



ICM

MARCH 2017

MANAGING COMPUTER SYSTEMS

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 any FIVE questions
 - c) All questions carry equal marks. Marks for sections of questions are shown in []
 - d) Mark allocation should determine the length of your answer and the time you spend on it. Generally, one mark is awarded for each valid point
 - e) Read all sections of any question before attempting any part of it
 - 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) In questions requiring reference to particular institutions or applications, your answer must reflect this. Answers without these references will score few marks
 - h) No computer equipment, books or notes may be used in this examination
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1. So many people these days rely on different forms of technology to manage their lives – for example shopping, banking, booking appointments and paying bills etc.
 - a) Discuss **in detail** the potential computer crimes that can affect people who bank online. [6]
 - b) Describe ways that online stores can protect customers from cybercrime and also ways that the public can safeguard themselves against these crimes. [8]
 - c) If a person needs to book a holiday online they will need to submit a certain amount of personal information.
 - i Discuss a **law** that the travel agent will have to comply with to ensure that this information is safe. [2]
 - ii Discuss and explain TWO of the **rights** of the members under this law. [4]

 2. The Internet has had a profound effect on the lives of very many people. Choose TWO of the following and write about the different ways that the Internet might affect them – consider both positive and negative aspects of EACH.
 - A national newspaper publisher
 - A small, local supermarket
 - A hotel chain
 - A music publisher
 - An aspiring artist
 - A college offering training courses to adults [10 each]

 3. Falcon Airways is a small domestic airline that operates mainly in South Africa. Planes carry passengers and cargo as required. A number of different tools are used in business to manage and process information. With specific reference to **Falcon Airways**, describe FOUR of those tools listed below:
 - Relational database
 - Artificial intelligence
 - Expert systems
 - The Internet
 - Data mining systems
 - Predictive modellingFor EACH – provide a description of what it is, how it is used and how it would particularly benefit a **domestic airline**. [5 each]

continued overleaf

4. After a feasibility study and consideration of the resulting report, the management of a company has agreed to go ahead and introduce a new computer system which directly affects your department. You are the departmental manager and wish to keep your staff informed of:
- the initial proposals
 - progress as it happens
 - the type of information they should be given
 - how the new system will affect them
- Outline different ways in which you can achieve this and state WHEN each would occur in the development process. Identify likely problems that may occur and suggest ways to overcome them. Explain the roles of all people involved in this process. [20]
5. a) Write a job description (not a job advertisement) for the computer manager of a large company with its own computer division. The company operates a LAN as well as some stand-alone PCs. [8]
 b) Describe the tasks the computer manager would perform in the FIRST month and include any long-term activities. [12]
6. a) i Define **information**.
 ii Information can be considered to be **operational**, **strategic** or **tactical**. For EACH, describe the kind of information that would be considered to be of that type in a large organisation and why it is needed. Your answers must be realistic business systems. [10]
 b) Explain how EACH of the following benefits the manager:
 i Decision Support Systems
 ii Executive Information Systems [10]
7. Discuss the effects of introducing computers into a company for:
 a) management
 b) operational staff
 c) customers [20]
8. The network diagram provided (overleaf) is used for planning a new project.
 a) Define the terms **activity** and **event**. Give an example of EACH taken from the diagram. [4]
 b) i Explain why computers are used to control projects.
 ii Explain why details for THIS particular project are unlikely to be entered into a computer. [4]
 c) The numbers of the circles on the diagram are labelled in 10's.
 i Explain why they are not numbered consecutively from "1".
 ii There is also a convention in the numbering – state what this is. [2]
 d) The durations (in months) of each task are marked on the diagram. Mark in the earliest and latest start times in the circles. [4]
 e) i As a result, determine the critical path and the expected length of this project.
 ii Explain why the critical path is of major interest to a project controller. [6]

NETWORK DIAGRAM FOR MANAGING COMPUTER SYSTEMS QUESTION 8

Candidate Name: Candidate Number:

Centre Name:

Instructions to candidates:

If Question 8 is answered, this diagram should be handed in and securely attached to your examination script at the end of the examination period.

