UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
General Certificate of Education Advanced Level

CANDIDATE
NAME

CENTRE
NUMBER

CANDIDATE
NUMBER

APPLIED INFORMATION AND COMMUNICATION TECHNOLOGY   **9713/13**

Paper 1   **May/June 2010**

1 hour and 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.

Any businesses described in this paper are entirely fictitious.

This document consists of **20** printed pages.

UNIVERSITY *of* CAMBRIDGE
International Examinations

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Scenario 1
Questions 1 and 2

St Dennis Medical Centre employs a number of doctors who are often called out to visit patients in their homes. When this happens they may need remote access to the central computer system at the main hospital as well as the system at their own medical centre. This will allow them to access patients' records during house calls.

From time to time it is necessary for a doctor to consult with other doctors when they are away from the medical centre.

1 **(a)** Describe **two** items of hardware that a doctor could use in order to access the records remotely. Explain how each is used.

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(b) Describe **two** pieces of medical information that a doctor might need to access while in a patient's home.

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 [Turn over

2 When visiting a patient, doctors may need to consult with one or more other doctors for advice.

Describe different electronic methods that could be used by the doctor to communicate with their colleagues.

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Scenario 2
Question 3

Cairo Press is a group of Egyptian book publishers who are looking to expand their operations. The group wishes to increase their advertising to extend their customer base. Cairo Press' preferred method of advertising would be by using a website. The employee who has been asked to design the website has access to a standard PC, keyboard and mouse. Cairo Press will purchase any additional equipment which might be needed.

3 **(a)** Describe the additional hardware which would be needed, and how it would be used in the creation of the website.

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(b) Use examples to explain the meaning of product advertising, business advertising and service advertising. State which one applies in this scenario.

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(c) The company does not wish to use flyers but there are other ways they could use ICT to produce their own advertising materials.

Discuss the advantages and disadvantages to Cairo Press of using these other methods compared to advertising on a website.

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Scenario 3
Questions 4 and 5

Windscale is a national chain of banks in the UK. They have had a computer system for many years to manage customer accounts and also the payroll of their employees.

They have a website for their customers, who can do all their banking online.

They are concerned that their system is not as secure as it might be. At the moment customers are only required to type in a username and a password to access their accounts.

Many bank workers in the existing branches use computers all day. The working patterns of some employees have been affected by the introduction of online banking.

4 **(a)** Describe the outputs of the payroll system.

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(b) Describe the features of a well designed online banking website.

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(c) Discuss methods used to improve the security of a customer's data when they want to access their account.

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5 **(a)** Health and safety problems may occur because of the bank workers' continual use of computers.

Describe how these problems can be reduced.

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(b) Describe the changes to the working patterns of bank workers which were caused by the introduction of online banking.

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Scenario 4
Questions 6, 7 and 8

Dar Es Salaam High School has recently been formed by the amalgamation of six smaller schools. The head teacher wants to have a modern central ICT system to administer student records. This system will need to be ready when the students attend a single campus. She has decided to employ a systems analyst to look at the existing computer systems in the six schools and recommend a new system.

She wants to keep student records on file which will include the following:

- the student id number of 12 digits
- test scores
- their form groups

6 **(a)** The systems analysts has completed the collection of information about the existing system.
After this has been done, he will use this information to complete the Analysis stage of the systems life cycle.

Describe the activities he will need to carry out to do this.

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(b) At the Design stage of the systems life cycle he will need to decide on the validation checks to be used.

Describe **three** validation checks which would be used with the student id number.

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7 The new system has been designed and will now be tested.

(a) Explain why live data is used to test the new system.

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(b) Compare and contrast different methods which can be used to implement this new system. For each method give reasons why it may, or may not, be suitable for this school.

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(c) After the system has been implemented it will be evaluated.

Describe the methods that the systems analyst will use to evaluate how easy the system is to use.

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8   The head teacher intends to use computer aided assessment of student progress.

Describe how computers can be used to assess students' work.

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