

OXFORD CAMBRIDGE AND RSA EXAMINATIONS Advanced GCE

INFORMATION AND COMMUNICATIONS TECHNOLOGY 2515

Communications Technology and its Applications

Tuesday 24 JANUARY 2006 Morning 1 hour 30 minutes

No additional materials are required. Candidates answer on the question paper.

Candidate Name	C	entre N	lumb	er	Cand Nun	

TIME 1 hour 30 minutes

INSTRUCTIONS TO CANDIDATES

- Write your name in the space above.
- Write your Centre number and Candidate number in the boxes above.
- Answer all the questions.
- Write your answers, in blue or black ink, in the spaces on the question paper.
- Read each question carefully and make sure you know what you have to do before starting your answer.

INFORMATION FOR CANDIDATES

- The number of marks is given in brackets [] at the end of each question or part question.
- The total number of marks for this paper is 90, of which 4 marks are allocated to the assessment of the quality of written communication.
- You will be awarded marks for the quality of written communication where an answer requires a piece of extended writing.
- No marks will be awarded for using brand names of software packages or hardware.

FOR E	EXAMINER'S USE
1	14
2	16
3	12
4	16
5	14
6	14
QWC	4
TOTAL	90

This question paper consists of 16 printed pages, 3 lined pages and 1 blank page.

	(i)	Explain two advantages and one disadvantage of e-commerce for the customer.
		Advantages
		Disadvantana
		Disadvantage
		[6]

(ii)	Explain two advantages and one disadvantage of e-commerce for the book shop management.
	Advantages
	Disadvantage
	[6]

(b)	Data sent over the Internet may be encrypted.
	Explain the purpose of encryption.
	[2]

WO	small company based in the UK specialises in the manufacture and sale of hand-made oden jigsaw puzzles for young children. The office staff use PCs linked through a local a network (LAN).
(a)	Explain the benefits and drawbacks of a star topology for this network.

2515 Jan06

(b)	Ехр	lain the purpose of each of the following network components:
	(i)	server
	/ii\	huh
	(11)	hub
	(iii)	router.
		[6]

(c)	The company employs sales representatives to market their jigsaws throughout the UK. Each representative is equipped with a cellular (mobile) phone.
	Explain how a cellular phone network operates.
	[4]

International communications often use satellites.

3

(a)	Describe how satellites are used in making and receiving international telephone calls.

An international manufacturing company has branches and employees throughout the world.

(b) Explain the advantages and disadvantages to the company in using satellites as a

means of voice communication between branches and employees.
Advantages
Disark and an a
Disadvantages
[6]

(c)	Identify two other uses of satellite communication which may be used by the company.
	[2]

	Curatur avurtabing ar pookat avuitabing satulal battaad ta tusisefeu elete
	Circuit switching or packet switching could be used to transfer data.
	Describe the differences between circuit switching and packet switching.
	[
)	Explain why packet switching would be used when a client downloads data from the
	database.

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 	 		 •••••	

5	(a)	(a) Intranets and Information Services are examples of common network environment					
		(i)	Describe the characteristics and purpose of an intranet.				
			[4]				
		(ii)	Describe the characteristics and purpose of an information service.				
			[4]				

(b)	(i)	Explain the importance of bandwidth with respect to the transmission of data.						
(
	(ii)	Describe how different types of transmission media determine the bandwidth available.						
		[6]						

6 (a)	Explain how ICT may be used in making a telephone directory enquiry.

))	Chip and pin technology is replacing magnetic stripe technology on credit and debit cards.
	Discuss the implications of chip and pin cards for users and for retailers.
	[8]

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