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.
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]
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.

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

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,**

   (ii) **Templates,**
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.
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]
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.

(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.
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.
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]

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]
(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).