

407/01

INFORMATION AND COMMUNICATION TECHNOLOGY

ICT1

INFORMATION SYSTEMS

P.M. FRIDAY, 13 January 2006

(1½ hours)

ADDITIONAL MATERIALS

In addition to this examination paper, you will need an 8 page answer book.

INSTRUCTIONS TO CANDIDATES

Answer **all** questions in Section A and Question 8 in Section B.

The intended marks for questions or parts of questions are given in brackets []. You are advised to divide your time accordingly. The total number of marks available is 60.

You are reminded of the necessity for good written communication and orderly presentation in your answers.

SECTION A

Answer **all** questions.

1. Define the terms *information* and *knowledge* and discuss, using a suitable example, the relationship between them. [4]

2. (a) There are financial costs involved in getting good quality information. State **two** *other* costs and, giving a different example for **each** one, show how these costs arise. [4]

(b) Give **an** example of a problem that could arise if information is not:

 - (i) up to date; [1]
 - (ii) complete; [1]
 - (iii) accurate. [1]

Use distinctly different examples in **each** case.

3. Banks use *verification* and *validation* methods to reduce data entry errors in their on-line banking systems.

(a) Define the term *verification*. Name and describe **one** verification method used in on-line banking systems. [3]

(b) Define the term *validation*. Name and describe **one** validation method used in on-line banking systems. [3]

4. A large national supermarket company uses a database to store customers' records.

(a) Define **each** of the following functions of the database software and give an appropriate example of how **each** can be used *in this context*:

 - (i) import/export; [2]
 - (ii) query; [2]
 - (iii) report. [2]

(b) Describe **two** requirements of the Data Protection Act that the supermarket has to comply with. [2]

5. At the central office of a large landscape gardening company there are 10 employees. Each employee has their own standalone computer system and printer. The Chief Executive realises that it would be beneficial to network these computers.
- (a) State **three** benefits that the company would gain from networking the computers. [3]
 - (b) The landscape gardening company has an *extranet* for its employees and a *website* for its customers. Describe, with examples, **three** benefits these facilities bring to the company or its customers. [3]
6. *Expert system shells* are important in the development of medical expert systems.
- (a) Describe the **three** main parts of every expert system shell. [3]
 - (b) Describe, using examples, **two** advantages of using an expert system in medicine. [2]
7. The use of ICT systems in the home is growing daily.
- (a) The HCI (Human Computer Interface) in software used to help young children learn is important.
With reference to appropriate examples, discuss **two** factors that should be taken into account when designing such an interface. $2 \times [2]$
 - (b) Discuss the health issues raised by the increased use of ICT systems in the home. [2]

Turn over for question 8.

SECTION B

*Answer **all** parts of this question.*

- 8.** Advances in technology have led to schools and colleges making greater use of ICT systems for administration.

- (a) (i) Name and describe **three** different ICT systems schools or colleges are now using to register students. [6]
- (ii) One advantage of using ICT systems to register students is that it is faster for students and teachers. Discuss the other main advantages to a school or college of using ICT systems to register students. [4]
- (b) Schools and colleges now use ICT systems for student record keeping. Other than name, address, post code, and telephone numbers, give **three** distinct fields and discuss why they are needed. [6]

Quality of Written Communication

[2]