

INFORMATION AND FINANCIAL MANAGEMENT

Professional 1 examination 5 December 2002

From 2.00 pm to 5.00 pm,
plus ten minutes reading time from 1.50 pm to 2.00 pm

Instructions to candidates

*Answer **all five** questions. The marks available for each question are shown in italics in the right-hand margin.*

All workings must be shown. Where calculations are required using formulae, calculators may be used but steps in the working must be shown. Calculations with no evidence of this (for example, using the scientific functions of calculators) will receive no credit. Programmable calculators are not permitted in the examination room.

Formula sheets, statistical tables, graph paper and cash analysis paper are available from the invigilator, where applicable.

Where a question asks for a specific format or style, such as a letter, report or layout of accounts, marks will be awarded for presentation and written communication.



1 Blaze College of Arts and Technology has been allocated funding from the University for Industry (UFI) to develop online learning NVQs in media-related subjects. The project must be completed within a specified timescale of 75 weeks. The budget for the project is £230,000. Both the timescale and budget are fixed constraints.

The Director of the Media Faculty has undertaken some initial project planning. She has identified the main activities to be undertaken, their cost, and the sequence these activities should follow.

The information is summarised in the table below:

Activity	Preceding activity	Normal duration (weeks)	Fixed Cost £	Variable cost £/week
A	-	4	2,000	500
B	A	4	3,000	250
C	A	20	20,000	500
D	B	3	1,700	100
E	D	3	600	300
F	C	20	35,000	1,000
G	E	22	28,000	1,000
H	F	10	7,500	1,250
I	GH	14	1,000	1,000
J	GH	7	2,000	1,000
K	J	8	7,000	1,000
L	IK	4	3,500	750
M	L	5	1,000	1,500
N	M	1	0	4,000

The possibility of purchasing additional support to reduce the time of certain activities exists. These potential changes are outlined below:

- Activity H may be reduced by up to 4 weeks at a cost of £1,500 per week.
- Activities B, D and G can each be reduced by up to 2 weeks at a cost of £3,000 per week.
- Activity J may be reduced by 3 weeks at a cost of £1,300 per week.

- **Requirement for question 1**

- (a) Construct a project network for this project, based on the original estimates. 4
- (b) Identify the activities that lie on the critical path and calculate the duration and cost of the project, based on the original estimates. 3
- (c) Appraise the original estimates of time and cost against the project constraints. Identify and evaluate options open to Blaze College to ensure that the project is completed within the required time and budget. Recommend which option they should implement. 4
- (d) Assuming that the College decides to go ahead with the project, outline briefly what steps the project manager should take to ensure that it is completed on time and within budget. 4

(15)

2

Carrie Security Services plc is to operate a new prison in the UK as part of a Public Private Partnership with the UK Prison Service. The company will invest in an integrated information system (IS) for the prison. The IS will combine financial reporting, management information, prison records and personnel records.

Carrie already operates a number of prisons in the United States of America.

It has been suggested by senior managers in the Prison Service that Carrie should develop a bespoke IS for the new prison. They have also said that development of the new system should be managed using the Structured Systems Analysis and Design Methodology (SSADM).

Carrie's Information Systems Director is aware that the company already has a similar system in use in its US prisons which he believes could be adapted to meet UK requirements.

A systems consultant working for Carrie has suggested that prototyping is a development tool which could usefully be employed on this project, regardless of whether the existing US system is adapted or a new bespoke system is developed.

- **Requirement for question 2**

- (a) Outline the advantages and disadvantages of developing a new bespoke system as opposed to adapting one which already exists, suggesting what factors Carrie should consider in deciding the best approach to adopt. 4
- (b) Describe the stages which would be involved in the development and implementation of a new bespoke system. For each stage, explain how, if at all, it would differ if Carrie decided instead to implement the system currently used in the US. 12
- (c) Briefly describe SSADM, suggesting why the Prison Service managers would want it to be used. Explain at which of the stages identified in your answer to part (b) SSADM would be involved. 4
- (d) Describe what is involved in prototyping and explain how it could be used with this project assuming, first, a bespoke development and, second, adaptation of the US system. 5

(25)

3

Artemis NHS Trust has appointed a new Information Systems (IS) Director. He proposes to deliver online financial information via the Trust's intranet. The IS Director calls this new system an "Executive Information System". Some clinical managers are not fully acquainted with this technology or why it is desirable. Some have been heard to mutter that it is an expensive waste of resources that carries few benefits to the management of the Trust.

- **Requirement for question 3**

Your manager, the Director of Finance, has asked you to prepare a memorandum which addresses the following:

- (a) What is an executive information system?
What is an intranet (give examples of how it might be used)? 5
- (b) (i) How have executive information systems led to a growth in feedforward controls? Your memorandum should clearly distinguish between feedback and feedforward controls. 6
- (ii) How can feedforward controls overcome some of the problems with feedback systems? 2
- (iii) How do executive information systems support management decision making? 2

(15)

4

- **Requirement for question 4**

- (a) Define the terms ‘performance measure’ and ‘performance indicator’ giving examples of each. 2
- (b) Describe the concept of **either** value for money **or** best value¹ in the context of public service organisations (PSOs). What potential conflicts might performance measures and performance indicators create for PSOs aiming to achieve value for money or best value? Support your answer with relevant examples. 7
- (c) The traditional approach to the provision of financial support has been the centralised finance department. Describe briefly how a centralised finance function might operate and identify one benefit of such an approach. Identify reasons why a number of alternative structures have developed for the provision of financial advice and finance functions. Identify and appraise *two* alternative forms of financial support. 11

(20)

¹ Scotland, Wales and Northern Ireland have adopted other approaches to Best Value. Candidates may answer in relation to these arrangements or refer to the English system.

5

The Merlin Trust is a charitable organisation which provides practical help for rough sleepers. Its annual expenditure is £300,000, spread evenly throughout the year. Merlin is funded by a regular inflow of donations and bequests. All monies received are placed with investment managers who manage the funds on behalf of Merlin and are currently achieving returns which average 6% a year and which are reinvested.

Day to day cash flow requirements are met by withdrawing cash from these investments. A fee of £20 is payable for each withdrawal. Payments into the managed investment fund incur a similar charge. A recent survey of daily cash flows showed a variance of £100.

Merlin's policy is to aim for the balance on its current account not to drop below £0.

Charlie Industrial Therapy Organisation Ltd (CITOL) is a not for profit company. Its aim is to provide work opportunities for people with a history of mental illness. It does this by running workshops which produce furniture and other items for sale. CITOL is funded by income from the sale of its products. Output and sales levels vary significantly throughout the year as employees move in and out of the firm. It receives occasional grants from a large charitable foundation to cover capital expenditure. The foundation also acts as guarantor for CITOL's frequently used overdraft facility.

- **Requirement for question 5**

- (a) Using the Baumol model, calculate the number of withdrawals that Merlin should make from its investments each year in order to minimise the combined costs of holding cash and paying withdrawal fees to the investment managers.

You should also estimate the total of these costs for the coming year, assuming that the actual number of withdrawals made in the year is the same as you have calculated.

State the assumptions which underlie the Baumol model. 5

- (b) Using the Miller-Orr model, derive alternative guidelines for Merlin to manage its cash flows and explain briefly how the guidelines would be used. 8

- (c) Discuss the relative merits and weaknesses of the two models you have used and recommend, with reasons, which you think would be most appropriate for Merlin to adopt in managing its cash flows. 8

- (d) Identify how the pattern of CITOL's cash flows is likely to differ from Merlin's and explain what arrangements you think CITOL should make for efficient cash flow management. 4

(25)