Surname		Centre Number	Candidate Number
Other Names			2

WJEC CBAC

GCE AS/A level

1241/01

INFORMATION AND COMMUNICATION TECHNOLOGY
IT1
INFORMATION SYSTEMS

P.M. MONDAY, 16 January 2012

2 ¼ hours

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen.

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 *(b)*.

Make sure you hand in your spreadsheet with this booklet at the end of the examination.

For Examiner's use only		
Question	**Maximum mark**	**Mark awarded**
1	8	
2	7	
3	4	
4	6	
5	4	
6	6	
7	7	
8	18	
9	4	
10	16	
Total	**80**	

SECTION A

Answer **all** *questions.*

1. *(a)* Define the term *knowledge*. Using a suitable example, illustrate the relationship between *data*, *information* and *knowledge*. [4]

....

....

....

....

....

....

....

....

....

....

(b) Other than *'it takes less time to type in'*, give **two** reasons to explain why data is encoded before being entered into a computer system. [2]

....

....

....

....

....

(c) By referring to an appropriate example, describe **one** problem associated with encoding of data. [2]

....

....

....

....

....

2. Good quality information must use *accurate* and *valid* data.

(a) Explain what is meant by the term *accurate* data. [1]

....

....

....

(b) *"Data entered into a computer may not be accurate but still be accepted as valid."*
Using a suitable example, explain the difference between accuracy and validity. [2]

....

....

....

....

....

(c) Other than information being *accurate* and *valid*, describe using examples, **two** other characteristics of good quality information. [2]

....

....

....

....

....

(d) *Other than by aiding the decision making process*, describe, using an example, **one** way in which good quality information can add value to an organisation. [2]

....

....

....

....

....

Turn over.

3. Architects use Computer Aided Design (CAD) software when designing a new house. Describe an advantage that **each** of the following features of CAD software gives an architect when designing a new house. [4]

zoom   **stress/strain**   **walkthrough**   **hatching/rendering**

....

....

....

....

....

....

....

....

....

4

4. *Presentation software* is used to create tutorials for pupils to learn about new software. Describe the following features and explain how **each** benefits the presentation.

    (i)   Animated transitions, [2]

....

....

....

....

....

    (ii)   Templates, [2]

....

....

....

....

....

(iii)   Hyperlinks.   [2]

....

....

....

....

....

6

5.   Electronic mail has become essential to many companies because of the speed with which it can
get messages around the globe. Other than speed, explain the advantages and disadvantages of
using email.   [4]

....

....

....

....

....

....

....

....

....

....

4

Turn over.

6. Describe **three** ways in which ICT is having an effect on *home entertainment* and *leisure*, giving a **distinctly different** example in **each** case. [6]

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

6

7. Efficient data processing systems offer many advantages when processing large amounts of data.

(a) Other than *hardware* and the *quality of data being entered*, describe **three** factors affecting the efficiency of data processing systems. [3]

....

....

....

....

....

....

....

....

(b) ICT systems *search* and *process data* much faster than manual systems. Describe **two** additional advantages of ICT over manual methods of data processing using suitable examples in **each** case. [4]

....

....

....

....

....

....

....

....

....

....

....

....

Turn over.

8. The Health Service makes extensive use of ICT.

(a) The Health Service makes use of Expert Systems. State the **three** main components of an expert system and then describe, with examples, the advantages and disadvantages of using an expert system in the Health Service. [8]

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

(b) Patient care has been greatly improved by the use of ICT in hospitals. Discuss, using examples, how blood tracking, body scanning and sensors are used in patient care. Discuss the advantages and disadvantages **each** of these methodologies has brought to patient care. [10]

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

Turn over.

SECTION B

Answer **all** *questions.*

9. A building company uses a spreadsheet to calculate staff wages and also to give quotes for building projects to customers. Describe the benefits the company gets from using spreadsheet software for these two purposes. [4]

....

....

....

....

....

....

....

....

....

....

4

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

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

PLEASE ENSURE 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 the function or purpose of **two** different formulas, from the list below, which you have used in your spreadsheet. [4]

    SUM, COUNT, MAX, MIN, AVERAGE, RAND

    ....

    ....

    ....

    ....

    ....

....

....

....

....

....

(b) Describe **two** methods of *simplifying data entry* you used in your spreadsheet, giving a different benefit for **each** method. [4]

....

....

....

....

....

....

....

....

....

....

(c) Describe **two** different types of macro you used in your spreadsheet, stating why you used **each** one. [4]

....

....

....

....

....

....

....

....

....

Turn over.

(d) Describe, giving the purpose, **two** different functions or processes you used in your spreadsheet. [4]

In your answer do not describe any formula, function or process listed in **10** *(a)* or mentioned in your answers to *(b)* or *(c)*.

....

....

....

....

....

....

....

....

....

16