



ICM

JUNE 2016

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 Questions 2 to 6
 - 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. Spend about one hour on Question 1
 - 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) Databases are designed to reduce the work of program development. Name FOUR different features that achieve this aim. [4]
 - b) State the FOUR job titles of people who perform the following work in a LARGE computer installation:
 - i Creates user accounts
 - ii Corrects the logic in a development program
 - iii Decides the policy of the computer department
 - iv Interviews administration staff in order to define the users' needs for a new system [4]
 - c) Draw a configuration diagram to show how information flows in a PC between the control unit, CPU, main memory and peripherals. Mark in directions of flow. [4]
 - d) A person sends a message without any attachment to a business colleague using electronic mail. State FOUR items of information, other than the message itself, that would travel with the message. [4]
 - e) State FOUR purposes of producing a Feasibility Study for a new computer system. [4]
 - f)
 - i Distinguish between DATA and PROGRAM [4]
 - ii Distinguish between DATA and PARAMETER [4]
 - g) State the name of a SPECIAL PURPOSE program and give THREE tasks it would perform. [4]
 - h) Distinguish between LOW-LEVEL and HIGH-LEVEL program languages. Give the name of ONE high-level language and state the type of problems it is used to solve. [4]
 - i) Write down FOUR characteristics of an ink-jet printer. [4]
 - j) List FOUR precautions that a computer user should take to protect data held on CD. [4]
 2. Select ANY FOUR of the following methods of data capture.
For EACH, describe a REALISTIC business application that uses that method and would be BEST suited for it. A full answer is required for 5 marks. In EACH case, give reasons WHY the method is the best.
 - a) Barcode scanning
 - b) Keyboard
 - c) MICR
 - d) OCR
 - e) OMR
 - f) Touch screens [5 each]

continued overleaf

3. A general database is to be used to record details relating to payments made by subscribers to a magazine. ALL answers to this question must refer to THIS APPLICATION. Name a particular database program you will use in answering this question. Give your answers in GENERAL terms and not a list of keys to be pressed.
- Define the terms **field**, **file** and **record** carefully, making clear distinctions between them.
 - Give a SINGLE example of EACH for this magazine application. [6]
 - State ONE data type other than character/numeric (or variations of these) that could be used in a database. Give an example of its use in this magazine application. [3]
 - Describe how the structure of the database is first defined BEFORE any data is entered. [5]
 - Explain IN DETAIL how a list could be printed of all subscribers who have not paid their fees in full. Your answer should state the particular fields that would be necessary for this to be possible. [6]
4. a) Consider the following FOUR types of printer:
Barrel/drum Dot-matrix Ink-jet Laser
For EACH of the situations listed below, choose a DIFFERENT printer from these four and explain WHY it is the MOST appropriate for that particular task.
- To print copies for the 15 members of the Board of a 30-page report to read before a meeting.
 - To print electricity bills in one run for distribution to 50,000 customers.
 - To print receipts at a petrol station when petrol is purchased.
 - To allow a student at home to produce multi-coloured diagrams as part of their coursework. [8]
- Explain why a plotter is more suitable than a printer in some applications. Describe, in detail, an application where a plotter would be most useful. [6]
 - Select and name a particular type of plotter. Explain how it is able to produce its output. A clear, labelled diagram of the plotter may help you here. [6]
5. A large furniture store wishes to send a 'mailshot' to all of its previous customers to encourage more purchases. Each customer will receive a personal letter giving details of new products. Each letter will have the customer's name, address and the name of the previous item purchased. A data file already exists that includes the customer's details with the item names and dates of purchase. There is also a code for the type of customer (e.g. B = business, P = private buyer). Once the mailshot starts, it must run uninterrupted.
- Select and state the name of a commercial word-processing package. Explain how this particular package could have been used to create the original data file. [5]
 - Explain how a common letter can be created that includes different data for each customer. Give a brief sample letter. [6]
 - Suppose that the company wished to target only private buyers. Explain how the mailshot could be restricted AUTOMATICALLY to just these customers. [5]
 - The mailshot creates hundreds of letters. Describe TWO ways in which the envelopes could be addressed with the minimum of human effort. [4]
6. The diagram below shows a spreadsheet model for the running costs within a particular organisation over the period January to September (grouped in quarter year periods) and for its four main departments.

	A	B	C	D	E
1			EXPENDITU		
2	DEPARTMENT	Jan-Mar	Apr-Jun	Jul-Sep	TOTALS
3	Personnel	2138.12	2243.5	2113	
4	Production	5312.85	5691.44	5878.5	
5	Purchasing	2634	2866	2555	
6	Sales	3457.89	3945.22	4123.55	

In this question, explain HOW EACH of the following tasks printed below can be achieved when you set up this model. Your answers can be either a series of commands or an explanation involving the selections from menus. Your answer MUST use the most efficient method of achieving each task.

State the name of the spreadsheet program to which your answer relates.

- In column E, for each Department, total the sales for January to September. [5]
- Show ALL numeric values as 2-decimal places. [3]
- The word EXPENDITURE is in C1. Explain WHY this word has been cut short by the program and how this can be corrected. [3]
- Headings in row 2 over the figures are to be moved to the right hand end of each cell. [3]
- Introduce an extra column between D and E. In this column, display estimated figures for the period October to December. These are to be calculated as the average of the two previous columns but should be increased by 10%. [6]