

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS General Certificate of Education Advanced Subsidiary Level and Advanced Level
CANDIDATE NUMBER
9691/11
May/June 2012
1 hour 30 minutes
swer on the Question Paper.

No additional materials are required.

No calculators allowed.

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. DO NOT WRITE IN ANY BARCODES.

Answer all questions.

No marks will be awarded for using brand names for 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.

This document consists of **10** printed pages and **2** blank pages.



		2 Give two differences between ROM (Read Only Memory) and RAM (R Access Memory).	
(a) (Give two differences between ROM (Read Only Memory) and RAM (R Access Memory).	Can
		1	
		2	
(i	ii) :	State a program stored in ROM, giving a reason why it must be stored in ROM.	[2]
·	-	Program	
		Reason	•••••
	1		[2]
(ii	ii)	State the purpose of this program.	
			[1]
(b) [Defir	ne what is meant by:	
((i) :	an input device	
			 [1]
(i		an output device	
	I		
	,		[,]

	124
	3
(c)	3 A local hockey league is run by a secretary from home. The secretary is response all fixtures and league tables. The secretary is blind and uses her home computer for carrying out the necessaria tasks. State a suitable hardware peripheral for each of input, output and storage, which the secretary could use. Justify your choices.
	Input
	Justification
	Output
	Justification
	Storage
	Justification
	[6]

		4 ine the following types of software: operating system
(a)	Def	ine the following types of software:
	(i)	operating system
	(ii)	[1] applications software
		[1]
(b)	(i)	Explain the difference between custom-written software and off-the-shelf software.
		[2]
	(ii)	Explain four advantages of using off-the-shelf software.
		[4]

		NYYYY A
		5
(c)	rain	5 tudent is completing a project for submission to the Geography department fall in their area. Itain how the student could use the following software: word processor
	(i)	word processor
		[1]
	(ii)	spreadsheet
		[1]
	(iii)	desktop publishing
		[1]
(d)		e student uses a single-user, multi-tasking operating system. scribe what is meant by a single-user, multi-tasking operating system.
		[4]

		444	
		6	
3	(i)	6 State what is meant by a real-time operating system. [1]	For iner's
			Tidge
	(ii)	[1]	.col
	(11)	Describe an application which needs to be carried out in real time.	
		[1]	
	(iii)	Explain why your choice needs to be a real-time application.	
		[2]	
4		e the following methods of automated data capture. Give an example, in each case, oplication where it would be used.	
	(i)	Optical Mark Recognition (OMR)	
		[3]	
	(ii)	Optical Character Recognition (OCR)	
		[3]	
		[9]	

	T MAN D
5	7 A systems analyst is employed to produce a new computer system. The store development life cycle includes a feasibility study. Explain the purposes of the feasibility study.
	[5]
6	A single operator controls a section of railway tracks using a computer system. The operator sits at a desk in front of a set of monitors which are used to display the information that he requires to keep the trains running safely. The operator relies on a user interface to both receive information from the computer system and to give instructions to the computer system. Discuss the importance of good interface design for this application.

	8 man De
(a) (i)	8 Change the denary integer 278 into a binary number, using 10 bits. [1]
	[1]
(ii)	Change the binary number 10101100 into a positive denary integer.
	[1]
deo Co Co	school stores data about the courses offered. A program which uses this data clares the following variables and data types: urseName as a String urseLevel as a Character rtDate as a Date
(i)	"Computing" would be an appropriate value to be stored in CourseName . Give a value appropriate to each of the other two variables:
	CourseLevel
	StartDate [2]
(ii)	The table shows three fields that are used in the records for data stored about students. Give the data type for each field. Give a reason for your choice in each case.

Field name	Data type	Reason
StudentName		
NumberOfPrizesWon		
AverageExaminationMark		

g (a) The manager of a firm has been advised to link all the firm's computers to form Area Network (LAN). (i) Explain to the manager two benefits of connecting the computers in a LAN. Benefit 1 Benefit 2 [2] (ii) One computer is connected to its own printer using parallel data transmission. Explain the difference between packet switching and circuit switching. Give one advantage and one disadvantage of each. Packet switching Advantage Disadvantage Disadvantage			9
Benefit 2 [2] (ii) One computer is connected to its own printer using parallel data transmission. [2] (iii) One computer is connected to its own printer using parallel data transmission. [2] (b) Explain the difference between packet switching and circuit switching. Give one advantage and one disadvantage of each. [2] Packet switching Advantage Disadvantage [2] Circuit switching [3] Advantage [4] Disadvantage [5] Circuit switching [6] Advantage [6]	(a)		e manager of a firm has been advised to link all the firm's computers to form a Network (LAN).
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Disadvantage Circuit switching Advantage	(b)	adv	antage and one disadvantage of each.
Circuit switching Advantage		Adv	vantage
Circuit switching Advantage		Dis	advantage
		Circ	
Disadvantage		Adv	vantage
		Dis	advantage
		•••••	

9 (a) Complete the truth table to show the output from the logic gate shown.

0

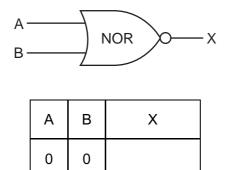
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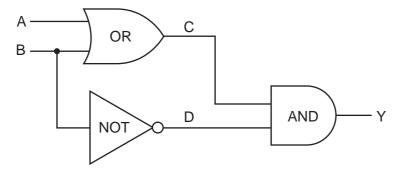
1



[2]

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(b) Complete the truth table to show the outputs from the logic circuit shown.



А	В	С	D	Y
0	0			
0	1			
1	0			
1	1			

[4]



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