



Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

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INFORMATION AND COMMUNICATION TECHNOLOGY

0417/11

Paper 1 Theory

October/November 2016

2 hours

Candidates answer on the Question Paper.

No Additional Materials are required.

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name in the spaces at the top of this page and any additional pages you use.

Write in dark blue or black pen.

Do not use staples, paper clips, glue or correction fluid.

DO NOT WRITE IN ANY BARCODES.

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

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.

The syllabus is approved for use in England, Wales and Northern Ireland as a Cambridge International Level 1/Level 2 Certificate.

This document consists of **13** printed pages and **3** blank pages.

1 There are a number of different internal hardware devices.

Write down the most appropriate type of internal hardware that fits the following descriptions:

(a) A volatile device that is used to store data.

.....[1]

(b) This is the main printed circuit board found in computer systems.

.....[1]

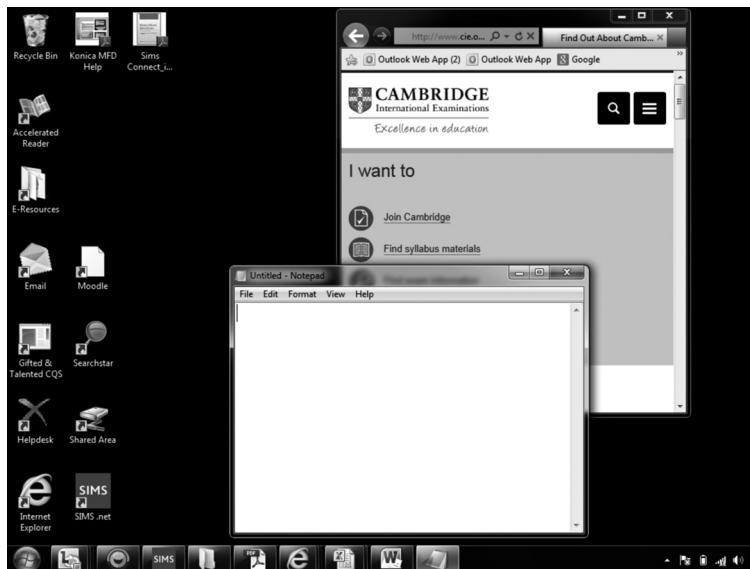
(c) A non-volatile chip that stores the start-up commands.

.....[1]

(d) This electronic device provides a computer with the ability to produce sounds.

.....[1]

2



(a) Give the type of interface shown above.

.....[1]

(b) One of the features of this type of interface is an icon. Describe what is meant by the term icon.

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

(c) Identify **one** way you would select an icon using this type of interface.

.....[1]

- 3 Tick whether the following statements are **true** or **false**.

| | true (✓) | false (✓) |
|--|--------------------|---------------------|
| A WAN usually connects a number of LANs. | | |
| A LAN is usually found in one building. | | |
| A WAN is a Wireless Area Network. | | |
| The internet is an example of a WLAN. | | |

[2]

- 4 Tick whether the following statements are **true** or **false**, when word processing a document.

| | true (✓) | false (✓) |
|--|--------------------|---------------------|
| To set the page to landscape you select page orientation. | | |
| The gutter margin is only on the left hand side of the page. | | |
| A widow is where the last line of a paragraph appears as the first line of text on a new page. | | |
| When you lock <i>aspect ratio</i> the width changes automatically as the height is increased. | | |

[2]

- 5 John is working on a school History project and saves his work. He is told by one of his teachers that the school network has been infected by a computer virus.

- (a) Explain what is meant by a computer virus and give examples of how a computer virus can affect a computer.

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.....[4]

- (b) John copies his History project from the school network onto his home computer using a pen drive. There are many ways his home computer can become infected by a computer virus.

Describe **three** ways in which John could protect his home computer from being infected.

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

- (c) The computer virus has attached itself to a file that John does not want to delete.

Describe what John should do to remove the threat of the computer virus infecting other files.

