



# ICM

DECEMBER 2017

## COMPUTER APPRECIATION & 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 sections of Question 1 and any THREE questions chosen from 2 to 6. Spend about one hour on Question 1
  - c) Question 1 carries 40 marks and each other question carries 20 marks. Marks for sections of questions are shown in [ ]
  - d) 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
  - e) Note carefully that where some questions require details of how hardware or software achieves its task, descriptions of user actions will NOT earn marks
  - f) No computer equipment, books or notes may be used in this examination
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1.
    - a) Explain, in general terms, how a user can change his or her password to access a computer which has controlled entry access. [4]
    - b) Explain how to change AUTOMATICALLY ALL occurrences of the phrase 'MD' to 'CEO' in a lengthy word-processed document. [4]
    - c) Draw a labelled diagram showing how the main parts of a computer are linked and showing the directions in which SIGNALS (NOT DATA) pass. [4]
    - d) A customer (Number 24686) places an order for 100 CD-RW (product code RW123). When the data is keyed in it is valid. State FOUR different types of validation that can be performed on only these data items. [4]
    - e) Distinguish clearly between high-level and low-level languages, giving examples of EACH. [4]
    - f) Using a standard built-in FUNCTION in a spreadsheet, explain how to calculate the mean average of the figures in row 5 across columns C to H. The answer is to be placed at the end of that row. [4]
    - g) List FOUR major sub-systems available within an integrated accounts package. [4]
    - h) The data on a diskette can be lost or corrupted in many ways. List FOUR precautions to take when handling them. [4]
    - i) A local library has introduced computer control based on the use of barcodes. Identify:
      - TWO ways in which this will benefit library staff and
      - TWO ways in which it will benefit the library user[4]
    - j) Explain briefly how to define the structure of a new database file. [4]
  2. Give a brief description and explanation of the following:
    - a) An operating system
    - b) Applications software
    - c) System software
    - d) Communications software[5 each]
  3. Give a description of the following types of validation check, with an example for EACH type:
    - a) Presence
    - b) Range
    - c) Reasonableness
    - d) Check digits[5 each]

*continued overleaf*

4. a) Explain the purpose of MODEM and MULTIPLEXER in a network. Explain in outline how EACH works. [6]  
b) One small business had a main office with ten stand-alone computers. State FOUR benefits that should have resulted when it converted the office to a LAN network. [4]  
c) Electronic Funds Transfer (EFT) is sometimes used by companies for payroll. Explain how this works. [4]  
d) An ATM is used to withdraw money from a bank using a card containing a chip. Explain FULLY the processes that occur. Emphasise the events that occur INSIDE the computer system rather than user action. [6]
5. Give a full overview of a typical Database Management System (DBMS), including maintaining the data, the function of providing security, interface with users, etc. [20]
6. a) Explain how an organisation decides whether to show output data on a screen or to print on paper. Give an example for EACH method where the other would be inappropriate. [5]  
b) When new systems are designed, a variety of diagrams might be produced. Distinguish carefully between EACH of the following: [6]  
i Systems flowchart  
ii Program flowchart  
iii Data flow diagram  
c) Define and distinguish clearly between the following:  
i Program  
ii Data  
iii Application [6]  
d) Define the term **batch processing** and give a typical example where it would be appropriate. [3]