407/01

INFORMATION AND COMMUNICATION TECHNOLOGY

ICT1

INFORMATION SYSTEMS

P.M. MONDAY, 15 January 2007

(1½ hours)

ADDITIONAL MATERIALS

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

INSTRUCTIONS TO CANDIDATES

Answer **all** questions.

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. *(a)* Define the term *knowledge* and illustrate your answer with an example. [2]

(b) Describe, using examples, **two** *different* methods of *capturing* data. 2 × [2]

2. A sports club stores data about its members on a database. Part of this database is shown below.

Membership Number	Gender	Date of Birth	Disabled	Name
678	M	12/05/90	✓	S Johnston
986	F	13/12/82		R Begum
243	M	16/09/78		P Davies
734	F	01/04/80	✓	L Phillips
175	M	10/07/79		D Kowolski
764	F	16/11/75		A Jones

(a) Using the database shown above, give **one** field that has *coded* data and explain **one** advantage of coding data. [2]

(b) The field 'Disabled' is a *Boolean data type*. Describe what you understand by the term *Boolean data type* and describe **one** disadvantage of using this data type for this field. [2]

(c) Data validation techniques were used when creating this database.
Explain what is meant by *data validation* and describe in detail **one** example of a type of data validation which could have been used *with this database*. [3]

3. A student wishes to find out about the Solar System.

(a) Describe how the student could make use of **two** different, appropriate *electronic* sources of information to find out about the Solar System. 2 × [2]

(b) Give **one** *non-electronic* source of information the student could use for this purpose. [1]

4. Good quality information is up to date, relevant and correctly targeted.

   (a) Describe **two** methods of keeping data up to date. [2]

   (b) Describe, using an example, **one** problem that can occur if data is not kept up to date. [2]

   (c) Describe **two** advantages of keeping data up to date, relevant and correctly targeted. [2]

5. A solicitor uses *word processing* software in the running of the business.

   Define the following features of word processing software. Describe, using an appropriate example in **each** case, how both features can be used in the running of the solicitor's business.

   (a) Mailmerging [3]

   (b) Templates [3]

6. Many different ICT systems are now widely used, such as medical expert systems and e-commerce systems.

   (a) (i) Describe what you understand by the term *medical expert system*. [1]

   (ii) By referring to a suitable example, describe **two** specific advantages of a medical expert system. [2]

   (b) Describe the advantages to a company of introducing an e-commerce system. [3]

7. A company is introducing a new data processing system.

   (a) Describe **two** benefits of computerised data processing over manual processing of data. [2]

   (b) Discuss **two** *different* factors which could affect the efficiency of data processing systems. [4]

Turn over.

SECTION B

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

8. A school has installed a new local area network (LAN) to help with its school administration.

    (a) Describe how the school staff could use the LAN to help with administration. [4]

    (b) Discuss **two** *health and safety* issues which the school should consider when designing the LAN. [2]

    (c) Explain how the school can prevent:

        (i) accidental loss of data; [3]

        (ii) deliberate destruction of data. [3]

    (d) *Other than* keeping data secure, discuss the measures the school must take to comply with the Data Protection Act. [4]

    Quality of Written Communication [2]