Computer Science Department

Dummy Cover Sheet

M.Sc. / Coll Dip

D03 Computer Management, 1996-97 and resit 1995-96.

2 hours 30 minutes

Answer THREE questions.

All questions carry equal credit. *The use of electronic calculators is permitted.*

Question 1

(a) Discuss what the term "system performance" means when applied, for example to a network of UNIX computer workstations:

(i) by the users,

(ii) by the computer system managers,

(iii) by the company or institutional management.

In each case, describe the main factors affecting each groups' perception of the system's performance.

[17 marks]

(b) The users of a particular system are convinced that performance is inadequate, but the institutional management is unwilling to consider system upgrades until the computer system managers have:

(i) identified the nature of the problem(s),

(ii) exhausted the possibilities for optimising the system to enable users' needs better to be met.

Describe what the system managers should do in order to carry out (i) and (ii) and, whilst they are doing so, the advice they should give the institutional management.

[16 marks]

[TURN OVER]

Question 2

(a) It is often said that, when it comes to computer security, "prevention is better than cure". Define what is meant by computer system security and discuss this motto, paying particular attention to an organisation's need to establish security polices and plans and what these should encompass.

[13 marks]

(b) Nowadays, much software is freely available, for example by anonymous ftp on the Internet. Describe the main steps that a prudent system manager should recommend in order to minimise the risk of security breaches arising from freely available software.

[11 marks]

(c) Describe the actions that a prudent computer system manager should take in order to be confident of detecting breaches of security.

[9 marks]

[CONTINUED]

Question 3

(a) A company is considering whether to develop a new product which requires an investment on machinery of £1,500,000. After allowing for depreciation the company envisages profits from the investment as follows:

Year 1	-£80,000	(a loss)
Year 2	£250,000	
Year 2	£500,000	
Year 4	£0	

Assume:

(i) The cost of capital is 12%.

(ii) The present value of £1.00 received at the end of:

Year 1 = £0.893

Year 2 = £0.797

Year 3 = £0.712

Year 4 = £0.636

(iii) Profit is calculated after depreciation (calculated by the straight-line method) of the machinery is deducted.

(iv) Estimated resale value of the machinery at the end of Year 4 is £300,000.

Explain whether the company should go ahead with the investment for development of the new product.

[12 marks]

(b) Discuss critically the main techniques of financial appraisal for such projects.

[9 marks]

(c) Assume that a large part of the required equipment is for computer-aided design and manufacture. Discuss the benefits that the company might realise from the investment.

[12 marks]

[TURN OVER]

Question 4

(a)The following terms denote different types of computer-based information systems. In each case describe their main characteristics:

(i) Decision Support System.

(ii) Executive Information System.

(iii) Knowledge-based System.

(iv) Office Information System.

[10 marks]

(b)Explain Drucker's diagnostic tools for managing a business at a tactical level:

(i) Foundation information.

(ii) Productivity information.

(iii) Competence information.

(iv) Resource-allocation information.

[10 marks]

(c)In addition to tactical information a manager requires strategic information. Discuss what this might mean for a manager in a company of your choice.

[13 marks]

[End of paper]