



# ICM

MARCH 2017

APPLICATIONS

**Instructions to candidates:**

- a) Time allowed: Three hours (plus an extra ten minutes' reading time at the start – do not write anything during this time)
- b) Answer ALL of SECTION A and any FOUR questions chosen from SECTION B
- c) SECTION A and each question in SECTION B carry 20 marks. Marks for sections of questions are shown in [ ]
- d) The main application in each question of Section B is highlighted for quick recognition
- e) The number of marks allocated for each section should determine the length of your answer and the amount of time you spend on it. Generally ONE point gains ONE mark and is rarely achieved by one-word answers. Note carefully that where some questions require details of how hardware or software achieves its task, descriptions of user actions are unlikely to earn marks
- f) Ensure that you pay particular attention to words underlined, in CAPITALS or in **bold**. FEW OR NO MARKS will be awarded to any question where these are ignored
- g) No computer equipment, books or notes may be used in this examination

**SECTION A – Answer ALL parts of this question**

- 1.
  - a) Design a screen data capture for a mail-order company where customer orders are received by mail and processed in the order they are received. [5]
  - b) MICR is used very effectively for cheque processing within banks. Explain why this method was not originally chosen for EACH of the following. In EACH case state which method is normally used and WHY:
    - i Processing customer purchases in a supermarket
    - ii Processing payments for utility bills
    - iii Recording of book issues in a library [9]
  - c) The initial billing of customers of an energy company is a lengthy process because of the large number of accounts. Printers may fail because of their heavy use.
    - i Identify the types of printers that might be used and explain your choice.
    - ii A printer may fail in mid-run, sometimes for quite minor reasons such as paper becoming screwed up. Explain how the problem can be overcome, given that some bills will have been printed with the file updated while others in that run will not have been. [6]

**SECTION B – Answer any FOUR questions from the following**

- 2. KAOS Households Ltd is a company that sells a wide range of household goods by **MAIL ORDER** (not email). It issues a catalogue, which contains an order form, to prospective customers. Almost all orders are from within the country. Payment must be made with the order. All the products are held in a large warehouse with a loading bay for goods coming in and going out.
  - a) Hundreds of customer orders arrive by post each day and are BATCH PROCESSED. Explain how this is achieved. [2]
  - b) Suggest a suitable method for capturing the order data into the computer system.
    - i Explain why this method has been chosen.
    - ii Name TWO other data capture methods and explain why these could NOT be suitable. [6]
  - c) The goods need to be sent to the customer.
    - i Explain how the computer system will activate this.
    - ii Name the output documents that would be produced.
    - iii Explain WHO will use each of these documents.
    - iv State HOW they will be used. [10]
  - d) Every month, the company will want to know how much profit was made on sales. Explain how this is achieved. [2]

*continued overleaf*

3. The majority of large **HOTELS** run sophisticated computer software.
- Name THREE types of computer input software likely to be used and how. [8]
  - Explain FOUR measures the hotel can take to reduce theft and increase computer security. [7]
  - To encourage guests to return, they are mailed annually by email, often offering reduced rates. Explain how this can be achieved with as little involvement by staff as possible. [5]
4. A company in the **REAL ESTATE** business operates in a busy shopping centre. Prospective clients can register online or call into the office, but must be registered before they can view any property.
- Name the files that this business would need for this purpose and explain why EACH would be needed. [5]
  - A client comes into the shop and asks for details of houses that meet his criteria. State FIVE pieces of information he might give (apart from his own personal details). [5]
  - If the client decides to make an offer on a house after seeing it, explain how the data on the files might be adjusted, given that this sale may be stopped by either buyer or seller. [2]
  - If the sale IS concluded successfully, explain what would then happen to the details of buyer and seller. [3]
  - State the types of printouts that the agent would produce.
    - Suggest a suitable printer which would be suitable for all these tasks. [5]
5. a) In a large retail business goods are classified into different sections such as televisions, freezers, heaters, etc. with a manager responsible for each section. Name THREE printed lists that could be produced by the stock control system. For EACH:
- state the job title of the person who would request the list
  - explain why the list is needed
  - explain how it would be used [10]
- b) It is important that any computer specialist business software integrates with existing or proposed systems in the current office environment. List a number of ways in which a '**STOCK CONTROL**' system might integrate with word processors and spreadsheets. [10]
6. Bar codes, magnetic strip cards and smart cards can all be used as a means of gaining access to a secure building. Comment on which system would be the most effective, stating reasons for your answers. Name THREE other measures, which could be taken which would enhance security still further when used in combination with your chosen system. [20]
7. Discuss how computer systems could benefit both staff and members in a **LIBRARY**. Assume there are WAN LINKS BETWEEN BRANCHES. Your answer should include:
- hardware needed
  - how it is used
  - aspects of library administration [20]
8. A **CLUB** has 200 members. It meets every week in a hall which it hires – the cost of hiring is met from membership fees. It occasionally arranges visits to out-of-town places and hires coaches to transport the members who reserve a place in advance and buy a ticket for these events. Members are expected to attend at least half of the 50 meetings throughout the year and may be asked to leave if they do not.
- Annual fees are determined by estimating the cost of hiring the hall plus administration costs and then dividing this by the current number of members. The figure is increased by 20% and rounded up to the nearest dollar. Assuming a database of members is held, explain how this calculation may be obtained. [4]
  - All members are sent a personalised letter one month before the end of the year detailing the fees for the coming year. Members have an option NOT to rejoin or pay by the start date of the New Year. The letter has a tear-off slip for this purpose.
    - Design this tear-off slip. [8]
    - Explain how the letters can be produced automatically.
  - Every half year, the committee asks the IT officer to supply them with a report tabling the names and attendance details of members who have below 60% attendance. Explain how this is achieved. [4]
  - Name at least EIGHT fields that would be necessary in any record on the member file to achieve ALL of the above. [4]