www.XtremePapers.com

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
General Certificate of Education Advanced Level

CANDIDATE NAME

CENTRE NUMBER

CANDIDATE NUMBER

4873177487

APPLIED INFORMATION AND COMMUNICATION TECHNOLOGY **9713/31**

Paper 3 **October/November 2012**

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 **20** printed pages.

© UCLES 2012

Scenario 1
Questions 1 and 2

For Examiner's Use

José runs a car rental business. Cars can be picked up from one garage and returned to another. Each car is fitted with a Satellite Navigation system (Sat Nav).

© UCLES 2012

For Examiner's Use

1 **(a)** Explain how a Satellite Navigation (Sat Nav) system operates.

.....

.....

.....

.....

.....

.....

.....

.....

..... [3]

(b) Describe **two** benefits and **two** drawbacks of the use of Satellite Navigation (Sat Nav) by the car rental business.

Benefit 1 .....

.....

.....

Benefit 2 .....

.....

.....

Drawback 1 .....

.....

.....

Drawback 2 .....

.....

..... [4]

For Examiner's Use

2 José is thinking of introducing an intranet.

(a) Describe **three** ways this would be of use to him.

Way 1 .....

.....

.....

.....

.....

.....

Way 2 .....

.....

.....

.....

.....

.....

Way 3 .....

.....

.....

.....

.....

..... [6]

(b) The intranet will be part of a Wide Area Network (WAN).

Give **two** features of a WAN.

Feature 1 .....

.....

.....

Feature 2 .....

.....

..... [2]

For Examiner's Use

Scenario 2
Questions 3, 4 and 5

For Examiner's Use

Peter likes watching films. Sometimes he watches a film on his home entertainment system.

At other times he arranges visits to the cinema. He will use an online cinema booking system with a secure method of payment. He will collect the tickets from a kiosk at the cinema.

The cinema booking system uses various methods to ensure the security of the personal data of its customers.

© UCLES 2012

3 Describe, in detail, **four** features of a home entertainment system.

For Examiner's Use

1 .....

.....

.....

2 .....

.....

.....

3 .....

.....

.....

4 .....

.....

..... [4]

For Examiner's Use

4 (a) (i) Give **four** items of information that Peter would input into the web page in order to book a cinema ticket, explaining why each one is needed.

1 .....

.....

.....

2 .....

.....

.....

3 .....

.....

.....

4 .....

.....

..... [4]

(ii) Apart from the information that Peter will have input, describe **three** items of information that will appear in the confirmation.

1 .....

.....

.....

2 .....

.....

.....

3 .....

.....

..... [3]

For Examiner's Use

(b) State **three** features which should be provided on the website for Peter to show him that there will be a secure transaction.

1 .....

.....

.....

2 .....

.....

.....

3 .....

.....

..... [3]

(c) Describe how the computer system produces the tickets.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

..... [4]

For Examiner's Use

5 Describe **two** features of each of the following security methods:

(a) Encryption

Feature 1 .....

.....

.....

Feature 2 .....

.....

..... [2]

(b) Digital Certificate

Feature 1 .....

.....

.....

Feature 2 .....

.....

..... [2]

(c) Authentication

Feature 1 .....

.....

.....

Feature 2 .....

.....

..... [2]

© UCLES 2012

Scenario 3
Question 6

For Examiner's Use

Sarbjit is the director in charge of research at the International Medical Drug Corporation (IMDC). The corporation wishes to develop a new medical drug. Sarbjit carried out market research to find out how many people would use the drug. He had a choice of two types of market research: primary and secondary.

Having had favourable feedback, the corporation decided to carry out the necessary scientific research to make the drug.

For Examiner's Use

6 **(a)** Explain the difference between primary market research and secondary market research.

.....

.....

.....

.....

.....

..... [2]

(b) Describe **three** ways in which primary market research can be carried out.

1 .....

.....

.....

.....

.....

.....

2 .....

.....

.....

.....

.....

.....

3 .....

.....

.....

.....

.....

..... [6]

For Examiner's Use

(c) (i) State the type of computer that would be used in the **scientific** research.

.....

[1]

(ii) Describe how computer models would be used in the **scientific** research.

.....

.....

.....

.....

.....

.....

.....

.....

.....

[3]

Scenario 4
Questions 7, 8, 9 and 10

For Examiner's Use

A number of doctors in a medical centre use an expert system to help diagnose patients' illnesses.

The doctors would like to have a pharmacy with a computerised stock control system in the medical centre. The stock control software could be purpose-written or could be an off-the-shelf package.

The pharmacy staff will need to be trained in the use of the new stock control system.

The project, to set up a pharmacy within the medical centre, will be managed using project management software.

7 **(a)** Describe how the knowledge engineer would have collected information for the knowledge base of the doctors' expert system.

For Examiner's Use

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

..... [4]

For Examiner's Use

(b) Describe **two** items of information that a doctor will enter into the expert system.

Item 1 .....

.....

.....

Item 2 .....

.....

..... [2]

(c) Describe **two** outputs from the expert system.

Output 1 .....

.....

.....

Output 2 .....

.....

..... [2]

© UCLES 2012

8 Discuss the advantages of choosing an off-the-shelf package compared with choosing purpose written software.

For Examiner's Use

[6]

9 **(a)** What is meant by each of the following?

For Examiner's Use

Computer aided instruction (CAI) .....

.....

.....

Computer based learning (CBL) .....

.....

.....

Computer aided assessment (CAA) .....

.....

..... [3]

(b) Describe in detail **three** benefits and **three** drawbacks of using ICT for the training of the pharmacy staff.

For Examiner's Use

(i) Benefits

1 .....

.....

.....

2 .....

.....

.....

3 .....

.....

..... [3]

(ii) Drawbacks

1 .....

.....

.....

2 .....

.....

.....

3 .....

.....

..... [3]

For Examiner's Use

10 (a) Describe how a Gantt chart would help manage the setting up of the pharmacy within the medical centre.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

..... [4]

(b) Describe one other aspect of project management software.

.....

.....

.....

.....

.....

..... [2]

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

University of Cambridge International Examinations is part of the Cambridge Assessment Group. Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge.