ICM

SEPTEMBER 2015

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) 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]
   b) 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]
   c) 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]

SECTION B – Answer any FOUR questions from the following

2. A mail order company has a large warehouse which houses its many products for sale, all bought in from suppliers.
   a) Explain what is meant by **STOCK CONTROL** and define its purposes. [4]
   b) Explain CAREFULLY how stock control would be used by this company. [6]
   c) List FIVE fields that you would expect to find on the STOCK FILE. For EACH, state the data type and purpose or the field being present on the file. [2 each]

3. ABC plc 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]

Question 3 continues overleaf

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 and
   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]

4. A golf **CLUB** has over 400 members. The club organises regular competitions between its own members and against other clubs where several teams might be formed – junior, men, women. All the details of members are held on a computer file.

a) A new member attends the club and supplies information about himself which is keyed into the computer while he is present.
   - List TEN fields that would need to be held for this member
   - Give a reason for including EACH [10]

b) Suggest ways in which the club could use the file for the benefit of all. [10]

5. A **BANK** has branches in every large town. Each branch is connected to a central computer.

a) Describe the processes that occur when a customer asks a bank clerk to withdraw money from his or her account. [4]

b) Give THREE reasons why the customer may be refused this money. [3]

c) A customer requests that a standing order be set up on his account to pay his fixed-price rent every month automatically. Explain how this can be achieved by considering the manual and computer steps involved. [4]

d) The bank has facilities for customers to access their bank accounts online.
   i Explain how the customer can register for this.
   ii Explain the steps the customer will need to take to increase the standing order in c).
   iii Describe CLEARLY how the bank ensures that the customer's online account is not accessed by unauthorised users. [9]

6. A major food retail company owns many **SUPERMARKETS** located in all the main towns of a small country. It has two supply depots for food, one in the north and one in the south. This means that any shop is within 150 kilometres of a depot. 100 staff are employed at each depot.

a) Explain how computers could be used to assist the general running of this business, with particular reference to supply, bearing in mind that food has a short shelf life. Your answer should identify particular software and hardware, explain how both are used and state by whom. [12]

b) Identify statistical information that might be obtained using the computer system which would be helpful to management. [4]

c) Explain how this company might use a spreadsheet program in a 'what-if' context. [4]

7. A national chain of **HOTELS** uses computer systems for all its administration.

a) Distinguish between back office and front office. Explain the different administration processes that take place in these two. [7]

b) A guest booking in is allocated a numbered room and is informed of the nightly/weekly charges. Breakfast is included in the room charges. The hotel wishes to record all additional facilities of the hotel that each guest uses, for charging purposes. Explain how this can be achieved as efficiently as possible. [5]

c) When the guest leaves, he will need to settle his bill. Explain how the computer system achieves this, including the charges for all facilities used in the hotel. [4]

d) Twice a year, the hotel sends a letter through the postal system to all guests who have stayed in the hotel during the previous 12 months. This letter offers them reduced rates if they would like to book again. Explain how this can be achieved as automatically as possible. [4]

8. Most small to medium-sized **ESTATE AGENTS** are set up in business to market private houses on behalf of the owners.

a) Explain how a seller will register with an agent and outline the type of data which he/she will give. [5]

b) Explain how potential buyers will register with an agent, again stating the type of data supplied. [5]

c) Assume a special software package is used to run the business. Identify the files that will be created and used in this business. [4]

d) Explain how the package will be used immediately after the seller's data has been entered. [4]

e) Describe the facilities which should be in the package to enable the agent to calculate the potential income to the business from selling all the properties currently on file. [2]

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