

MANAGEMENT ACCOUNTING

Professional 1 examination 6 December 2000

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**

Mirren City Council has a number of direct service organisations (DSOs). Cleaning Direct DSO is responsible for the collection of refuse in Mirren City. As the accountant for Cleaning Direct DSO, it is your responsibility to prepare the annual budget for the financial year 2000/2001.

Your assistant, who has been helping you to prepare the budget, has given the following information to you:

Outturn budget for 1999/2000 (Year end 31 March)

Employees		£
Supervisors	2 (Whole time equivalent (WTE))	50,000
+ Shift allowance	20%	10,000
Drivers	8 (WTE)	160,000
+ Overtime	20%	32,000
Operators	24 (WTE)	436,000
+ Overtime	20%	<u>87,200</u>
		775,200
Vehicle maintenance		
Refuse vans		
(8 x £5,000)		40,000
Supervisors cars		
(3 x £800)		2,400
		42,400
Petrol (based on mileage)		
Mileage: (based on 365 days)		
Refuse vans (87,600 miles)		30,000
Cars (32,500 miles)		<u>10,000</u>
		40,000
Administration costs		
Cleansing Services Manager (1) (WTE)		60,000
Administration Assistants (3) (WTE)		45,000
Office supplies		16,000
		121,000
Central administration costs recharged		
Central administration recharges		50,000
Asset rental (8 depots)		<u>300,000</u>
		350,000

Total expenditure	1,328,600
Total income	1,500,000
Surplus/(Deficit)	171,400

The following additional information is available to assist with the compilation of the budget outturn for 2000/2001:

- (i) All staff of each category are paid the same.
- (ii) The general rate of inflation is 6% and all last year's outturn income and expenditure will increase by this amount unless otherwise stated.
- (iii) A value for money review has taken place and it has been decided to reduce the number of operators by three WTE and to reduce administration assistants by one WTE. This will be achieved by not replacing staff due to retire over the next 12 months as follows:
 - 1 WTE x Admin Asst - retiring 30 June 2000
 - 1 WTE x Operator - retiring 30 Sept 2000
 - 1 WTE x Operator - retiring 30 Nov 2000
 - 1 WTE x Operator - retiring 28 Feb 2001
- (iv) Supervisors, drivers and operators will receive a pay award of 7% on 1 July 2000. Admin staff will receive a pay award of 6% from 1 September 2000.
- (v) The pay award for 1999/2000 was given on 1 April last year for all categories of staff and is included in the outturn budget for 1999/2000.
- (vi) Central administration recharges will rise by 7% on last year's outturn figure.
- (vii) Asset rental charges will rise by 9% on last year's outturn figure.
- (viii) Refuse vans have been re-routed and so mileage is expected to fall by six miles per day for refuse vans. The maintenance will remain unaffected. Supervisors' car mileage will remain the same.
- (ix) Overtime and shift allowances are to be reduced by one third during the year.

• **Requirement for question 1**

- (a) From the outturn budget information for 1999/2000 and the additional information given above, calculate the budget outturn for 2000/2001.

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- (b) Define incremental budgeting and zero-based budgeting and list the advantages and disadvantages of each method in the context of a public sector budget.

7

(20)

2

Oldways NHS Trust provides geriatric care for 80 patients along with other services. You are the management accountant responsible for the budgetary control information for the geriatric care unit within Oldways NHS Trust.

Below is the budgetary control information for the geriatric care unit. The budgetary control report is for the geriatric unit to the end of month six.

Geriatric Unit monitoring statement month six - year ending 31 March 2001

	Annual budget £	Budget to date £	Expenditure to date £	Variance (-o/spend) £
Pay				
Doctors	180,000	90,000	103,333	-13,333
Nurses	300,000	150,000	153,750	-3,750
Nursing Assistants	80,000	40,000	46,000	-6,000
Patient Administrator	18,500	9,250	7,777	1,473
Total pay	578,500	289,250	310,860	-21,610
Non pay				
Supplies	313,320	156,660	157,540	-880
Drugs	124,480	62,240	65,500	-3,260
Laundry and linen	10,800	5,400	5,800	-400
Printing	-	-	1,525	-1,525
Stationery	2,260	1,130	1,100	30
Office equipment	1,750	875	-	875
Repair and maintenance	6,000	-	3,000	-3,000
Computer hardware and software	3,300	1,650	6,500	-4,850
Travel	4,540	2,270	2,000	270
Books and periodicals	-	-	1,540	-1,540
Recharges				
Domestics	12,840	6,420	9,000	-2,580
Porters	900	450	450	-
Catering	140,000	70,000	68,000	2,000
Hospital overheads	20,500	10,250	11,958	-1,708
Total non pay	640,690	317,345	333,913	-16,568
Total expenditure	1,219,190	606,595	644,773	-38,178

On reviewing the statement you are concerned by the large overspend, and you feel some investigation is necessary to verify the situation.

