

General Certificate of Education
January 2003
Advanced Level Examination



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

Monday 27 January 2003 Afternoon Session

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

Time allowed: 2 hours

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 ICT5.
- Answer **all** questions.

Information

- The maximum mark for this paper is 90.
- Mark allocations are shown in brackets.
- The use of trade 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.

Answer **all** questions.

- 1 (a) Explain what is meant by a *relational database management system*. (3 marks)
- (b) A successful relational database will have undergone normalisation.
Describe what is meant by *normalisation*. (2 marks)
- 2 Give **four** reasons for producing an evaluation report when considering alternative software solutions to a particular problem. (4 marks)
- 3 Describe **two** distinct ways in which standards can arise within the ICT industry. (4 marks)
- 4 Hardware and software are often described as being “compatible” with other hardware or software.
- (a) Describe the term *compatible* in this context. (2 marks)
- (b) An emulator can sometimes be used to achieve compatibility.
Describe **one** advantage and **one** limitation of the use of emulation. (4 marks)
- 5 Whilst planning to install a network accounting system, a company has become concerned about the security of its local computer network.
- (a) Explain **two** procedures that the company could adopt to discourage breaches of security. (6 marks)
- (b) State **two** reasons for using accounting software on a network. (2 marks)
- 6 Describe **four** factors that need to be considered when a large company is devising a backup strategy for its information systems. (8 marks)

7 A software company is producing a software package to perform an initial assessment of students entering colleges.

- (a) There is a fixed deadline for the release of this package.

Describe **two** effects that this might have on the final product. *(4 marks)*

- (b) The production of this package is a complex task. For this reason the company has decided to allocate sub-tasks to separate development teams.

Describe **two** benefits of this approach. *(4 marks)*

- (c) Two weeks after the release of the package, several colleges report identical problems with the software.

Describe what the company should do in this situation. *(2 marks)*

8 A mail order music company has decided to expand and has established a retail outlet in a busy shopping centre.

- (a) An important feature of the mail order system is the interface for the staff who use it.

State **three** features you would expect the human/computer interface to have in such a system and give a different reason for each one. *(6 marks)*

- (b) (i) Name an appropriate device for capturing data on each item that is sold via the retail outlet. *(1 mark)*

(ii) Describe **one** advantage for the company of using this device. *(2 marks)*

9 Internet technologies allow large companies to deliver training and assessment across their entire organisation. This can be of benefit to the companies and to their employees.

- (a) Describe **three** possible benefits to a company. *(6 marks)*

- (b) Describe **three** possible benefits to an employee. *(6 marks)*

- (c) The interaction of an employee with an online training system needs careful planning.

List **four** factors that should be considered. *(4 marks)*

10 Software solutions can be provided for specialist applications in a number of ways.

Discuss the possible ways of providing such solutions. Your discussion should include:

- how the solution can be provided;
- advantages of providing the solution in this way;
- disadvantages of providing the solution in this way;
- criteria for deciding which approach is the most appropriate.

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

(20 marks)

END OF QUESTIONS