

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

**COMPUTING**

**9691/01**

Paper 1

May/June 2006

**2 hours 30 minutes**

Additional Materials: Answer Booklet/Paper

**READ THESE INSTRUCTIONS FIRST**

If you have been given an Answer Booklet, follow the instructions on the front cover of the Booklet.  
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, music or rough working.  
Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **all** questions.

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.

- 1 (a) Explain the differences between RAM and ROM, stating a use for each. [1]
- (b) A shopkeeper uses a stand-alone computer for producing
- order forms for sending to suppliers
  - records of sales and purchases as evidence for the taxation authorities
  - leaflets advertising special offers.
- (i) State software appropriate for doing each of these tasks. [3]
- (ii) The computer has a hard drive, a CD-RW drive and a DVD drive.
- State a different use, by the shopkeeper, for each of these three storage media. In each case say why it is appropriate for that use. [6]
- 2 Describe the following types of human computer interface and for each one give an example of an application for which it would be used.
- (i) Graphical User Interface (GUI) [3]
- (ii) Form-based interface. [3]
- 3 (a) State **three** health and safety issues that keyboard operators should be aware of. For each issue suggest a measure that can be taken to improve the working conditions of the operators. [6]
- (b) There is a large amount of information available on the Internet.
- Discuss the advantages and disadvantages of students having unrestricted access to the Internet. [5]
- 4 (a) State **two** ways in which a local area network (LAN) differs from a wide area network (WAN). [2]
- (b) Describe
- (i) a bus network,
- (ii) a star network
- and give an advantage of each. [4]
- (c) (i) Explain what is meant by the term protocol. [2]
- (ii) Explain why the bit rate is an important part of any protocol. [2]

- 5 (a) Programs can be designed in modular form.

Discuss the advantages and disadvantages of designing programs in modular form.

- (b) A program is to be written which will update the records in a sequential file and then produce a backup copy.

Describe, using a diagram, the way that this problem can be split into modules to prepare it for coding. [5]

- 6 State **four** purposes of the operating system of a stand-alone computer. [4]

**The remaining questions refer to the following information.**

A small business has one shop. It specialises in taking portrait photographs for customers. Details of customers are stored on paper. It is decided to buy a stand-alone computer and use it to store customer records in a file.

- 7 The following fields are to be stored.

- Customer name (to allow customer to be addressed properly when contacted)
- Customer telephone number (so that customer can be contacted when their order has been completed)
- Date of original commission (so that customers are not kept waiting too long)
- Whether or not the order has been paid for.

- (a) State a suitable data type for each of the four fields. [4]

- (b) It is assumed that there will never be more than 1000 records.

Estimate the total size of the file needed for these records. [4]

- (c) The manager is advised to keep backups of the data and also to archive the data in the file.

(i) Explain the purpose of archiving data in a file. [2]

(ii) Explain a sensible backup routine for the manager to follow. [4]

- 8 Data that is entered into the file needs to be verified and validated.

- (a) Explain what is meant by the terms

(i) verification;

(ii) validation. [2]

- (b) Describe **two** methods that can be used for validating the date of the original commission. [4]

The store offers customers a service of printing their photograph onto a shirt. The customer can either bring in a photograph or have one taken in the store.

- 9 (a) Describe how the photograph can be input to a computer and prepared, ready for printing onto a shirt. [1]
- (b) State **two** items that you would expect to find in the user guide for this system. [2]
- (c) The digital images require a large amount of storage. Describe how these images can be stored with the customer records. [4]
- 10 The computer system that controls the shirt printer is capable of producing management information at both the operational and strategic levels.

Discuss the different types of management information which a system like this is likely to produce. [6]

[Total 90]