Your investigations establish the following:

- (i) An extra doctor has been taken on. This should have been included in the annual budget figures but has been omitted. The expected full cost is £40,000. The extra doctor commenced employment on 1 June 2000.
- (ii) A 2.5% nursing pay award (which covers nursing assistants) effective from the 1 April 2000 has not been incorporated into the budget. The staff have received the award.
- (iii) One of the nursing assistants has been off on sick leave (on full pay) from 1 April 2000. An Agency has supplied a temporary replacement to maintain the numbers.
- (iv) The administration and the clerical pay award of 2.25% effective from 1 August 2000 has not been incorporated into the budget. The staff have received the award.
- (v) The Patient Administrator post was vacant until the 1 May 2000.
- (vi) The new microcomputers have arrived at the unit but it appears that the trust has been invoiced twice for the equipment. The new computers have a total cost of £3,250.
- (vii) There has been unauthorised expenditure on printing.
- (viii) An invoice amounting to £1,540, appearing as books and periodicals has been traced. It should be charged against the Finance Department's budget. Likewise an invoice for £1,000 for supplies, relating to the Unit, has been charged to the Personnel Department's budget in error. This is due to a new accountancy clerk being appointed who is unfamiliar with the coding system.
- (ix) All recharges are allocated to budgets on a monthly basis except for catering which is recharged on an actual number of meals ordered during each month.

• **Requirement for question 2**

- (a) Produce a revised budgetary control statement taking into account your investigations. 9
 - (b) Comment on the financial position of the unit and identify areas of concern and possible action to be taken. 6
 - (c) Suggest how this budgetary control statement can be improved. 5
- (20)

3

You are the capital accountant for a public sector organisation and you have been invited to a University to give a presentation to CIPFA Professional 1 students about capital budgets.

The CIPFA course organiser has given you the areas to be covered in your talk.

- **Requirement for question 3**

Draft your notes for the presentation to the CIPFA Professional 1 students. The CIPFA course organiser has asked you to cover the following areas:

- | | |
|---|------|
| (a) Aims and objectives of capital budgets. | 6 |
| (b) The difference in the nature of capital budgets as compared with revenue budgets. | 7 |
| (c) The constraints on capital budgeting. | 4 |
| (d) The budget monitoring process. | 3 |
| | (20) |

SECTION B (Answer all three questions)**4**

Windows Direct (a local authority direct service organisation (DSO)) manufacture a standard size window frame. The window frame is designed to fit 60% of all the local authority's housing stock. All other types of window frames are purchased via the competitive tendering process. Windows Direct also supply the frames to a number of other local authorities.

A value for money (VFM) study has recently been carried out in Windows Direct, which has been analysing the production costs over the last 12 months.

Natural gas is the main source of power used in the window factory and is used to power the machines, which make the window frames. The natural gas usage is believed to follow a semi-variable cost behaviour pattern. This is because, even though consumption of natural gas rises as production increases, there is a certain amount of natural gas needed to keep the production machines ticking over, even when the product is not being manufactured.

The following information has been gathered, as part of the VFM study, from the gas usage records for the last 12 months.

Month	Machine hours 000	Natural gas £000
1	30	1,240
2	34	1,280
3	39	1,180
4	34	1,240
5	42	1,000
6	26	1,000
7	26	1,000
8	32	1,060
9	31	1,060
10	48	1,360
11	35	1,100
12	43	1,160

• **Requirement for question 4**

(a) Estimate the fixed and variable elements of the natural gas costs from the above data using the following methods:

(i) High-low method

4

(ii) Least squares method

10

Express your answer in terms of $y = a + bx$

(b) Compare the two methods used in (a) with the graphical or scattergraph method.

