Cambridge International Examinations
Cambridge International Advanced Level

CANDIDATE NAME											

CENTRE NUMBER						CANDIDATE NUMBER				

APPLIED INFORMATION AND COMMUNICATION TECHNOLOGY **9713/32**

Paper 3 **May/June 2016**

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, glue or correction fluid.
You may use an HB 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 **16** printed pages and **4** blank pages.

CAMBRIDGE
International Examinations

[Turn over

Scenario 1

Questions 1, 2 and 3.

Individuals and businesses use different types of internet auctions to buy and sell goods.

Buyers can use the auction website to search, look at and buy items that are offered for sale by individuals or businesses.

Buyers can pay sellers for the items using credit cards.

Buyers can also use other ways of paying for the goods.

1 (a) Describe, in detail, **three** different types of internet auction.

1 ....

....

....

....

....

....

2 ....

....

....

....

....

....

3 ....

....

....

....

....

....[6]

                                       [Turn over

(b) Explain why buyers might be worried about using internet auctions to buy goods.

....

....

....

....

....

....

....

....

....

....[4]

2 (a) Explain the **advantages** to a **buyer** of using a credit card to pay for goods purchased using an internet auction.

....

....

....

....

....

....

....

....

....

....

....

....

....[5]

(b) Explain the **disadvantages** to a **seller** of allowing buyers to use a credit card to pay for goods purchased using an internet auction.

....

....

....

....

....

....

....

....

....

....[4]

3   Describe other ways that a buyer can safely pay for goods purchased using an internet auction.

....

....

....

....

....

....

....

....

....

....[4]

BLANK PAGE

Scenario 2

Questions 4, 5 and 6.

A supermarket uses a computerised stock control system to try to ensure that it has enough items to sell. Each item stocked by the supermarket has its own linear (one-dimensional) barcode, for example:

The supermarket is considering adding matrix (2D or two-dimensional) barcodes to the items, for example:

Customers may use a manned POS checkout to pay for the items when they have finished their shopping. The supermarket also provides a facility for customers who wish to scan the items themselves before paying at a self-service kiosk.

Customers can use a hand-held 'scan and go' device or a mobile phone for self-service scanning.

4 **(a)** Explain how information is represented in a linear barcode system.

....

....

....

....

....

....

....

....

....

....

....

....

....[5]

(b) Describe the benefits of adding matrix barcodes on the items in the supermarket.

....

....

....

....

....

....

....

....

....

....[4]

 [Turn over

5 Describe how a customer would make use of the hand-held 'scan and go' system in order to be able to pay for items at a self-service kiosk.

....

....

....

....

....

....

....

....

....[4]

6 Describe the benefits and drawbacks of the use of self-service systems in supermarkets.

....

....

....

....

....

....

....

....

....

....

....

....

....[6]

11

BLANK PAGE

[Turn over

Scenario 3

Questions 7 and 8.

A group of scientists are studying the plant life found in a remote area of rain forest.

The scientists have access to an expert system created especially to assist them when identifying the plants.

7 **(a)** Explain **four benefits** to the scientists of using the expert system to assist them in identifying the plants.

1 ....

....

....

2 ....

....

....

3 ....

....

....

4 ....

....

....[4]

(b) Explain **four drawbacks** to the scientists of using the expert system to assist them in identifying the plants.

1 ....

....

....

2 ....

....

....

3 ....

....

....

4 ....

....

....[4]

 [Turn over

8 (a) Describe how the knowledge base is set up with the facts required to identify plants.

....

....

....

....

....

....

....

....

....

....[4]

(b) Explain how each of the following is used by the inference engine to identify a plant.

(i) forward-chaining

....

....

....

....

....

....

....[3]

(ii) backward-chaining

....

....

....

....

....

....

....[3]

BLANK PAGE

[Turn over

Scenario 4

Questions 9, 10 and 11.

A school has a computer network for use by the staff and students. A file server stores the details of the students and their academic progress. The staff are issued with a user name (user ID) and a password so that they can access the student details over the network and over the internet.

The school network, protected by a firewall, allows internet access and the staff and students can use the World Wide Web via a proxy server.

The geography teachers at the school use information and communication technology (ICT) in their teaching.

9   Discuss the benefits and drawbacks **to the students** of being taught geography by the use of ICT.

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....[8]

10 Explain how each of the following helps to keep student data held on the school network, from being accessed by unauthorised users.

(a) a firewall

....

....

....

....

....

....

....[3]

(b) encryption

....

....

....

....

....

....

....[3]

11 Explain why the school's internet access is routed via a proxy server.

....

....

....

....

....

....

....

....

....

....

....

....

....[6]

BLANK PAGE