



UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS  
General Certificate of Education Advanced Level

CANDIDATE  
NAME

CENTRE  
NUMBER

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**APPLIED INFORMATION AND COMMUNICATION TECHNOLOGY**

**9713/12**

Paper 1

**October/November 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.

The businesses described in this paper are entirely fictitious.

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



**Scenario 1**  
**Questions 1 and 2**

*For  
Examiner's  
Use*

The North India Motor Company is a manufacturer of cars and vans. It has a modern factory and a computerised production line in New Delhi. Robot arms are used in the manufacture of each car.

The company is planning to introduce a new sports car and wishes to advertise this car. It is trying to decide between advertising on its own website and advertising on somebody else's website using pop-ups.

1 (a) Describe **four** end effectors, other than a drill, in terms of the tasks each would perform assembling the cars.

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(b) Describe how a robot arm would be programmed to drill holes in the car body.

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2 (a) There are three types of advertising; business, product and service advertising. Name and describe the type of advertising that is used to promote sales of a sports car.

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(b) Text can be entered into a website using a keyboard. Describe how other input devices can be used to enter information for inclusion in a website.

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(c) Describe pop-ups, their drawbacks to the company and how these drawbacks can be overcome.

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

Some teachers at the Nairobi International School use computers to store records of their students including examination results. The Headteacher Peter Onyango has decided that all teachers will use computers to keep their assessment records and that this information will be stored centrally.

In order to introduce this new system Peter has asked Mary, a systems analyst, to analyse the existing paper based system that a number of teachers are still using.

Each student has a unique ten digit student number.

After the analysis phase Mary will design the new system. Part of this process will be the design of validation checks. Mary will use presence checks and existency checks on the student number and presence checks on the examination scores, which are marks out of 100. In addition, Mary will need to decide on other validation checks.









(c) After the system has been developed, the entry of examination results will be tested. Describe a suitable test plan with appropriate test data.

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**Scenario 3**  
**Question 5**

Jaypeg is a graphics company whose workload varies from week to week. It employs a number of permanent staff and as the amount of work increases additional staff have to be employed on a temporary basis. The permanent staff are paid monthly but the temporary staff are paid weekly according to the number of hours worked.

The company is to introduce a computerised payroll system which will consist of a separate system for the permanent workers and one for the temporary workers.

The payroll department is the only department to be given a new computer system.

Cost is important and the company do not wish to pay more than they have to for the new system.

5 (a) Describe the information that will need to be stored about the temporary workers on the

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(i) master file

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(ii) transaction file

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**Scenario 4**  
**Question 6**

Daniel is a surveyor. His job includes the accurate measuring of the dimensions of buildings in order to calculate the area of land being used.

He also needs to be able to access information about each property very quickly in addition to writing reports.

As he is frequently away from his office, time management software is an important tool he must use to organise his day.

While he is out of the office, he must remain in contact with his colleagues in order to receive or give instructions about particular jobs.

Owing to work commitments Daniel has little time for visiting banks and so uses online banking.



6 (a) Other than time management software, describe, with examples of their use, the hardware and software that Daniel needs when he is away from the office.

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(b) Describe how Daniel would use time management software to help him organise meeting times.

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(c) Describe the benefits to Daniel of using online banking.

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