**OCR** RECOGNISING ACHIEVEMENT

**OXFORD CAMBRIDGE AND RSA EXAMINATIONS**

**General Certificate of Secondary Education**

# INFORMATION AND COMMUNICATION TECHNOLOGY

**2357/02**

PAPER 1 (HIGHER TIER)

Wednesday **11 JANUARY 2006**    Afternoon    1 hour 15 minutes

Candidates answer on the question paper.
No additional materials are required.

| Candidate Name | |
|---|---|

| Centre Number | | | | | |
|---|---|---|---|---|---|

| Candidate Number | | | | |
|---|---|---|---|---|

**TIME**    1 hour 15 minutes

**INSTRUCTIONS TO CANDIDATES**

- Write your name, Centre number and Candidate number in the boxes above.
- Answer **all** the questions.
- Write your answers, in blue or black ink, in the spaces on the question paper.
- Do not write in the bar code. Do not write in the grey area between the pages.
- **DO NOT** WRITE IN THE AREA **OUTSIDE** THE BOX BORDERING EACH PAGE, ANY WRITING IN THIS AREA WILL NOT BE MARKED.

**INFORMATION FOR CANDIDATES**

The number of marks is given in brackets [ ] at the end of each question or part question.

No marks will be awarded for using brand names of software packages or hardware.

The total number of marks for this paper is **60**.

| FOR EXAMINER'S USE | | |
|---|---|---|
| Question no. | Max. Mark | Mark |
| 1 | 4 | |
| 2 | 5 | |
| 3 | 2 | |
| 4 | 5 | |
| 5 | 8 | |
| 6 | 6 | |
| 7 | 6 | |
| 8 | 8 | |
| 9 | 8 | |
| 10 | 8 | |
| TOTAL | 60 | |

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

**[Turn over**

Answer all questions.

**1 (a)** Barbara's computer has been infected by a virus.

What is a computer virus?

...................................................................................................................................................

...................................................................................................................................................

...................................................................................................................................................

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

**(b)** Barbara has some important files on her computer.

Describe what she should do to avoid losing her work.

...................................................................................................................................................

...................................................................................................................................................

...................................................................................................................................................

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

**2** A central heating system is controlled by a microprocessor. This diagram shows part of the program sequence used to control the temperature.

```
        ┌─────┐
        │  A  │◄──────────────────────┐
        └──┬──┘                        │
           │                           │
           ▼                           │
        ◇ Is it too ◇    yes    ┌─────┐│
        ◇   cold?   ◇─────────► │  B  │┤
           │                    └─────┘│
          no                           │
           │                           │
           ▼                           │
        ◇ Is it too ◇    yes    ┌─────┐│
        ◇   hot?    ◇─────────► │  C  │┤
           │                    └─────┘│
          no                           │
           └───────────────────────────┘
```
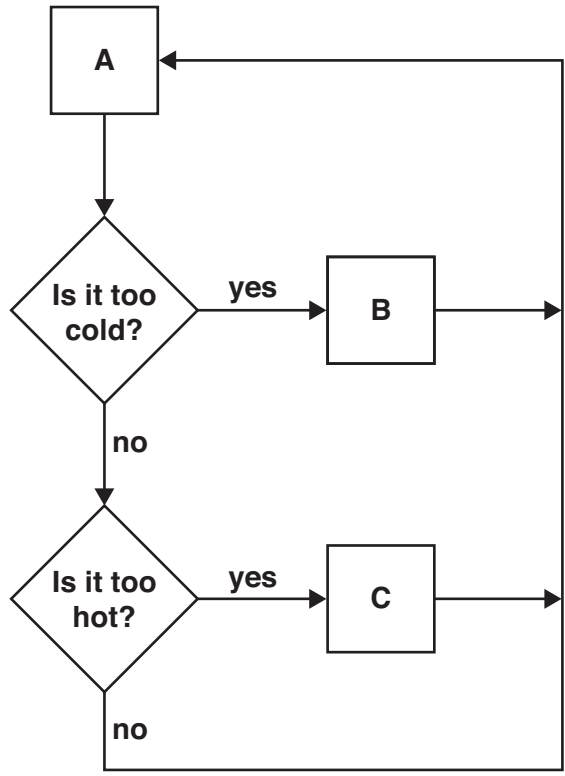
**(a)** Use the letters, **A**, **B** and **C** to complete the table below.

| Event | This happens at (A, B or C) |
|---|---|
| Read the room temperature | |
| Switch off the heating | |
| Switch on the heating | |

[3]

**(b)** Give **two** advantages of using a microprocessor to control the heating system in a home.

Advantage 1 ...............................................................................................................................

...................................................................................................................................................

Advantage 2 ...............................................................................................................................

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

**3** Identify **two** features that could be part of a CD-ROM about weather systems that could not be included in a book.

Feature 1 ...................................................................................................................................

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

**4** Michelle uses her home computer for financial planning.

**(a)** Give **two** reasons why she would use a spreadsheet for this task.

Reason 1 ...................................................................................................................................

