rest of the day making their deliveries to the shops.

A systems analyst studies the current system and suggests a computerised system.

(a) Describe possible methods of collecting information about the current system.

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.....[2]