6

5

Blackhill NHS Trust run a catering operation called Cater4U. Cater4U prepares meals for all the hospitals. The meals are all prepared at a central location.

Cater4U is in the process of purchasing a new industrial dishwasher. A competitive tendering process is used to purchase the dishwasher. Cater4U has received quotes from two suppliers, X and Y, and both quotes meet the necessary requirements.

Supplier X is offering a dishwasher that will cost £900,000 and has an expected life of ten years, after which it is expected to have a £20,000 scrap value. A warranty is included for the first year, however after that continuing maintenance is available at £540,000 for a single payment to cover the remaining nine-year period; or alternatively by an annual charge of £75,000, payable in advance of the year of cover.

Supplier Y is offering a dishwasher at £735,000. This machine is only expected to last five years, after which it will have a scrap value of £110,000. The supplier offers maintenance service at an annual cost of £72,000, payable annually in advance. The first year's maintenance is covered by the manufacturer's warranty.

Cater4U's cost of capital is 6%.

The purchase of the new dishwasher is essential to comply with the new hygiene regulations introduced by central government to reduce food poisoning outbreaks.

- **Requirement for question 5**

- (a) Appraise the proposals from the two suppliers and recommend the most appropriate proposal (state any assumptions you make). 8
- (b) Net Present Value (NPV) is considered technically superior to the Payback and the Accounting Rate of Return as an investment appraisal technique. Discuss the strengths of the NPV and the weaknesses of the other two methods. 8
- (c) Explain what is meant by the terms 'cost of capital' and the 'time value of money'. 4

(20)

6

Hunts County Council has a direct service organisation (DSO), called RoadsRUS, responsible for all repairs and maintenance of roads and all roads capital projects. The DSO also carries out contract work for other local authorities. This work is usually won through the competitive tendering process.

Six months ago, the DSO successfully tendered for two contracts, one with Burns County Council and the other with Hart County Council, which have now become mutually exclusive. It is currently considering which of these to accept. Both the projects will last for 12 months.

For each roads project a project engineer is in charge. The project engineer remains on site for the duration of the contract. The project engineer is responsible for recruiting labour if required (this will be a requirement of each of these two projects) and arranges for plant and materials to be provided by the DSO.

The following information about each contract is available:

	Burns CC £000	Hart CC £000
Contract price	850	900
Penalty payment	80	40
Materials required:		
In store (at cost)	100	120
Contracted for	-	180
To be ordered (at current cost)	200	170
Labour required:		
Project engineer's salary	50	50
Travel and accommodation	20	20
Labour	350	280
Head office:		
Plant depreciation	30	30
Interest on plant	10	10
General administration	40	40

Additional information:

- (i) The penalty payment is a condition of both tenders and is payable if the job is offered and the offer is not accepted.
- (ii) The materials which would be used on the Burns job have increased in money value by 60% over their purchase cost. The DSO has no other use for these materials on any other contract apart from the Burns contract, but they could be re-sold to other

companies in the industry at 90% of their value. Transportation and other selling costs would further decrease the cash inflow from the sale by 16.67% of the sales price.

- (iii) The materials for the Hart job have no other use, but could be sold for scrap if the contract were cancelled. The scrap value would be 10% of cost and the scrap merchant would pay the costs of transport. It is likely, however, that the materials could be used next year on another contract in substitution for a different material normally costing 20% less than the cost of the materials to be used in the Hart contract.
- (iv) Labour will be hired for the contract as and when required.
- (v) The plant is depreciated on a straight-line basis, and the interest on plant charge is a nominal cost added for accounting purposes.
- (vi) The two contracts would require similar plant, although more plant would be required for the Hart job than for the Burns job. The plant not required on the Burns job would be sub-contracted out by the DSO for £10,000 per annum.
- (vii) The DSO head office administration costs are fixed at £125,000 for the coming year. This excludes the project engineer's salary.

- **Requirement for question 6**

- (a) The Director of the DSO has asked you to analyse the data and to present the information to her so that she can make a decision. Provide notes to explain the principles which have been used in selecting the data, and so support your analysis. 14
- (b) Comment on the appropriateness of the approach used in your analysis. 2
- (c) State any other factors which ought to be considered before finally making the decision in this case. 4

(20)