

Candidate Name	Centre Number	Candidate Number
		2



GCE AS/A level

1241/01

**INFORMATION AND
COMMUNICATION TECHNOLOGY**

IT1

INFORMATION SYSTEMS

P.M. THURSDAY, 13 January 2011

2¼ hours

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen. Do not use pencil or gel pen. Do not use correction fluid.

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 use a continuation sheet, 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.

For Examiner's use only		
Question	Maximum mark	Mark awarded
1	7	
2	6	
3	6	
4	8	
5	6	
6	4	
7	6	
8	17	
9	4	
10	16	
Total	80	

SECTION A

Answer all questions.

1. (a) Define the terms *data* and *knowledge*. By giving **two** different examples, illustrate what is meant by knowledge. [4]

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- (b) Give **two** reasons why data is encoded and give an example of a possible problem with encoding data. [3]

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2. A user interface should allow a good dialogue between humans and computer systems. The task often determines which is the most suitable. For **each** of the following give an appropriate use, advantage and disadvantage:

(a) Command line [3]

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(b) Speech recognition systems. [3]

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- 3. Good quality information is needed to make informed decisions. Other than accuracy, describe **three** characteristics of good quality information, illustrating **each** characteristic with an appropriate distinct example. [6]

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- 4. Schools use relational database programs as part of their administration systems.
 - (a) Some of the functions of the programs are mentioned below. State the purpose of **each** function and give an appropriate example of its use:

- (i) Query [2]

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(ii) Report [2]

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(iii) Import/export. [2]

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(b) Give **two** reasons why relational databases are used rather than flat files. [2]

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5. CAD (Computer-aided design) software allows a user to draw accurate plans and designs.

(a) Other than zoom or rotation, describe **two** other features of a CAD package, giving an appropriate distinct example of how each could be used. [4]

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(b) Many industries now use CAM (Computer-aided manufacture). Describe by using an example the relationship between CAD and CAM. [2]

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6. The purpose of *verification* and *validation* is to minimise errors in data. Define the terms verification and validation. Using an appropriate example, describe a validation method that schools could use in their pupil record system. [4]

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7. Banks must protect their online systems from both deliberate crimes and accidental destruction of data.

(a) The Computer Misuse Act was introduced to prevent various crimes. Describe using distinctly different examples in each case, how **two** of these crimes could affect the online bank accounts of home users. [4]

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(b) Describe how online bank account data can be protected from accidental loss or damage to data. [2]

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8. A large supermarket company has many shops throughout the country.

(a) In each supermarket, barcodes are used extensively for the recording of stock and purchases. Explain what a barcode is, how it is used to record stock and sales, and discuss the advantages and disadvantages to the company of using barcodes. [6]

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(b) The company makes use of ‘just in time’ for stock control. Explain how a ‘just in time’ stock control system works and discuss the advantages and disadvantages it offers the company. [7]

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(c) The company also wants to develop the online side of their business. Describe the benefits and limitations of online shopping for the company and its customers.

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SECTION B

Answer all questions.

- 9. A large stationery company would like to use computer software to give customers quotations for their stationery needs and to work out commission for their sales staff. Describe the benefits of using spreadsheet software for these tasks. [4]

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YOU MUST REFER TO YOUR OWN SPREADSHEET TO ANSWER THE FOLLOWING QUESTION.

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

MAKE SURE THAT YOU SHOW IN YOUR ANSWER WHERE THE PROCESSES, FUNCTIONS/FORMULAS CAN BE FOUND IN YOUR SPREADSHEET. FOR EXAMPLE PAGE 6 CELL D4.

- 10. (a) Describe in detail the purpose of **one** function from list A and **two** functions from list B, which you have used in your spreadsheet. [6]

A: SUM, COUNT, MAX, MIN, AVERAGE, RAND

B: Single IF, Multiple IF, DATE, ROUND

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(b) Describe **two** methods you used in your spreadsheet to try and ensure that incorrect data was not used in your spreadsheet. [6]

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(c) Other than the functions mentioned in question 10(a) or the methods described in 10(b) describe **two** completely different processes or functions you used in your spreadsheet. [4]

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

**DO NOT WRITE
ANY ANSWER ON
THIS PAGE.**

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ANY ANSWER ON
THIS PAGE.**