



UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
General Certificate of Education Advanced Level

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APPLIED INFORMATION AND COMMUNICATION TECHNOLOGY

9713/12

Paper 1

October/November 2011

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.

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

You may use a pencil for any diagrams, graphs or rough working.

DO NOT WRITE IN ANY BARCODES.

Answer **all** questions.

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

The businesses described in this paper are entirely fictitious.

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



Scenario 1
Question 1*For
Examiner's
Use*

Paula Richards is employed by a company to visit and inspect its stores. She spends most of her time travelling. She is often required to stay overnight in hotels where she produces reports about the stores she has visited during the day.

When she first started the job, she used a road atlas to find her way. She kept a handwritten diary for her appointments and contact details of stores. She also used it to write down phone numbers of stores. At the end of the day she would listen to some music using her portable CD player and would then write a report about her visit in a book she kept for that purpose.

1 Describe how Paula would use modern Information and Communication Technology devices and for each **use** give a different advantage.

For
Examiner's
Use

Use 1

Advantage

Use 2

Advantage

Use 3

Advantage

Use 4

Advantage

[8]

Scenario 2
Questions 2 and 3

*For
Examiner's
Use*

The Principal of the July 23rd International School in Cairo decided that the school requires a new method of keeping records of students' test scores. He decided to employ a computer company which has now fully implemented the system and has produced documentation for the new system.

2 Describe **two** ways in which a spreadsheet could be used to indicate the progress shown by students' test scores over a period of time.

Way 1

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.....

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Way 2

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.....

..... [4]

3 (a) Identify **four** items found in user documentation that the computer company will provide.

1

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2

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3

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4

..... [4]

(b) Describe **two** ways in which the computer company would benefit from providing user documentation for the new system.

1

.....

2

..... [2]

Scenario 3
Questions 4 to 9*For
Examiner's
Use*

ICE Refrigerators Ltd is an English company which manufactures refrigerators. It advertises the refrigerators using its website as well as selling them on line to individual customers. It used to have a number of stores in many town centres. Since the introduction of online shopping it has reduced the number of stores it owns.

The company currently has two separate databases. One contains customer banking and contact details. The other database contains information about on-line sales including details of the customers who bought the refrigerators.

A systems analyst has been employed to look at the current system and recommend any changes which would make it more efficient.

The company also wishes to provide a help line service to its customers. It will be advertising this offer on the website but at the moment the company is undecided on whether the centre should be overseas or in the UK.

- 4 (a) Name and describe the **two** units which are part of the refrigerator and are involved in the process of refrigeration.

Name of Unit 1

.....

Description

.....

Name of Unit 2

.....

Description

..... [4]

- (b) A microprocessor controlled refrigerator uses a number of input and output devices. Explain the purpose of **two** of these devices.

1

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2

..... [2]

- (c) Describe the role of the microprocessor in monitoring and controlling the temperature of the refrigerator.

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..... [4]

- 5 (a) Name and describe **two** methods which the systems analyst could use to record the information she will collect when researching the current system.

Method 1

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Method 2

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..... [4]

- (b) Describe **five** ways in which the recording of information will help with other aspects of the analysis of the current system.

Way 1

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Way 2

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Way 3

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Way 4

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Way 5

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..... [5]

6 The systems analyst has decided that the customer-records database and the sales database should be combined into a relational database system.

(a) Describe **five** features of a relational database.

1
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2
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3
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4
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5
..... [5]

(b) Give **three** reasons why a relational database would be preferred to two separate flat file databases.

1
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2
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3
..... [3]

(c) The company has to follow government data protection rules when storing data about its customers.
Identify **four** rules which the company must obey.

- 1
 -
 - 2
 -
 - 3
 -
 - 4
 -
- [4]

7 (a) Name and describe the use of **five** types of software, other than database software, which would have been used to produce the contents for the website.

- 1
 -
 - 2
 -
 - 3
 -
 - 4
 -
 - 5
 -
- [5]

(b) Describe **four** steps that a customer would have to follow in order to purchase items from ICE refrigerators' website and have them delivered.

1

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2

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3

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4

..... [4]

(c) Describe **three** advantages to the customer of using this online shopping system.

1

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2

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3

..... [3]

(d) Describe **three** disadvantages to the customer of using this online system.

1

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2

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3

..... [3]

8 (a) Describe **two** benefits to the company of having the call centre overseas.

1

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2

..... [2]

(b) Describe **two** drawbacks to the customer of having the call centre overseas.

1

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2

..... [2]

(c) The call centre will consist of a large room containing a number of desktop computers.

Describe **two** safety issues faced by the operators and for each one give a precaution which should be taken to prevent it.

1

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2

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..... [4]

- 9 (a) A change in the working patterns of the store workers has taken place due to the reduction in the number of stores the company owns.

Explain the meaning of the following terms.

Part time working

.....

Flexible working hours

.....

Job sharing

.....

Compressed hours

..... [4]

- (b) Give **four** benefits to the company of introducing the new working patterns.

1

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2

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3

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4

..... [4]

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