



UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
General Certificate of Education Advanced Level

CANDIDATE
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APPLIED INFORMATION AND COMMUNICATION TECHNOLOGY

9713/12

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 **19** printed pages and **1** blank page.



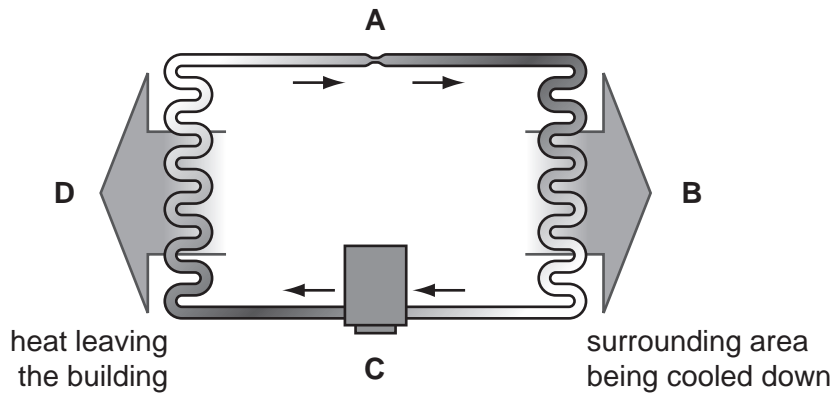
Scenario 1
Questions 1, 2, 3 and 4

Asif is the headteacher of a school in Dubai. He is keen to increase the use of ICT in lessons. A room is being set aside for use as a computer room to help the teaching of geography and history. He has already made sure that the room has air-conditioning which is microprocessor-controlled.

He has asked Safina, a systems analyst, to research the current facilities and recommend which hardware and software should be purchased.

When she has completed the analysis and design phases of this project, Safina will need to supervise the setting up of the hardware and software for the new classroom. This will require an approach using construction project management.

1 Below is a diagram of a simple air conditioning system.



(a) Write down what each of the components labelled **A**, **B**, **C** and **D** represents.

- A**
- B**
- C**
- D** [4]

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(b) Describe how microprocessor control is used in this air conditioning system.

*For
Examiner's
Use*

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[5]

- 2 (a) Safina has to obtain information about the current system from the network manager and the teachers.
Describe **one** advantage and **one** disadvantage for each of the **four** methods she could use to research the current system.

Advantage of Method 1

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Disadvantage of Method 1

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Advantage of Method 2

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Disadvantage of Method 2

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Advantage of Method 3

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Disadvantage of Method 3

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Advantage of Method 4

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Disadvantage of Method 4

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[8]

(b) In her analysis of the current system, Safina identified the software and hardware required for the new system. Give detailed descriptions of **three** results of the analysis that enabled her to do this.

*For
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Use*

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3 Using the scenario, describe **four** features of Computer Aided Learning.

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4 Describe **four** features of construction project management which will improve the probability of finishing the project on time.

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Scenario 2
Questions 5 and 6

*For
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Use*

Square Peg Readers is a national chain of book shops in Pakistan. It has just set up an online shopping website so that customers can order books online and have them delivered to their home. As this is a new website the majority of customers will need to register with the system giving their personal details before they are able to use it.

After making a purchase many customers will want to check that the correct amount of money has been taken from their bank account. To do this they will use on-line banking.

Many shop assistants could become unemployed as a result of this new website.

5 (a) Describe **five** steps that a new customer would have to follow in order to register online with this system.

*For
Examiner's
Use*

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(b) Describe **three** security threats that the bank and the customer must guard against because of the use of on-line banking.

*For
Examiner's
Use*

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[6]

6 (a) Describe the working patterns the company could introduce to avoid staff redundancies or retrenchment.

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(b) The introduction of the website will affect the work of the technical staff. Describe **two** opportunities this may present.

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*For
Examiner's
Use*

Scenario 3
Questions 7, 8 and 9

*For
Examiner's
Use*

The Wuhan-Yangtse is one of the largest water companies in China. It operates a call centre for customers to use when they have problems with their water supply. It has just computerised its payroll system so that payslips can be produced at the end of the month for each worker.

7 (a) Before the payroll system was created the database file structure was designed. Describe **four** features of a typical file structure.

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(b) Give **three** examples of the data that will be contained in the master file which will change for each worker every time the payroll application is run.

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(c) Describe, using examples of data from the master and transaction files, **five** steps in the processing used in the production of payslips.

*For
Examiner's
Use*

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[5]

9 Describe **five** differences between first party control and third party control and suggest which type Wuhan-Yangtse would choose to use in their call centre, giving a reason for your choice.

*For
Examiner's
Use*

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Choice

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Scenario 4
Question 10*For
Examiner's
Use*

Polar Bear Ltd. is a Tanzanian book publishing company. The manager, Issa, often works from home. When he is working from home, he needs to keep in contact with workers in the company office. This is achieved by using a landline connection to have phone conferences. The company's computer system is unreliable and not connected to the Internet.

10 (a) Describe **three** benefits and **three** drawbacks to the company of Issa working from home.

*For
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Use*

Benefit 1

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Benefit 2

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Benefit 3

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Drawback 1

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Drawback 2

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Drawback 3

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..... [6]

(b) Describe **four** steps involved in Issa setting up a phone conference and give a description of the type of phone required.

*For
Examiner's
Use*

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Phone required

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