MANAGEMENT ACCOUNTING

Professional 1 examination
6 June 2001

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 ***five*** *questions:* ***Two*** *questions from Section* ***A*** *and* ***all three*** *questions in Section* ***B****. All questions carry equal marks.*

All workings should be shown. Where calculations are required using formulae, calculators may be used but steps in the workings 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.

SECTION A (Answer TWO questions)

1

St Andrews NHS Trust hospital has a pharmacy unit within the trust, responsible for providing all the drug requirements of the hospital. A standard costing system in respect of material and labour costs is in operation within the pharmacy unit.

Zeta is one of the main drugs supplied by the pharmacy unit and the following information is available with regard to the production of Zeta:

For an output of one thousand millilitres of Zeta, the following standard inputs are required:

Materials		
Chemicals	**Millilitres**	**Cost per millilitre (£)**
A	200	2.20
B	300	1.70
C	700	0.80

Labour		
Grade	**Hours**	**Cost per hour (£)**
Pharmacist	2	25
Technician	4	18

The pharmacy unit re-charges Zeta for £4 per millilitre and budgets to produce 50,000 millilitres per week.

The following actual information relates to the activities of a recent week.

Production and drug issues of Zeta were 54,000 millilitres. Re-charges amounted to £209,000.

Chemicals (millilitres)	**A**	**B**	**C**
Opening stock	8,000	9,000	12,000
Purchases	8,800	19,600	35,600
Closing stock	6,000	10,000	11,000
Cost of purchases per millilitre	£2.35	£1.75	£0.70

Labour	**Skilled**	**Semi-skilled**
Hours worked	126	222
Total cost	£3,276	£4,329

The opening stocks of chemicals were originally bought at standard cost. The company extracts purchase price variances at purchase point.

All overhead costs are to be ignored.

- **Requirement for question 1**

(a) Calculate the standard cost of one millilitre of Zeta. *2*

(b) Calculate the following variances:

(i) materials price variances; *3*
(ii) materials mix and yield variances; *5*
(iii) labour wage rate variances; *1*
(iv) labour mix and yield variances; *5*
(v) sales price variance. *1*

(c) When can standard costing be used in the public sector? *3*

(20)

2 Strathdon District Council operates a number of off-street car and lorry parks within its area. The original budget for 2001/2002 was compiled at November 2000 prices and presented the following information.

Vehicle Parks Budget (at November 2000 prices) 1 April 2001 – 31 March 2002

	George Street Surface Car Park	Oxford Street Multi-Storey Car Park	Chorley Street Coach Park	Total
No. of spaces	720	900	200	1,820
	£	£	£	£
Expenditure				
Employees	12,250	19,500	14,200	45,950
Premises	14,000	46,220	9,900	70,120
Supplies & services	4,160	3,330	1,330	8,820
Establishment expenses	29,230	18,550	14,400	62,180
Asset rental	9,440	70,200	27,000	106,640
Total costs	69,080	157,800	66,830	293,710
Income				
Fees & charges	63,000	69,500	44,160	176,660
Rents	800	8,230	–	9,030
Total income	63,800	77,730	44,160	185,690
Net cost	5,280	80,070	22,670	108,020

In order to prepare an estimate for 2002/2003, the following additional information is available:

(i) Staff received a 5% pay increase with effect from 1 July 2001.

(ii) Two additional staff have been taken on part-time with effect from 1 October 2001, at a total annual cost of £4,600. Their time is split between the multi-storey car park and the coach park.

(iii) Price increases between November 2000 and November 2001 are estimated as being:

	%
Premises	4.5
Supplies & services	5.0
Establishment expenses	3.5
Parking charges and other fees and rents (from 1 June 2001)	5.0

Asset rentals are assumed to remain the same.

(iv) An extension to the George Street surface car park is planned for 2002/2003. This will cost £40,000 and is to be financed from loan schemes completed during the financial year. This will increase the asset rental for the George Street car park by £4,000 per annum.

(v) The extension should increase capacity by 80 places, which will result in increased income from October 2002 onwards.

(vi) Chorley Street coach park expenditure for 2001/2002 includes an item of non-recurring expenditure in respect of supplies and services of £800.

(vii) No major changes in service provision are planned for 2002/2003 but a 2% growth in usage is expected.

- **Requirement for question 2**

(a) Produce an estimate for 2002/2003 at November 2001 prices for each car/coach park and the total of all three car/coach parks. *11*

(b) Detail the further information required to calculate an outturn figure for 2002/2003. *3*

(c) What are the advantages and disadvantages of using incremental budgeting? *6*

(20)

3

Rufford University is considering whether to open a bookshop on the campus. The bookshop would sell books, stationery and newspapers.

The university has an area of unused space available within the main entrance hall of the Wolfgang building. The main entrance hall is well lit and adequately heated and no additional cost would be involved for these services.

No other useful purpose is foreseen for the area. However, a future, major re-development is planned for the Wolfgang building so the bookshop facility will only be available for five years.

