

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS General Certificate of Education Advanced Subsidiary Level and Advanced Level

	Advanced Subsidiary Edver and Adve	anocu Ecver	
CANDIDATE NAME			
CENTRE NUMBER		CANDIDATE NUMBER	
COMPUTING			9691/01
Paper 1 Writte	en	For Exa	amination from 2011
SPECIMEN PA	APER		
			1 hour 30 minutes
Candidates an	swer on the Question Paper.		
No Additional I	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.

You may use a soft pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer all questions.

No marks will be awarded for using brand names of software packages or hardware.

At the end of the examination, fasten all your work securely together.

The number of marks is given in brackets [] at the end of each question or part question.

For Exam	iner's Use
1	
2	
3	
4	
5	
6	
7	
8	
Total	

This document consists of 10 printed pages.



(a)	State what is meant by		
	(i)	operating system software,	
		[1]	
	(ii)	applications software.	
(b)	Exp	lain the difference between batch processing and real-time operating systems.	
		[2]	
(c)		ntify one application which would need to use batch processing and give a reason your answer.	
	App	lication	
	Rea	ison	
		[2]	

2	(a) Ex	plain the meaning of the following modes of data transmission.	
	(i)	Simplex	
		[1]	
	(ii)	Full-duplex	
		[1]	
	(iii)	Half-duplex	
		[1]	
	(b) (i)	Describe how buffers and interrupts are used in the transfer of data from primary memory to secondary storage.	
		[5]	
	(ii)	State which of the modes of data transmission in part (a) would be most suitable for the procedure in (b)(i), justifying your answer.	
		Mode of data transmission	
		Reason	
		[2]	

A systems analyst is hired to carry out a feasibility study.		
(a)	Describe three areas that the systems analyst should report in the feasibility study.	Examiner's Use
	[6]	
(b)	Describe the methods that the systems analyst could use in order to collect information about the current system being used in the organisation.	
	[5]	

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A building firm has expanded rapidly. A systems analyst is employed to plan the

introduction of a computer system which will store customer records and details of stock and also keep the firm's accounts. (a) The systems analyst must decide between a solution that uses custom-written software and one that uses off-the-shelf software. Explain what is meant by these terms and give advantages of each in this application. **(b)** It is decided to purchase an integrated applications package. State three distinct types of software that would be included in the package and give a use that each would be put to by the building firm. Type of software 1: Type of software 2: Use Type of software 3: Use _____ For

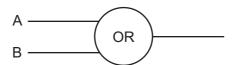
(c)	Communication between the computer system and the administration staff employed by the firm is to be through a human computer interface (HCI).	
	Discuss the importance of:	
(i)	colour,	
(ii)	layout,	
(iii)	content,	
	in the design of the HCI. [9]	

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5	The computer system in a factory is used to store personnel records and to manage the payroll. Workers in the factory register when they arrive for work by placing a card in a machine (clocking on) and repeating the process when leaving (clocking off). This machine is not connected to the main computer system, although the information collected will eventually be used as the input to a device which will provide data for the payroll program.
	The data on the cards consists of a barcode and OCR data.
	Describe how these two types of data are read by the input device.
	State what the data are used for in this application.
	[6]

(a)	Describe how an array is initialised in the memory of a computer.
	[4]
(b)	Describe how the contents of an array may be searched serially to find a specific item.
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(b)	

7 (a) Complete this table for an OR gate.

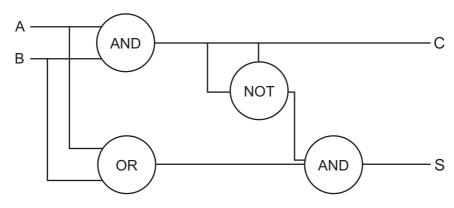


Α	В	Output
0	0	
0	1	
1	0	
1	1	

For Examiner's Use

[2]

(b) (i) Complete this table for the circuit.



Α	В	С	S
0	0		
0	1		
1	0		
1	1		

[4]

[2]

(ii) Give a possible use for this circuit in a processor, explaining your answer.

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(a)	Sta	te what is meant by a protocol.
		[2]
(b)		nmunication across a network can be done by using circuit switching or packet tching.
	(i)	Explain the difference between circuit switching and packet switching.
		[2]
	(ii)	Give one advantage of using circuit switching when sending data across a network.
1	(iii)	Give one advantage of using packet switching when sending data across a network.
		[2]

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