



ICM

JUNE 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
 - 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 are unlikely to earn marks
 - f) No computer equipment, books or notes may be used in this examination
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1.
 - a) Draw up a table to compare the characteristics of a laser printer with ONE other printer of your choice. Compare EACH of the following features for the two printers:
 - i Speed of printing
 - ii Cost of purchase
 - iii Noise during operation
 - iv Ability to print graphics[4]
 - b) Name the job title of EACH of the people performing the following tasks and who work full time with computers:
 - i Writes instructions in a computer language
 - ii Investigates current processing methods with a view to re-computerising
 - iii Issues passwords to users of the LAN
 - iv Advertises and interviews candidates for IT jobs[4]
 - c) Name FOUR phases of a systems life cycle and describe in ONE sentence for EACH the purpose of that phase. [4]
 - d) List FOUR significantly different high-level programming languages indicating the type of application for which EACH would be used. [4]
 - e) Define the terms **field**, **file** and **record**. Relate EACH to data concerning students enrolled at a college. [4]
 - f) List FOUR fields that you would expect to find on the SUPPLIER file for a company that buys materials and then makes products to sell to customers. [4]
 - g) Identify FOUR differences between desktop computers and laptop computers. [4]
 - h) Identify the main component parts of the CPU and describe the purpose of EACH. [4]
 - i) In order, describe the steps a professional programmer takes in writing a program. [4]
 - j) Describe FOUR ways to safeguard data held on a diskette. [4]
 2. The details of members of a tennis and bowls club are held on a disk data file accessed by a program written by a member.
 - a) Distinguish carefully between field, file and record, giving a SINGLE example for EACH in the context of THIS application. [9]
 - b) Distinguish between file organisation and file access. [2]
 - c) Take EACH of the following processes separately. Name a file organisation suitable for EACH and explain why it is suitable.
 - i ALL members are invoiced annually when club fees are due
 - ii A member pays his fees and his details are updated[4]
 - d) To update the details when a member pays his fees, the following data is input: Member Number, Account Paid, Date Paid. Describe the validation that the program should perform on THIS data only. Identify to which data item each validation relates. [5]

continued overleaf

3. a) Explain the term **expert system** and describe briefly where it would be useful. [4]
b) Explain how the newer operating systems are different from the older ones. [4]
c) Describe FOUR different services provided by a current operating system. [8]
d) With the aid of examples in each case, distinguish between system software and application software. [4]
4. Local government offices in a large town administer the local facilities provided for its residents and visitors. This includes education, health care, road systems and transport, and policing.
a) Define, in general terms, advantages and disadvantages of all these offices being linked by a network. [8]
b) State THREE off-the-shelf packages that might be used throughout the whole organisation. [4 each]
For EACH, describe a SPECIFIC use of that package.
5. a) Select THREE different peripherals, apart from the keyboard, used for DATA INPUT in business. [4 each]
For EACH, describe an application for which the peripheral would be suitable. Explain also WHY this would be the best peripheral. [8]
b) Compare TWO different types of printers. Show the differences in speed, costs, quality, etc. [8]
6. a) Name the job titles of two people (excluding programmer) who perform significantly different roles in the computer department of a LARGE COMPANY. For EACH, describe the tasks that person would perform. [5 each]
b) Discuss the effects on people that computerisation has created:
i at work
ii in other areas excluding use in the home [5 each]