General Certificate of Education
June 2002
Advanced Subsidiary Examination

AQA

ASSESSMENT and
QUALIFICATIONS
ALLIANCE

INFORMATION AND COMMUNICATION TECHNOLOGY   ICT1

Thursday 30 May 2002   Afternoon Session

In addition to this paper you will require:
  a 12-page answer book.

Time allowed: 1 hour 30 minutes

Instructions
- Use blue or black ink, or ball-point pen. Pencil should only be used 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 ICT1.
- Answer **all** questions.

Information
- The maximum mark for this paper is 60.
- Mark allocations are shown in brackets.
- You are reminded of the need for good English and clear presentation in your answers.

Answer **all** questions.

1 State **three** characteristics of good quality data. *(3 marks)*

2 Data input to an ICT system can take many forms such as pictures, sounds, numbers and letters. In all cases the data has to be encoded.

Using an example, explain why data needs to be encoded. *(2 marks)*

3 When investigating the end users' requirements for a new IT system, a software developer needs certain personal skills.

Explain, with reasons, **two** essential personal skills that would be of use to the developer in performing this task. *(4 marks)*

4 Some transport and distribution companies have now installed information systems on their vehicles that give details of traffic problems across the country.

Explain **one** benefit to the company of installing these systems. *(2 marks)*

5 Describe, using examples, **four** ways in which a company could make use of the Internet to benefit its business. *(8 marks)*

6 Many organisations have adopted e-mail as a method of communication only to find that it can have disadvantages.

Describe **three** disadvantages of the use of e-mail, other than contracting viruses, for business communication. *(6 marks)*

7 In order to protect the health and safety of the end user, certain factors should be considered when designing a piece of software.

State **four** factors that should be considered, giving a reason for each one. *(8 marks)*

8 Explain, using examples, the difference between malpractice and crime as applied to Information Systems. *(4 marks)*

9 The use of Automated Teller Machines (ATMs), provided by banks and building societies, has become a common way for people to obtain cash.

   (a) State:

      (i) **one** advantage to the bank or building society of installing ATMs;   *(1 mark)*

      (ii) **two** advantages to the customer of using ATMs.   *(2 marks)*

   (b) The use of ICT has allowed banks and building societies to keep detailed records of purchases that people make using credit or debit cards. Explain **one** reason why this is a benefit.   *(2 marks)*

10 The personnel department of a large company keeps records on all the employees of the company. These records contain personal data and details of the employees' position, training and medical history. The company is registered on the Data Protection Register and has to abide by the principles of the 1998 Data Protection Act. Three of these principles are:

- "Personal data shall be adequate, relevant and not excessive in relation to the purpose or purposes for which they are processed";

- "Personal data shall be accurate and, where necessary, kept up to date";

- "Appropriate technical and organisational measures shall be taken against unauthorised or unlawful processing of personal data and against accidental loss or destruction of, or damage to, personal data".

For each of the principles stated above, describe what the company must do to comply with them.
     (6 marks)

11 An organisation pays its employees weekly by transferring money electronically into their bank accounts. Employees are paid different amounts depending on the hours that they have worked and their grade – which determines their hourly rate of pay. The company makes use of a payroll program.

   (a) State:

      (i) **two** items of data that would need to be input to the payroll program each week for each employee;   *(2 marks)*

      (ii) **two** items of data that would be stored for use every time the program is run;   *(2 marks)*

      (iii) **two** possible documents output on paper from the payroll program.   *(2 marks)*

   (b) Explain **three** advantages to the organisation of transferring money electronically into its employees' bank accounts, rather than paying their employees in cash.   *(6 marks)*

END OF QUESTIONS

THERE ARE NO QUESTIONS PRINTED ON THIS PAGE