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

CANDIDATE
NAME

CENTRE
NUMBER

CANDIDATE
NUMBER

COMPUTING **9691/12**

Paper 1 October/November 2011

1 hour 30 minutes

Candidates answer 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.

UNIVERSITY *of* CAMBRIDGE
International Examinations

[Turn over

*For
miner's*

1 **(a)** State the purpose of the following:

(i) Input devices

....

....

(ii) Output devices.

....

.... [2]

(b) A point-of-sale (POS) terminal in a supermarket has a number of input devices.
State **two** different input devices used at the POS terminal and state the purpose of each.

1 ....

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2 ....

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.... [4]

(c) A number of point-of-sale terminals are controlled by a multi-user operating system.
Describe a multi-user operating system.

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.... [4]

2 **(a)** In the system development life cycle describe what is involved when analysi~~ng the~~ requirements of a system.

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.... [4]

(b) When a new system is developed it must be installed into the organisation for which it has been produced.

Describe:

(i) direct implementation

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.... [2]

(ii) phased implementation

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.... [2]

For
Examiner's

3 An educational game is being produced to help very young children learn about numb
Describe the characteristics of the user interface and why they are appropriate to
application.

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.... [5]

4 Explain how a knowledge-based (expert) system can be set up and used to identify mineral
samples collected by geologists.

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.... [6]

For
iner's

5 (a) (i) Describe the structure of a two-dimensional array.

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.... [2]

(ii) Explain how the contents of a two-dimensional array can be initialised to zero.

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.... [4]

(b) Describe how a stack is implemented using an array.

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.... [4]

6 State an example of each of the following types of storage medium and give a use for

(i) Magnetic

Example ....

Use ....

....

.... [2]

(ii) Solid state

Example ....

Use ....

....

.... [2]

For
iner's

7 **(a)** A mail order company allows customers to make orders by telephoning operator. operators type the details of the order at a terminal.

(i) Explain why the operators use a forms-based interface for taking the details of the orders.

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.... [3]

(ii) The orders are stored in a random access file. Explain how a new order can be stored using the order ID.

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.... [3]

(b) On a regular basis, data is archived.

(i) Explain what is meant by archiving.

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....

(ii) Describe the reasons why it is necessary.

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.... [4]

For
iner's

8 A building firm has a main office with stand-alone computers for the workers to use.
It is decided to link these stand-alone computers to make a network.

(a) State **two** items of hardware and **one** type of software which would be necessary to
create the network.

Hardware 1 ....

....

Hardware 2 ....

....

Software ....

.... [3]

(b) When data is passed around a network it can be corrupted.
Explain how check sums can be used to detect errors in transmitted data.

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.... [4]

For
iner's

(c) Describe how the following types of generic applications software can be used ⬛⬛⬛ firm:

(i) Word processor

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.... [2]

(ii) Spreadsheet

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.... [2]

(d) The firm has a warehouse where all materials used in the building work are stored. Explain how a stock control system can be used to monitor the stock in the warehouse. It should ensure that work does not have to stop because the firm has run out of an item.

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.... [5]

9 **(a)** Complete the table to show the outputs for the possible inputs to this circuit.
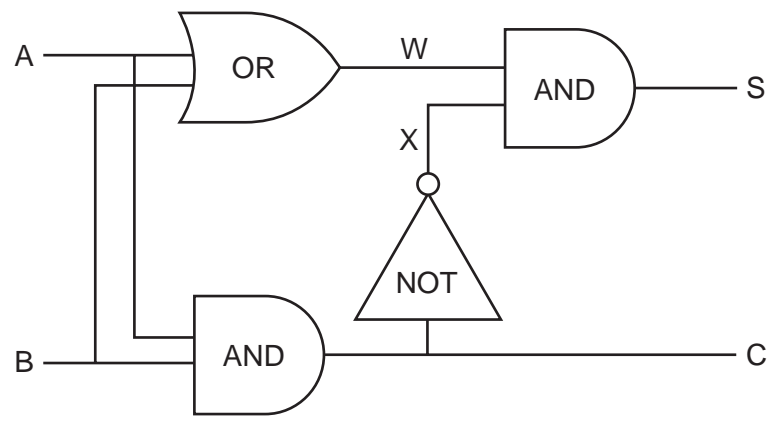
A	B	W	X	C	S
0	0				
0	1				
1	0				
1	1				

[5]

(b) State a possible use for this circuit in a processor.

....

.... [1]

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