



UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS General Certificate of Education Advanced Level

CANDIDATE NAME					
CENTRE NUMBER			CANDIDATE NUMBER		

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.



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).

1	(a)	Explain how a Satellite Navigation (Sat Nav) system operates.	For
			Examiner's Use
		[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]	

2 José is thinking of introducing an intranet. (a) Describe three ways this would be of use to him. Way 2 Way 3

(b)	The intranet will be part of a Wide Area Network (WAN).	
	Give two features of a WAN.	
	Feature 1	
	Feature 2	
	[2	2]

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.

3

Describe, in detail, four features of a nome entertainment system.
1
2
3
4
[4]

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

(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]

5

Des	scribe 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]

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.

6	(a)	Explain the difference between primary market research and secondary market research.	For Examiner's Use
		[2]	
	(b)	Describe three ways in which primary market research can be carried out.	
		1	
		2	
		3	
		[6]	
			ı

(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.	
			•••
			•••
			•••
			•••
			•••
		Г	[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 Examin Use
		[4]	1

ner's

(b)	Describe two items of information that a doctor will enter into the expert system.	Fo Exami
	Item 1	Us
	Item 2	
	[2]	
(c)	Describe two outputs from the expert system.	
	Output 1	
	Output 2	
	[2]	

Examiner's Use

8	Discuss the advantages of choosing an off-the-shelf package compared with choosing purpose written software.
	[6]

9	(a)	What is meant by each of the following?
		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.		
	(i)	Benefits	
		1	
		2	
		3	
		[3]	
	(ii)	Drawbacks	
		1	
		2	
		3	
		[3]	

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]

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