To convert an area of the main entrance of the Wolfgang building into a bookshop, with all the fittings, would cost £40,000 to build.

Cost of capital at the university is 10% per annum. A survey of sales potential and estimated costs has produced the following annual figures.

	£000	£000	£000
Total sales			200
Cost of sales		160	
Staff salaries		26	
Interest on capital		4	
Depreciation of bookshop		8	
Share of existing college overheads			
Building repairs	6		
Heat and light	2		
Administration	2	10	
			208
Estimated annual loss			8

During discussions on the supply of books with a local book wholesaler, the wholesaler offered to pay half of the cost of building the bookshop and an annual rent of £8,000 inclusive of lighting and heating, in return for a five year tenancy.

- **Requirement for question 3**

(a) Critically review the appropriateness of the annual figures supplied for the bookshop. *3*

(b) Evaluate the two proposed methods of operating the bookshop by calculating the payback method, the internal rate of return and discounted cash flow. *14*

(c) Recommend a course of action you think should be taken using the data established in part (b), stating any assumptions you make. *3*

(20)

SECTION B (Answer all three questions)

4

Stromford City Council operates a window-making factory. The window-making factory currently makes one standard type of window frame. This type of window frame currently fits 60% of Stromford City Council housing stock and is also in demand from neighbouring local authorities.

The window-making factory currently charges on a per window frame basis to Housing Services and other local authorities. In the current year it sold 2,000 window frames with total costs of £2,250,000, 67% of which was fixed costs and 33% variable. A £250,000 surplus was made.

The coming year's demand is difficult to predict due to council house sales and changes in demand patterns from other local authorities.

It is expected that in the coming year the total costs will increase by 5% but the proportion of fixed to variable costs will remain unchanged. However, if output were to fall below 1,700 window frames, annual fixed costs of £120,000 should be saved, while if output has to expand over 2,300 window frames, annual fixed costs will be expected to increase by £60,000, due to expanding the window-making factory. It is intended to leave the price the same as the current year so as to maintain demand.

The window factory is expected to achieve a minimum surplus on turnover of 5% for the coming year or Stromford City Council will close down the operation.

- **Requirement for question 4**

(a) Assess the break-even point of the window factory for the coming year for sales of 2,000 frames, 1,700 frames and 2,300 frames. *8*

(b) If the 5% surplus is required, which, if any, of the three scenarios in (a) are sustainable? *7*

(c) Outline the key underlying assumptions of break-even analysis. *5*

(20)

5

Diary Suppliers is a central government trading fund which specialises in the manufacture of diaries for central government departments and other organisations.

Diary Suppliers has received an enquiry from a government agency which wishes to make a bulk purchase of 1,000 large diaries. The following information is available:

Purchase Price

Diary Suppliers normally sells each large diary for £8 but, because of the size of the order, is considering offering a discount of £1 per diary.

Materials

Most of the materials required to complete the order are already in stock. These were bought last month for £1,200 and, if not used on this order, have no immediate foreseeable alternative use. Additional materials costing £2,300 would need to be purchased if the order is accepted.

Labour

Accepting the order will require 220 hours of skilled and 40 hours of semi-skilled labour. Diary Suppliers' skilled workers are not particularly busy at the moment and there are sufficient idle skilled hours to cover the order's requirements. A casual semi-skilled worker would, however, need to be employed for work on the order.

Hourly rates of pay are:

Skilled	£5.00
Semi-skilled	£4.00

Supervision

If the order is accepted, no additional supervision costs are anticipated. However, the Production Manager has already spent 20 hours' overtime estimating production requirements for the order at a cost to Diary Suppliers of £300.

Overhead

Fixed overhead (excluding supervision and depreciation) is absorbed at a rate of £12.10 per labour hour and variable overhead is £5.90 per labour hour.

Plant and Equipment

If the order is accepted, a special machine will need to be hired for two months at a cost of £450 per month. All other plant and equipment is already owned by Diary Suppliers and there is sufficient capacity to produce the order. The original cost of Diary Suppliers' plant and equipment was £70,000 and depreciation of £2,330 relates to the two months during which the order will progress.

- **Requirement for question 5**

(a) Identify the relevant financial data relating to the decision faced by Diary Suppliers and explain why it is relevant to the decision. *10*

(b) Determine the net relevant benefit of a decision to accept the order and, on that basis, advise the company. *3*

(c) What qualitative factors may influence the decision of Diary Suppliers to accept or reject the order? *5*

(d) Define the term ‘sunk cost’. *2*

(20)

6

The public sector organisation in which you work, as a trainee accountant, has been carrying out a review of its budgetary control procedures.

- **Requirement for question 6**

You have been asked by the accountant in charge of this review to obtain details of the following:

(a) What are the key requirements of information produced for budgetary control purposes and what is meant by each of these key requirements? *12*

(b) What are the key factors in the design of budgetary control reports? *6*

(c) What is the difference between a profit centre and an investment centre? *2*

(20)