...................................................................................................................................

Reason 2 ...................................................................................................................................

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

**(b)** When she enters new data into her spreadsheet it has to be verified.

State **one** way that the data could be verified.

...................................................................................................................................

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

**(c)** Give **two** ways the data in her spreadsheet could be presented in a word-processed report.

Way 1 ...................................................................................................................................

...................................................................................................................................

Way 2 ...................................................................................................................................

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

**5** A small shop uses ICT.

**(a)** Explain how ICT can be used for buying and paying for goods in the shop.

...........................................................................................................................................................

...........................................................................................................................................................

...........................................................................................................................................................

...........................................................................................................................................................

...........................................................................................................................................................

...........................................................................................................................................................

...........................................................................................................................................................

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

**(b)** Explain how ICT could be used by the shopkeeper to keep track of his stock.

...........................................................................................................................................................

...........................................................................................................................................................

...........................................................................................................................................................

...........................................................................................................................................................

...........................................................................................................................................................

...........................................................................................................................................................

...........................................................................................................................................................

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

**6** A car park has a barrier at the entrance. To raise the barrier to gain entry to the car park, a car driver enters a code which is checked by a computer system.

**(a) (i)** Give **two** suitable methods of inputting the code at the barrier to gain entry to the car park.

Method 1 ...............................................................................................................................

.............................................................................................................................................

Method 2 ...............................................................................................................................

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

**(ii)** Give **one** advantage of this method of inputting the code.

.............................................................................................................................................

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

**(b)** The car park has limited spaces.
Describe how a computer system could be used to count the number of available spaces in the car park.

.................................................................................................................................................

.................................................................................................................................................

.................................................................................................................................................

.................................................................................................................................................

.................................................................................................................................................

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

7    A sales company uses email to communicate with its customers.

Discuss the advantages and disadvantages to the customers of communicating by email.

..................................................................................................................................................

..................................................................................................................................................

..................................................................................................................................................

..................................................................................................................................................

..................................................................................................................................................

..................................................................................................................................................

..................................................................................................................................................

..................................................................................................................................................

..................................................................................................................................................

..................................................................................................................................................

..................................................................................................................................................

.............................................................................................................................................[6]

**8** A dentist keeps patient details in a computer database. Part of the database structure is shown below.

| Last name | First name | Date of Birth | Post Code |
|---|---|---|---|
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

**(a) (i)** Give **three** advantages of storing patient details in a computer database rather than on paper.

Advantage 1 ................................................................................................................

........................................................................................................................................

Advantage 2 ................................................................................................................

........................................................................................................................................

Advantage 3 ................................................................................................................

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

**(ii)** Give **one** disadvantage of storing patient details in a computer database rather than on paper.

Disadvantage ................................................................................................................

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

This patient's details are to be entered into the database.

| Field | Details |
|---|---|
| Last name | Reedpoint |
| First name | Orville |
| Date of Birth | 2.10.1985 |
| Post Code | CB3 5BK |

**(b)** The data is validated as it is entered.

**(i)** What is meant by validation?

.......................................................................................................................................

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

**(ii)** Give **two** ways the data entered into the 'Date of Birth' field could be validated.

Way 1 ..........................................................................................................................

.......................................................................................................................................

Way 2 ..........................................................................................................................

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

**(c)** State why the field "Last name" is **not** suitable as a key field.

.......................................................................................................................................

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

**[Turn over**

9 Casper has been on a school geography trip. He collected some data and took some photographs. He has to give a talk to the class about the trip.

Explain how he could use presentation software to improve his talk.

...................................................................................................................................................

...................................................................................................................................................

...................................................................................................................................................

...................................................................................................................................................

...................................................................................................................................................

...................................................................................................................................................

...................................................................................................................................................

...................................................................................................................................................

...................................................................................................................................................

...................................................................................................................................................

...................................................................................................................................................

...................................................................................................................................................

...................................................................................................................................................

...................................................................................................................................................

...................................................................................................................................................

...................................................................................................................................................

...................................................................................................................................................

...................................................................................................................................................

...................................................................................................................................................

...................................................................................................................................................

...................................................................................................................................................

..............................................................................................................................................[8]

**10** Emma has recently retired from work and is thinking of buying a computer to use at home for researching her family tree.

Discuss the advantages and disadvantages to her of having a computer at home for her research.

.......................................................................................................................................

.......................................................................................................................................

.......................................................................................................................................

.......................................................................................................................................

.......................................................................................................................................

.......................................................................................................................................

.......................................................................................................................................

.......................................................................................................................................

.......................................................................................................................................

.......................................................................................................................................

.......................................................................................................................................

.......................................................................................................................................

.......................................................................................................................................

.......................................................................................................................................

.......................................................................................................................................

.......................................................................................................................................

.......................................................................................................................................

.......................................................................................................................................

.......................................................................................................................................

.......................................................................................................................................

.......................................................................................................................................

.......................................................................................................................................

.................................................................................................................................[8]

12

BLANK PAGE

PLEASE DO NOT WRITE ON THIS PAGE