

General Certificate of Education  
January 2004  
Advanced Level Examination



**INFORMATION AND COMMUNICATION TECHNOLOGY      ICT5**  
**Unit 5 Information: Policy, Strategy and Systems**

Monday 26 January 2004                      1.30 pm to 3.30 pm

**In addition to this paper you will require:**  
a 16-page answer book.

Time allowed: 2 hours

**Instructions**

- Use a 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 ICT5.
- Answer **all** questions.

**Information**

- The maximum mark for this paper is 90.
- Mark allocations are shown in brackets.
- The use of brand names in your answers will **not** gain credit.
- You are reminded of the need for good English and clear presentation in your answers. Question 10 should be answered in continuous prose. The Quality of Written Communication will be assessed in this answer.

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Answer **all** questions.

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1 Name **three** methods of providing help to users of ICT systems. *(3 marks)*

2 Graphical User Interfaces make high use of system resources.

Name **two** such resources and, for each one, state why it is required. *(4 marks)*

3 Many network systems maintain a log that is used to monitor use of the network's resources.

(a) State **three** items of data that you would expect to be held in such a log. *(3 marks)*

(b) Describe **one** possible task for which this log can be used. *(2 marks)*

4 Describe **three** reasons why newly purchased software may fail to operate successfully, even if the developer has followed an extensive testing programme. *(6 marks)*

5 A teacher wishes to read the GCE Advanced Mathematics syllabus on the AQA website. The website holds this syllabus in a format known as Portable Document Format (PDF).

(a) Give **three** reasons why PDF has been selected as the format in which to offer this file. *(3 marks)*

(b) When the teacher tries to print the PDF file, it is discovered that the correct printer driver is not installed.

Explain why a printer driver is necessary. *(2 marks)*

(c) In order to acquire the correct printer driver, the printer manufacturer's website is visited. When the link leading to the download area of the website is followed, the address becomes "http://192.168.0.233/downloads/drivers.htm".

(i) What does the "http" part of the address represent? *(1 mark)*

(ii) "192.168.0.233" is an Internet address.

Explain why Internet addresses are important for the correct functioning of the Internet.

*(3 marks)*

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6 A publishing company wishes to standardise its ICT systems. Managers from all departments of this company are consulted before any standardisation takes place.

(a) Describe, using an example, **one** reason why this consultation is necessary. *(2 marks)*

(b) As part of this standardisation strategy, it is decided that:

- no computer hardware will be used for more than a fixed number of years;
- all departments will have a standard set of applications software;
- the software must support a certain set of file formats.

Explain **two** reasons why the company has decided to adopt this strategy. *(4 marks)*

7 When designing a relational database it is necessary to normalise the data.

(a) Describe the process of normalisation. *(4 marks)*

(b) Describe **three** facilities that are provided by a Relational Database Management System. *(6 marks)*

8 Software solutions to specialist problems can be supplied in several ways.

For **each** of the following ways:

- give **one** situation where it would be appropriate;
- describe **one** advantage of this approach;
- describe **one** limitation of this approach.

(a) Software created by the user. *(5 marks)*

(b) Software created by an internal development team. *(5 marks)*

(c) Software created by an external development team. *(5 marks)*

**TURN OVER FOR THE NEXT QUESTION**

**Turn over ►**

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**9** A small reprographics business based in City A currently keeps a record of client and job details in a relational database. The owner decides to open a separate site in City B that will serve new customers. The City A site will occasionally need to access the City B customer data.

- (a) Describe **one** advantage of using a distributed database in this situation. *(2 marks)*
- (b) Describe **one** limitation of using a distributed database in this situation. *(2 marks)*
- (c) Describe **one** advantage of using a client/server database in this situation. *(2 marks)*
- (d) Describe **one** limitation of using a client/server database in this situation. *(2 marks)*
- (e) The two sites will be connected using a public communications network. The owner is concerned about the security and privacy of the data on the system.

Describe **two** methods that can be used to ensure such security and privacy. *(4 marks)*

**10** An employment agency currently holds information about job seekers and job vacancies on an information system that is several years old. As a consultant, you have been asked to help this company look at alternative software solutions.

Discuss what you would do in order to produce a report for this company.

Your discussion should include:

- how you will establish your client's needs;
- the criteria you will use to evaluate possible solutions;
- how you will match software capabilities to your client's needs;
- the content of the evaluation report you will write for your client.

*The Quality of Written Communication will be assessed in your answer.*

*(20 marks)*

**END OF QUESTIONS**