



UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS  
General Certificate of Education Advanced Level

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**APPLIED INFORMATION AND COMMUNICATION TECHNOLOGY**

**9713/13**

Paper 1

**May/June 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.

This document consists of **18** printed pages and **2** blank pages.



**Scenario 1**  
**Question 1**

Oslo Banking is a large banking organisation which offers a variety of services including loans, mortgages and insurance. The bank is currently undertaking a large advertising campaign. One of the ways it will advertise its services is by using posters.

Karl is the manager of a small branch. He thinks the advertising will be more effective using flyers.

The bank's advertising department allows several of its team to work from home, where they produce advertising ideas. The initial designs are usually just hand drawn sketches. Karl would like to see these initial designs so that he can see the stages of development of the ideas. Workers are encouraged to send these using fax machines which have been purchased for them by the company.

Because of the cold climate it is essential for these workers to have an efficient central heating system.

1 (a) Give **four** reasons why some advertising staff would rather work in the office than work at home.

*For  
Examiner's  
Use*

Reason 1 .....

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Reason 2 .....

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Reason 3 .....

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Reason 4 .....

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[4]

(b) (i) Using the scenario, describe how a fax machine operates.

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

(ii) Identify **two** drawbacks of this method of sending the hand-drawn designs.

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

*For  
Examiner's  
Use*

(c) Give **four** differences between flyers and posters.

*For  
Examiner's  
Use*

1 .....

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2 .....

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3 .....

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4 .....

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..... [4]

(d) Many workers have a microprocessor controlled central heating system at home.

*For  
Examiner's  
Use*

(i) Other than the microprocessor itself, identify **three** items of hardware connected to the microprocessor.

1 .....

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2 .....

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3 .....

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..... [3]

(ii) Describe how such a system works.

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..... [3]

**Scenario 2**  
**Questions 2, 3 and 4**

*For  
Examiner's  
Use*

Grafton mail order catalogue company currently operates by receiving orders from its customers by phone. They have a telephone call centre in Wales.

They are going to extend the way they receive orders by having an online system.

The company has a database of customer orders and their personal details. Grafton has employed Oscar to supervise the development of the new system as he has excellent time management skills.

- 2 (a) Give **two** items of hardware used in the telephone call centre, including a description of the purpose of each.

Hardware item 1 .....

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Hardware item 2 .....

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..... [2]

- (b) Describe how CTI software is used in a call centre.

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..... [3]

- (c) Describe **one** other type of software used by the call centre operators, including its use.

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..... [1]



(d) Describe **four** health issues that will affect some of the call centre operators when using computers all day.

*For  
Examiner's  
Use*

1 .....

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2 .....

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3 .....

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4 .....

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..... [4]

3 (a) The company uses the indexed sequential method of organising the customer records in their database.

Give **four** reasons why they use this method.

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

(b) Describe **four** security safeguards the company will need to have to protect the privacy of the customers' data.

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

(c) Describe **four** benefits to the company of introducing on-line shopping.

1 .....

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2 .....

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3 .....

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4 .....

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..... [4]

(d) Describe **four** drawbacks to the company of introducing on-line shopping.

1 .....

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2 .....

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3 .....

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4 .....

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..... [4]

(e) Many of the call centre operators will have to work part-time as there will be less work for them to do.

Describe **four** effects on the operators of working part-time.

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

4 Describe **four** features of time management that Oscar will use to supervise the project.

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

**Scenario 3**  
**Questions 5, 6**

Mrs Sharif is the head teacher of a large school. She has recently decided to upgrade the school's computer system so that all teachers use ICT in their lessons.

In addition, the system will enable student records, including test scores, calculated as percentages, to be stored efficiently.

She has employed Jasvinder Sidhu to develop the new system.

Jasvinder will examine all the existing documents which are used with the current student record system.

He will need to interview Mrs Sharif as well as examine the way the current system works. He will then design the new system before developing it. After the new system has been created it will need to be tested.

When the system has been implemented, Jasvinder will need to produce some program documentation.

5 Describe **six** benefits of using ICT in the classroom.

*For  
Examiner's  
Use*

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[6]



(b) Describe **five** factors that Jasvinder will need to take into account when designing the input screens for the new system.

*For  
Examiner's  
Use*

1 .....

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2 .....

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3 .....

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4 .....

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5 .....

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..... [5]



(c) Using examples of student exam mark data, give **three** descriptions of how the new system would be tested and in each description include any necessary improvements that would be identified.

*For  
Examiner's  
Use*

1 .....

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2 .....

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3 .....

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