



SEPTEMBER 2015

INFORMATION TECHNOLOGY 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) Explain why date of birth is held on data files in preference to age. [4]
- b) Draw a diagram to show how printed documents pass between a retailer and its wholesale supplier. [5]
- c) Distinguish between the following methods of processing:
 - i batch
 - ii on-line
 - iii real-time [5]
- d) Describe realistic back-up systems that a large business would use for its computer data. [4]
- e) Distinguish clearly between data and information. [2]

SECTION B – Answer any FOUR questions from the following

- 2. a) State the TWO main aims of a good **STOCK CONTROL** system. [2]
 - b) Identify the benefits of using a computerised stock control system compared with performing the task manually. [4]
 - c) Management wants a list showing value of current stock held and expected profit from selling it. List the ESSENTIAL fields in the stock record to make this possible. [3]
 - d) A large shop sells electrical goods. Goods are classified into different sections such as washing machines, freezers, etc., with a person responsible for each section. Excluding the list in c), 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 that list is needed
 - explain how it would be used [9]
 - e) Explain why it is likely that in any stock record the only reference to the supplier or manufacturer is the supplier number. [2]
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- 3. a) i Explain the overall purpose of **STOCK CONTROL**, computerised or manual. [10]
 - ii Discuss the benefits of computerising stock control.
 - b) Name FOUR printouts that might come out of a stock control system. For EACH:
 - state how it will be used
 - by whom [8]
 - c) **NumberOnOrder** is one field on the stock file holding the number of that product already ordered from the supplier. Explain why it is present and how it is used. [2]

4. A **LIBRARY** is provided by town authorities but is **ONLY** available to people who live in the town. The people must register and pay a small annual charge to borrow books and other items. A single library card, containing a bar code, is issued to each user once he or she has registered and paid the enrolment fee. All administrative processes are controlled by a computer system. Books can be borrowed for up to three weeks.
- Detail the data that a potential borrower must give to register to use the library. Explain how the system can ensure that users of the library are eligible to join the library. [5]
 - Describe ALL the steps that the library staff members will take when a borrower approaches the counter with a library card and four books to borrow. [5]
 - Identify the computer files that will be held in the library. For EACH FILE, use TABLE format below to list FOUR fields and explain how EACH will be used by the system. Ensure ALL fields are different. [10]

Field Name	How the system uses the data

5. A company sells clothes by **MAIL ORDER**. Summary catalogues are distributed nationally to the general public with magazines and delivered to every house in targeted areas using special delivery companies. When a customer first places an order by posting an order form enclosed in the catalogue, an account is set up for future purposes.
- Name the data items that the customer would write on this order form when placing the first order. Give reasons for EACH, explaining how each item would be used by the company. [5]
 - Explain how the ordering process can be shortened for subsequent orders. [4]
 - Give reasons why the company may need to contact customers other than in response to an order. [3]
 - A customer may not place an order for a long period of time. Explain how the company might deal with the customer's record. [3]
 - Explain how the computer system can deal with special offers where two linked items purchased together earn a discount. [5]
6. A sports **CLUB** is designed to provide a range of sporting facilities for its members. Members must register and pay an annual fee to join. To keep costs down, only a small number of club staff are employed although it is essential none of its facilities are abused. The system is computerised as much as possible. In each of your answers, explain clearly how the computer can be used to achieve efficiency.
- Describe an efficient way in which initial registration can take place. [4]
 - Describe a realistic method for ensuring that only members have access to the facilities. [4]
 - Some of the facilities use expensive equipment and members are charged an additional fee. Explain how this can be achieved, given that members will not want to be carrying much money with them. [4]
 - Members can join at any time and their annual membership starts on the day they make their first payment. Explain how the club would arrange for members to be notified in advance when a new annual fee is due. [4]
 - From time to time, 'away' trips are organised for members who then pay a proportional cost of the transport provided by the club. An away trip will normally only be made if at least 10 club members opt for it. Explain how club officials can decide how to determine whether such a trip should be organised and determine how much to charge each member. [4]
7. A large company owns many **SUPERMARKETS** located in all the main towns of a small country. It has two supply depots for parts, 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 in each depot.
- 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]
 - Identify statistical information that might be obtained using the computer system that would be helpful to management. [4]
 - Explain how this company might use a spreadsheet program in a 'what-if' context. [4]
8. Describe in detail FOUR significantly different applications that you might find in a **HOTEL**. For EACH you should explain:
- the type of application
 - who would supply the initial data
 - what processing would take place on the data
 - what outputs would result
- [5 each]