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..... [2]

6 Evaluation is a part of the systems life cycle.

Describe **two** evaluation strategies.

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..... [2]

7 (a) In the answer to a question on verification, a student wrote:

‘An example of verification is proofreading’.

Explain why proofreading is not necessarily verification.

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.....[2]

(b) Give the name of the type of verification that involves reading the information again.

.....[1]

8 A soccer club is sending out renewal letters to all its members. The secretary of the club plans to write a standard letter and then mail merge this with the club’s database.

(a) Describe the process of mail merging.

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.....[4]

(b) Having created the mail merge, the letters are sent out to the members. When the members received the letters, they noticed there were a number of errors.

Give **two** precautions that the club should have taken to avoid these errors occurring.

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

10 Name **three** health problems associated with the prolonged use of IT equipment, and for each one, suggest a possible method to prevent the problem. The methods should be different in each case.

Problem 1

Method 1

.....

Problem 2

Method 2

.....

Problem 3

Method 3

.....

[6]

11 Users of a weather station launch a weather balloon into the upper atmosphere.

(a) An example of a sensor attached to the weather balloon would be a pressure sensor.

Name **one** other sensor that should be attached to the balloon.

.....[1]

(b) The weather station continuously monitors the sensors on the weather balloon.

Describe the monitoring process.

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.....[4]

13 Describe the inputs and processing involved in booking tickets online for a music event.

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.....[4]

14 A teacher is allowing her students to use the internet, including emails, to find information for a Geography project.

(a) Describe **three** strategies that students should use to stay safe when on the World Wide Web.

1

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2

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3

.....[3]

(b) Describe **three** strategies that students should use to stay safe when sending and receiving emails.

1

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2

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3

.....[3]

- 15 Blue Screen is a music band which is rapidly gaining success. They are planning a world tour and wish to organise their concerts efficiently. Two tables have been created in a database. One table contains details of the venues and another table contains details of the concerts.

Table A: Venue details

| Venue ID | Venue Name | City | Website | Capacity |
|----------|--------------------------|------------|-----------------------|----------|
| WT1 | Cambridge Open Air Arena | Cambridge | www.COAarena.com | 12500 |
| WT2 | Holmes Arena | Auckland | www.holmesarena.co.nz | 12500 |
| WT3 | Centinnet Stadium | Beijing | www.centinnet.com | 17000 |
| WT4 | Western Stadium | California | www.westernus.com | 18000 |
| WT5 | Pembroke Theatre | Cambridge | www.PCT.co.uk | 15000 |

Table B: Concert details

| Concert ID | Location ID | Date of concert | Number of special tickets |
|------------|-------------|-----------------|---------------------------|
| 1 | WT1 | 01/11/2016 | 20 |
| 2 | WT2 | 01/12/2016 | 25 |
| 3 | WT3 | 05/12/2016 | 15 |
| 4 | WT2 | 02/12/2016 | 25 |
| 5 | WT5 | 02/11/2016 | 10 |
| 6 | WT1 | 03/11/2016 | 20 |
| 7 | WT3 | 06/12/2016 | 16 |

- (a) Describe how a relational database can be created using tables A and B.

.....

[4]

(b) Flat file databases are far less efficient than relational databases but they are still used.

Describe the advantages of using a flat file database compared to a relational database.

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

16 A company has decided to update its current computer system.

As part of the analysis, name **two** methods they could use to research their existing system. Give **one** advantage and **one** disadvantage of each.

Method 1

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Advantage

.....
.....

Disadvantage

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.....

Method 2

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Advantage

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.....

