

# ASSOCIATION OF COMPUTER PROFESSIONALS

ADVANCED DIPLOMA EXAMINATION

SPECIMEN PAPER

## INFORMATION SYSTEMS MANAGEMENT

(TWO AND A HALF HOURS ALLOWED)

*You have ten minutes to read through this paper before the start of the examination.*

*Answer a total of FIVE questions.*

*Select at least TWO from section A,  
AND at least TWO from section B.*

*Each question carries 20 marks.*

### SECTION A

1. The staff posts in information technology (IT) departments have changed in recent years, especially with the growth of Internet activities.
- a. Describe the work (responsibilities, activities,..) of FOUR of the following appointments in an IT department:
- (1) Network manager (network controller).
  - (2) Database administrator.
  - (3) Analyst-programmer.
  - (4) Hybrid manager.
  - (5) Technical support (help desk). [16 Marks]
- b. Describe briefly TWO additional types of work arising from the use of Internet services by the department. [4 Marks]
2. The ABC Company Limited intends to purchase a computer system for £120,000 cash price at the end of 2006. The net cash inflows at the end of each year are estimated as follows:
- | Year | Cash Inflow (£) | Discounting Factors at 6% |
|------|-----------------|---------------------------|
| 2007 | 12,000          | 0.943                     |
| 2008 | 18,000          | 0.890                     |
| 2009 | 24,000          | 0.840                     |
| 2010 | 30,000          | 0.792                     |
| 2011 | 36,000          | 0.747                     |
| 2012 | 24,000          | 0.705                     |
- a. Explain the financial appraisal methods of Payback and Accounting Rate of Return (ARR). Apply them both to the project above. [8 Marks]
- b. Describe one method of Discounted Cash Flow (DCF) and explain its major advantage over the Payback or ARR techniques. [5 Marks]
- c. Apply the DCF method to the above project, showing your working, and comment on its outcome. [7 Marks]

3. Project managers need to budget carefully, especially where software forms a large proportion of the development costs.
- a. Explain the terms *Budget* and *Budgetary Control*. [6 Marks]
  - b. Suggest FIVE benefits of employing budgetary control systems. [10 Marks]
  - c. If the project manager was concerned that costs might exceed budget figures, what action could be taken? What factors might cause a cost overrun? [4 Marks]

4. A company manufactures products X and Y in three processing stages. The aim is to maximise profit (contribution). Production and profit figures are shown below:

Process Stage	Production Hours Needed		Processing Hours Available
	X	Y	
1	4	6	3000
2	6	4	3000
3	2	2	1100
Contribution per unit	£200 (X)	£240 (Y)	

- a. Derive an objective function for the linear programming problem. [6 Marks]
  - b. Sketch a graph showing the constraints and the feasible region. [6 Marks]
  - c. Determine the production levels of X and Y which will provide the maximum contribution and determine its value. [6 Marks]
  - d. Calculate the extent of any spare processing capacity. [2 Marks]
5. In any computer project, standards and documentation are essential.
- a. With examples, explain the meaning of the term standards and describe the areas to which they apply. [8 Marks]
  - b. List the main items of documentation which should be produced in each development stage of a computer project. [8 Marks]
  - c. Which individuals are likely to be responsible for producing the items listed in b? [4 Marks]

## SECTION B

6. Most computers need to be operated under carefully controlled environmental conditions. In addition, ergonomic (health and safety) regulations help to ensure the comfort and safety of computer staff.
- a. Describe the environmental conditions under which a typical computer needs to be run. Include estimates of any values or ranges which apply. [8 Marks]
  - b. Explain the possible consequences of allowing incorrect conditions to develop. [8 Marks]
  - c. Describe briefly TWO ergonomic aspects of computer systems which are needed for the benefit of operating staff. [4 Marks]

7. Many computer users arrange an on-site hardware maintenance contract for their equipment.
- a. What are the benefits of having on-site hardware maintenance? [6 Marks]
  - b. Suggest THREE alternatives to an on-site maintenance contract and discuss the benefits of each. [6 Marks]
  - c. List, and discuss briefly, the section headings within a typical hardware maintenance contract. [8 Marks]
8. Discuss the security arrangements needed at a computer system with regard to:
- a. Physical access to the computer room. [5 Marks]
  - b. Access to system facilities from terminals. [5 Marks]
  - c. Safeguarding confidential printed reports. [5 Marks]
  - d. Selection and supervision of employees. [5 Marks]
9. The Data Protection Act 1998 extended and strengthened the scope of the 1984 Act which it replaced.
- a. Describe briefly SIX principles of the 1998 Data Protection Act. [12 Marks]
  - b. In relation to the 1998 Act, define the following terms:
    - (1) Personal Data.
    - (2) Data Controller.
    - (3) Data Processor.
    - (4) Data Subject. [8 Marks]
10. Businesses hold stock for various reasons. The costs of holding stock may need to be held to a minimum.
- a. Explain briefly your understanding of the term '*stock*'. [2 Marks]
  - b. List SIX sound and sensible reasons for holding stock. [6 Marks]
  - c. Suggest TWO reasons why unwanted stocks accumulate. [2 Marks]
  - d. State the main cost categories in holding stock. [4 Marks]
  - e. Explain the term Economic Order Quantity (EOQ); on what factors does the EOQ depend? [4 Marks]
  - f. Suggest why the actual quantity of a stock item ordered may well differ from the calculated EOQ. [2 Marks]