GCE AS/A level

1241/01 New AS

INFORMATION AND COMMUNICATION TECHNOLOGY

ICT 1

INFORMATION SYSTEMS

A.M. FRIDAY, 15 MAY 2009

2¼ hours

INSTRUCTIONS TO CANDIDATES

Write your name, centre number and candidate number in the spaces at the top of this page.

Answer all questions.

Answers should be written in the spaces provided. Where the space is not sufficient for your answer, continue the answer at the back of the book, taking care to number the continuation correctly.

The intended marks for questions or part questions are given in brackets [ ]. You are advised to divide your time accordingly. The total number of marks available is 80.

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

Quality of written communication will be assessed in question 8.

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SECTION A

Answer all questions.

1. Define the terms Data, Information and Knowledge. Use an appropriate example to demonstrate the relationship between each of the terms. [6]

2. (a) “Up to date, accurate and complete” information adds value to an organisation by aiding decision making. Describe using suitable distinct examples two other ways such information adds value. [4]
(b) There are costs involved with getting good quality information including:

- money
- time
- human resources.

Describe with suitable distinct examples how such costs could arise. [3]

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3. A student wishes to find out about the Environment. Describe how the student could make use of two different, appropriate electronic sources of information to find out about the Environment. [4]

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Turn over.
4. An Estate Agent uses *presentation* software in the running of the business.

   (a) Describe, using an appropriate example in each case, how the following features can be used in the running of the Estate Agent’s business.

      (i) Animated transitions

      (ii) Templates

      (iii) Hyperlinks

   (b) The Estate Agent also maintains a website. Discuss the advantages of using HTML coding rather than templates.
5. Electronic mail has become very important in the modern world. Explain the advantages and disadvantages of using email for communication.

6. Employees in an Architects office use computers to produce their designs.
   
   (a) Describe three health hazards that employees working with computers need to be aware of.

   (b) Describe three different actions the company should take to minimise these risks.
7. When creating online bank accounts, verification and validation procedures are used.

(a) Define the term verification and describe using a suitable example, a method that would be used with online banking. 

(b) Define the term validation and describe, using a suitable example, a method that would be used with online banking.

8. ICT is widely used in many areas of the Health Service such as expert systems, body scanning devices, databases for record keeping and bar coding.

(a) Define the term ‘expert system’ and describe using suitable examples their advantages for patient care.
Discuss the reasons why databases were introduced for storing patient records and assess the impact they have had upon patient tracking and monitoring.

(b) Discuss in detail the main benefits and drawbacks of such body scanning devices in the treatment of patients. [4]

(c) Discuss the reasons why databases were introduced for storing patient records and assess the impact they have had upon patient tracking and monitoring. [6]
9. Simulation modelling has become very important in today’s society.

   (a) Define what is meant by simulation modelling. [1]
   
   (b) Describe the advantages and disadvantages of using simulation modelling in car crash analysis. [3]
YOU MUST REFER TO YOUR OWN SPREADSHEET TO ANSWER THE FOLLOWING QUESTION.

IF NO SPREADSHEET EVIDENCE IS SUBMITTED THEN NO MARKS CAN BE AWARDED.

IN YOUR ANSWERS YOU MUST IDENTIFY WHERE YOU HAVE USED THE FORMULAS AND FEATURES.

10. (a) Identify two different formulas from the following list you used in your spreadsheet:

SINGLE IF, MULTIPLE IF, DATE, ROUND, VLOOKUP.

Describe the purpose for which each was used in your spreadsheet. [4]

(b) Describe one method of simplifying data entry you created in your spreadsheet stating the advantages of using this technique for entering data into a spreadsheet. [4]
(c) Describe one method of validation error trapping used in your spreadsheet, and describe the error message produced. [4]

(d) Describe the purpose or function of a sort routine and of one other different process you used in your spreadsheet. [4]

In your answer do not describe any feature you gave in parts (a), (b) or (c).

ENSURE YOU ATTACH THE PRINTOUTS OF YOUR SPREADSHEET TO YOUR EXAMINATION ANSWER PAPER.