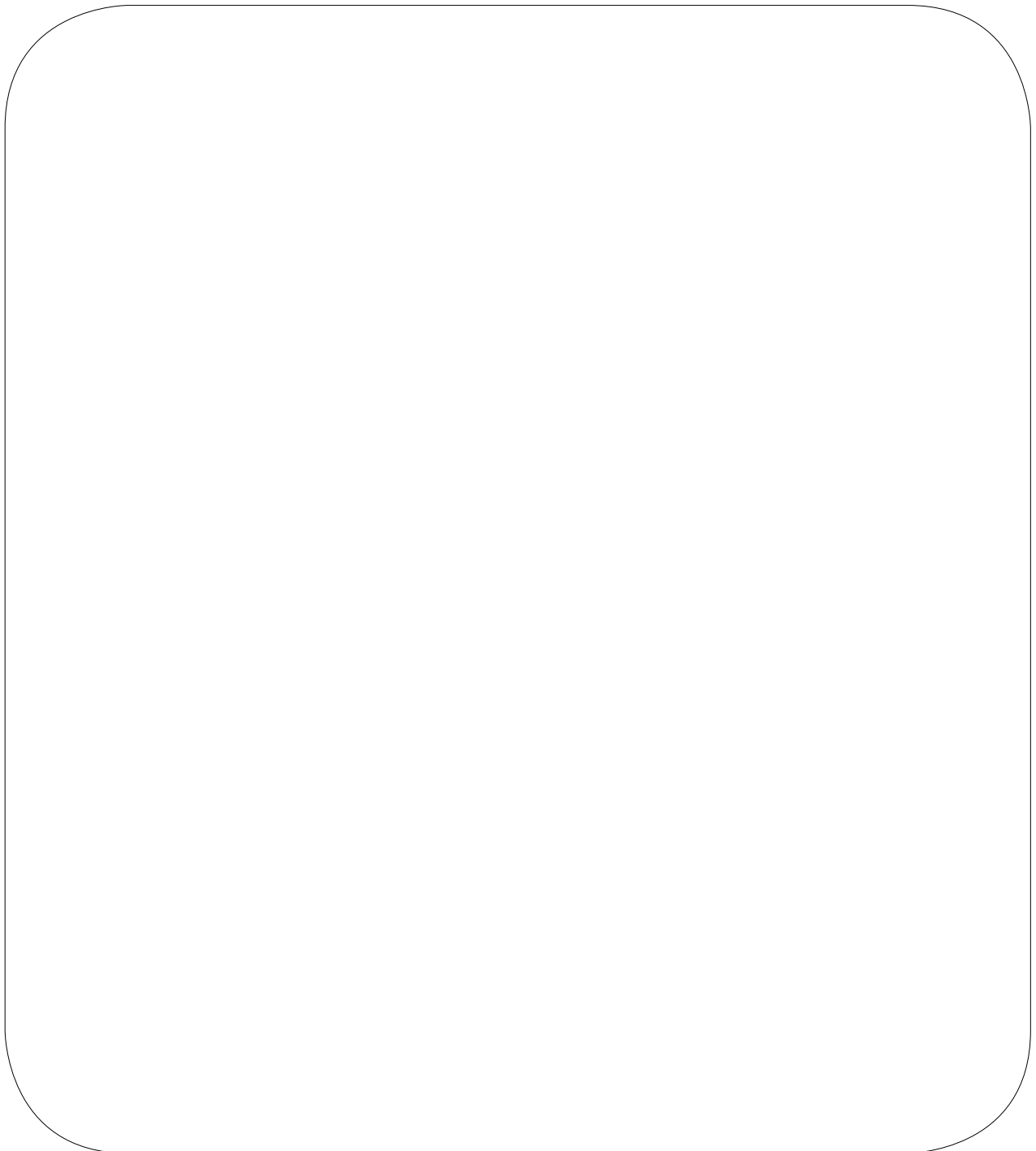
Disadvantage

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

- 17 A school is considering an educational trip to Iceland. There has been a meeting of parents and the school now requires that you set up a web page for inclusion on the school website.

Use the following data provided by the parents' committee to design a suitable web page for use by parents. Indicate the features that you would like to include to make it more interesting.

Students depart from the school at 7:30 am on Saturday 15 November 2016.
The hotel is the Excelsior Hotel in Reykjavik.
A trip to watch whales off Greenland has been arranged.
Students will return to the school on Saturday 22 November 2016.
If you have any concerns contact the school.



[6]

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