

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

INFORMATION TECHNOLOGY

0418/02

Paper 2

May/June 2004

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 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.

This document consists of **11** printed pages and **1** blank page.



- 1 Ring **two** input devices which would be used to input data about a borrower in a library.

Bar code reader

CD ROM drive

Joystick

Keyboard

Speaker

Touchpad

[2]

- 2 Ring **two** items which are used for making backups of data which has already been saved.

Bar codes

Floppy disc

Hard disc

Magnetic stripe

Magnetic tape

OCR

[2]

- 3 Tick **two** benefits of using robots on car production lines.

Robots never take breaks.	
More workers are employed.	
Faster cars are produced.	
Robots never break down.	
Robots don't need paying.	
Electricity bills are reduced.	

[2]

- 4 Tick whether the following statements are **TRUE** or **FALSE**.

	TRUE ✓	FALSE ✓
Viruses can be prevented by formatting your disc		
Viruses can cause you to lose all your data off your hard disc		
Viruses only work when you are connected to the Internet		
One way of preventing viruses is not to open attachments to e-mails		

[4]

5 Complete each sentence below using one item from the list.

- | | | |
|-------------------|-------------------|-----------------------|
| analysis | coding | design |
| encryption | evaluation | implementation |
| password | validation | verification |

Deciding which fields are to be used in a new computer database is part of the of the database.

Interviewing users, to ask them what they think of the newly implemented system is

Making sure that data entered into a computer is sensible is

Disguising information so that hackers can't understand it is[4]

6 Name **two** advantages and **one** disadvantage of using an encyclopaedia on a CD ROM rather than the Internet to find information.

Advantage 1

Advantage 2

Disadvantage.....[3]

7 A video rental shop buys a computer with database software. The manager will use it to keep records of his customers as well as records of the videos in the shop.

(a) Name **one** field in the customer data file which would contain the same data as a field in the video data file.

.....
.....[1]

(b) The customer's data file is stored on a hard disc. State the type of access needed to retrieve a single record quickly.

.....[1]

(c) A worker has to type video details into the video data file. Name **two** different validation checks which could be used. For each check, give the field it will be used on.

Check 1
Field 1
Check 2
Field 2[4]

