

General Certificate of Education
January 2007
Advanced Subsidiary Examination



INFORMATION AND COMMUNICATION TECHNOLOGY ICT2
Unit 2 Information: Management and Manipulation

Monday 15 January 2007 1.30 pm to 3.00 pm

For this paper you must have:

- a 12 page answer book.

Time allowed: 1 hour 30 minutes

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 ICT2.
- Answer **all** questions.
- Do all rough work in your answer book. Cross through any work you do not want to be marked.

Information

- The maximum mark for this paper is 60.
- The marks for questions are shown in brackets.
- You will **not** gain credit for the use of brand names in your answers.
- You are reminded of the need for good English and clear presentation in your answers.

Answer **all** questions.

- 1 State **two** modes of processing and, for each one, give a suitable example of its use. (4 marks)
- 2 Data can be encoded and encrypted.
- (a) Describe what *data encoding* means. (2 marks)
- (b) What is meant by the term *encryption*? (2 marks)
- 3 (a) Most mobile phones make use of a menu driven interface.
- Give **two** benefits of a menu driven interface for mobile phone users. (2 marks)
- (b) State **two** other types of user interface and give a suitable example of use for each one. (4 marks)
- 4 All the employees of a company have to use an eight-character password to access the company's computer network. The employees have been given a set of rules that they should follow to ensure that the password system is an effective security measure.
- (a) State **two** rules that an employee should follow when choosing his password. (2 marks)
- (b) State **two** rules that an employee should follow to ensure that his password is kept secret. (2 marks)
- (c) State **one** procedure that an employee should follow to ensure that the network cannot be accessed without entering a correct password. (1 mark)

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- 5 (a) Explain what the term *system software* means, and give an example of an item of system software. (3 marks)
- (b) Explain what the term *generic package software* means, and give an example of generic package software. (3 marks)
- (c) Explain what the term *bespoke software* means, and give an example of bespoke software. (3 marks)
- 6 A company is having a sixteen-station Local Area Network (LAN) installed.
- (a) Describe what is meant by the term *Local Area Network*. (2 marks)
- (b) Give **two** suitable topologies for the LAN and, for each one, draw a labelled diagram to show its structure. (6 marks)
- (c) State **three** items of hardware and/or software that could be needed if the LAN is to be connected to the Internet. (3 marks)
- 7 A company is replacing the personal computers used by its employees. Each employee has been offered the choice of a laptop or a desktop computer.
- For each of the following types of computer, describe **one** advantage to an employee of choosing it. The advantage must be different in each case.
- (a) A laptop computer (2 marks)
- (b) A desktop computer (2 marks)

Turn over for the next question

Turn over ►

- 8 A human resources department stores details of staff in two flat files. One file is used to keep personal details, and the other file is used to keep records of training undertaken by members of staff.

The file structures are shown below.

Staff File

(StaffNumber, Forename, Surname, Address, HomePhoneNo, StartDate, Department, ExtensionNo)

Training File

(StaffNumber, Department, Forename, Surname, TrainingCourseNo, TrainingCourseDescription, TrainingCourseDate)

The underlined fields are the primary key fields in each file.

- (a) Describe using examples from the above files, **two** problems that could occur due to using separate files to store the data. *(6 marks)*
- (b) Design an efficient relational database structure for the above data. Use **three** tables named:

Staff
TrainingCourse
TrainingUndertaken.

Clearly identify the primary key for each table. *(5 marks)*

- (c) For each of the fields below, name a validation check and state why it is suitable to use with that field. Each validation check must be different.
- (i) StartDate *(2 marks)*
- (ii) StaffNumber *(2 marks)*
- (iii) Department *(2 marks)*

END OF QUESTIONS