General Certificate of Education
January 2006
Advanced Subsidiary Examination

ASSESSMENT and QUALIFICATIONS ALLIANCE

INFORMATION AND COMMUNICATION TECHNOLOGY ICT2
Unit 2 Information: Management and Manipulation

Friday 13 January 2006 1.30 pm to 3.00 pm

For this paper you must have:
- a 12 page answer book

Time allowed: 1 hour 30 minutes

Instructions
- Use blue or black ink or ball-point pen. Use pencil only for drawing.
- Write the information required on the front of your answer book. The *Examining Body* for this paper is AQA. The *Paper Reference* is ICT2.
- Answer **all** questions.

Information
- The maximum mark for this paper is 60.
- The marks for questions are shown in brackets.
- You will **not** gain credit for the use of brand names in your answers.
- You are reminded of the need for good English and clear presentation in your answers.

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Answer **all** questions.

1 All spreadsheet packages allow users to format the contents of cells.

State **four** formats that can be applied to the contents of cells. *(4 marks)*

2 The term used to describe the arrangement of computers in a network is *topology*.

Name **two** different Local Area Network (LAN) topologies, and draw a diagram to illustrate each one. *(4 marks)*

3 What type of software would normally be used for the following tasks?

(a) Creating a directory, or folder, on a computer *(1 mark)*

(b) Writing a report *(1 mark)*

(c) Viewing a website *(1 mark)*

(d) Creating an electronic mark book *(1 mark)*

(One word answers are acceptable for this question.)

4 A file containing sensitive data is stored on a computer system. Access to this file is managed by the use of passwords entered at a keyboard, and by setting levels of permitted access.

(a) Explain what is meant by:

(i) a *password;* *(2 marks)*

(ii) *levels of permitted access*. *(2 marks)*

(b) Give **two** other possible methods of managing access to the contents of this file. *(2 marks)*

5 A theatre booking system uses interactive transaction processing.

Explain what is meant by the terms *interactive processing* and *transaction processing*. *(4 marks)*

6 A student loan calculator program has just been released for sale. The program calculates repayments on loans between £1 000 and £15 000.

(a) Explain why it is important that this piece of software is thoroughly tested. *(2 marks)*

(b) State, giving an example of each, **three** types of test data that should have been used during testing. *(6 marks)*

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7 A school has decided that the four printers on its Local Area Network need replacing.

(a) For **one** type of printer that the school might consider purchasing:

(i) name the type of printer; *(1 mark)*

(ii) give **one** capability of the named type of printer; *(1 mark)*

(iii) give **one** limitation of the named type of printer. *(1 mark)*

(b) For another type of printer that the school might consider purchasing:

(i) name the type of printer; *(1 mark)*

(ii) give **one** capability of the named type of printer; *(1 mark)*

(iii) give **one** limitation of the named type of printer. *(1 mark)*

(c) Should the school purchase four new printers of the same type, or should it purchase two different types of printer? What would you recommend and why? *(2 marks)*

8 A common human/computer interface is a Graphical User Interface (GUI).

State **three** features of a GUI and, for each one, describe how it provides an effective method of communication between the user and a computer system. *(6 marks)*

Turn over for the next question

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9 A flat file is used to store orders taken for birthday cakes. No validation was used when the data was entered. Examples of records from the file are shown in **Figure 1**.

Figure 1

Customer	Address	Phone No.	Date Order Required	Weight of Cake	Type of Cake	Theme of Cake	Price	Notes
Susan Smith	38 Rose Road	01234-665577	3/1/2006	2 Kg	Fruit		£35.45	
Pat	27 Ivy Square	01234-897645	4/1/2006	1 Kg	Sponge	Figure 4	£19.99	Pink with Candles
Pat	27 Ivy Square	01234-897645	4/1/206	1 Kg	Sponge	Figure 4	£19.99	Blue with Candles
Peter Patel	19 Holly Lane Wigton	01234-567483	5/1/2006	3.5 Kg	Fruit	Adult Birthday	£55.00	Pale Apricot with flowers
Susan Smith	38 Rose Road	01234-667755	7/1/2006	1.5 Kg	Chocolate Sponge	Train	£25.99	Thomas the tank engine

(a) Giving examples from **Figure 1**, describe **two** problems that have occurred owing to storing the data in a flat file. *(4 marks)*

(b) Giving examples from **Figure 1**, describe **two** problems that have occurred owing to the lack of validation when the data was entered. *(4 marks)*

(c) State, giving a reason for each one, **two** extra fields that could be added to the record structure for the cake orders as shown in **Figure 1**. *(4 marks)*

(d) The flat file is to be replaced by a relational database.

What structures would be needed in this database to allow for the effective updating and retrieval of data? *(4 marks)*

END OF QUESTIONS

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