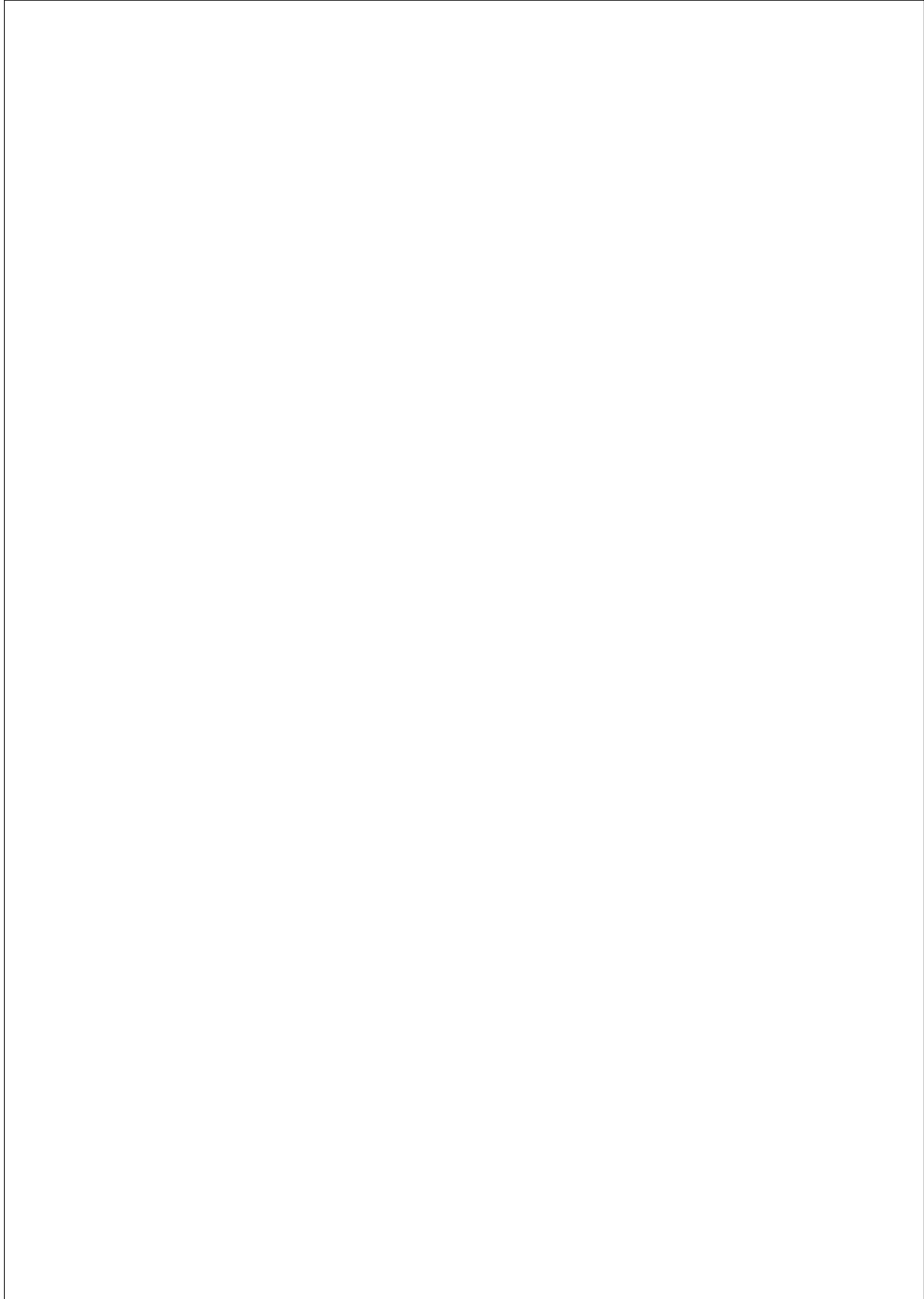
(d) When customers come in to rent a video in future they will show their card. Give a method of data input which could be used instead of typing in the customer's number.

.....
.....[1]

(e) Give **two** reasons why your method in (d) is better than just typing the number in.

1
.....
2
.....[2]

- 8** The central library has decided to change its manual borrowing system to a computer system. A database of borrowers will need to be created. The details of each borrower will be typed into a screen input form.
- (a)** Design a screen input form which the library could use for typing in the borrowers' details.



[5]

(b) The data will need to be checked for accuracy. Describe **two** methods of verification which could be used.

1

.....

2

.....[2]

(c) As the data is typed in, it will be stored in a database. Name the magnetic media which would be most suitable for this type of database. Give reasons for your choice.

.....

.....

.....

.....

.....[3]

(d) The library wants to include the new computer borrowing system on its website. Borrowers will be able to reserve or renew books using the Internet. Some people are concerned about this because they are frightened that their data may be misused.

Describe **three** ways in which their data might be misused.

1

.....

2

.....

3

.....[3]

9 Computer-controlled traffic lights are to be used at a busy road junction in a town. Light sensors and sound sensors have been suggested for measuring the traffic flow.

(a) Give reasons saying why both these possibilities would be unsuitable.

.....
.....
.....
.....
.....[2]

(b) (i) Name a suitable sensor for measuring how much traffic there is

.....[1]

(ii) Describe how it would be used to measure the traffic.

.....
.....
.....[2]

10 In many supermarkets customers can pay for their shopping using credit cards.

(a) Name **two** items of information stored on the magnetic stripe on these cards.

1
.....
2
.....

(b) State **two** ways that the supermarket computer would check the credit card.

1
.....
2
.....[4]

11 A large national company is planning to have a video conference for the first time.

(a) Every office has a stand-alone computer. What extra equipment would each office need to take part in a video conference?

.....
.....
.....
.....
.....[3]

(b) Describe the advantages of having a video conference rather than a conference in a hotel.

.....
.....
.....
.....
.....[3]

12 A government department is concerned that the country's population is growing very fast. It has calculated the population for 2014 using a computer model.

(a) Give **two** examples where computer models are used to represent other situations.

.....
.....
.....[2]

(b) Explain why some situations need modelling rather than using the real thing.

.....
.....
.....[2]

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