

General Certificate of Education  
June 2005  
Advanced Level Examination



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

Friday 24 June 2005      9.00 am to 11.00 am

**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 9 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 List **four** psychological factors that need to be considered when designing human/computer interaction. (4 marks)
- 2 (a) Give **two** ways by which data can be transferred between different software applications on the same computer system. (2 marks)
- (b) Give **two** ways by which data can be transferred between different computer systems. (2 marks)
- 3 Computer networks are an integral part of life in the 21st century. The infrastructure must be efficient if these networks are to be of use.
- (a) Define the term *client*, as it applies to computer networks. (2 marks)
- (b) Define the term *server*, as it applies to computer networks. (2 marks)
- (c) Describe **two** advantages of a client/server database over a non-client/server database. (4 marks)
- (d) Explain the rôle of routers in computer networks. (2 marks)
- 4 The secretary of a local charity is constructing a database on behalf of the committee. It will be used to store data on events, and ticket sales for those events, including who has purchased them. He has been told that a relational database management system can assist him. Having found an article on relational database construction, he does not understand some of the terms it contains. He asks you for advice.
- (a) Explain the following terms:
- (i) normalisation; (2 marks)
- (ii) data independence; (2 marks)
- (iii) data consistency; (2 marks)
- (iv) data integrity. (2 marks)
- (b) The secretary constructs his database and then asks you to examine his work before he enters any data. You notice that he has not included any validation.
- With the aid of an example, explain why data validation is important. (3 marks)
- (c) Give **three** reasons why he should consult with other members of the charity's committee before finalising the design of his database system. (3 marks)

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5 A company has a computer network system. Activity on this network is monitored by software, and an accounting log is automatically produced so that departments can be charged for their use of system resources.

(a) State **four** items of data that this log might include. (4 marks)

(b) Give **four** reasons why such a log is useful. (4 marks)

6 A large retail company is considering a new computerised help desk system for recording and supporting ICT-related problems.

(a) Name **two** ways in which this software could be obtained. (2 marks)

(b) Describe **three** factors that might affect the company's decision on how to obtain this software. (6 marks)

7 A software development company has created an image manipulation package.

(a) Describe the process of testing you would expect to happen before this package is released to the general public. (4 marks)

(b) After it has been released, users find that the software "crashes".

Explain why this may be the case. (2 marks)

(c) During the life of the software, the company produces several maintenance releases.

(i) Describe **three** reasons why maintenance releases may be required. (6 marks)

(ii) Describe **one** way that the maintenance releases may be distributed. (2 marks)

8 A company has been using a particular accounting package for several years, and it is considering whether to upgrade or to replace the software with an alternative package.

Describe **four** criteria that the company might use to evaluate alternative accounting packages.

(8 marks)

9 A local health authority has decided to standardise the ICT systems across all departments.

Discuss the above decision. Include in your answer:

- the benefits that the staff may gain from the standardisation;
- the benefits that the health authority may gain from the standardisation;
- the reasons why staff may not wish to change to a new system.

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

(20 marks)

**END OF QUESTIONS**

**THERE ARE NO QUESTIONS PRINTED ON THIS PAGE**