

MANAGEMENT ACCOUNTING

Certificate stage examination
9 June 2005

From 10.00am to 1.00pm
plus ten minutes reading time from 9.50am to 10.00am

Instructions to candidates

Answer **five** questions in total: **Three** questions from **Section A** and **two** questions from **Section B**. The marks available for each question are shown in italics in the right hand margin.

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.

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.



SECTION A (Compulsory)

1

'Sleep easy' is a manufacturing business that produces hand made quality beds and mattresses. The company is setting its budget for 2005/06 for the orthopaedic range of beds and mattresses that it sells. There are two top of the range beds in this line, the 'Downbed' and the 'Dreamcast'. You are the accountant at 'Sleep easy' and your task is to prepare the budgets for the coming year. You have been given the following information:

As a result of using specialised forecasting computer software, it has been forecast that the number of sales is likely to be as follows:

	Number of beds sold	Sales price per bed (£)
Downbed	1,056	850
Dreamcast	1,176	755

At the end of 2004/05 there were 75 Downbed beds and 64 Dreamcast beds still in stock. It is company policy to maintain enough stocks of beds at the end of each month to meet demand for 55% of the current month's forecast sales. The sales and production of both products tend to be evenly distributed throughout the year.

Both beds are made from the same raw materials. These are wood, plastic and treated nylon. These are required in the following quantities per bed:

	Downbed	Dreamcast
Wood	15kg	21kg
Plastic	6kg	3.5kg
Treated nylon	17 square metres	19 square metres

Some wastage occurs during the manufacturing process. This is 1.5% of wood and plastic and 3% of nylon. This material has no further use.

At the end of 2004/05 most of the remaining raw material stock was sold to another company because the warehouse was undergoing essential maintenance. The budget should allow for stock levels to be built up to normal levels of 25% of the current month's usage. The raw materials that remained at the end of 2004/05 were:

Wood	196kg
Plastic	72kg
Treated nylon	62 square metres

Current prices are as follows:

	£
Wood	4.60 per kg
Plastic	5.50 per kg
Treated nylon	21.00 per square metre

It is expected that these prices will rise in August 2005 by 2%.

The labour requirements for each bed are as follows:

	Downbed	Dreamcast
Skilled	5hrs	6hrs
Unskilled	4hrs	4.5hrs

Skilled labour costs £14.00 per hour and semi skilled labour costs £6.50 per hour.

The financial year runs from June to May.

• **Requirement for question 1**

- (a) In your role as accountant produce the following budgets for the year 2005/06:
- (i) Sales budget.
 - (ii) Production budget.
 - (iii) Materials usage budget.
 - (iv) Materials purchases budget.
 - (v) Labour cost budget. 16
- (b) Describe how the approach used to construct these budgets differs from the methods used in the public services. 4
- (20)**
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2

'Kleen and Waste' Ltd is a company that specialises in the design and installation of clinical waste disposal systems, mainly for the health sector. The pricing policy of the company is long established and was developed by the previous Financial Controller of the company. It involves the inclusion of all direct costs (equipment and labour installation costs) with an added mark up of 50% of total direct cost to establish the selling price. This allows an adequate amount of money to be generated to cover company overheads and contribute to net profit.

The company has been approached to bid for two contracts for NHS Trusts in the region. These are Roseby NHS Trust and Troonsdale NHS Trust.

The Sales Director has expressed concerns that the current method of pricing may be leading to cross subsidisation between contracts and uncompetitive pricing. She has recently attended a Finance Conference and is particularly interested in Activity Based Costing (ABC).

She has asked you to investigate a proposal to replace the current 50% mark up with overhead costs that have been determined using ABC. She is keen to maintain a net profit margin of 20%.

You have the following information about the two potential contracts:

Contract:	Roseby	Troonsdale
Direct costs:		
Direct materials	£262,500 (975 items)	£180,000 (615 items)
Direct labour	15,000 hours at £19.50 per hour	9,000 hours at £16.50 per hour

Other information

The Roseby contract will take 1,920 design hours in total from the design team. The Troonsdale contract will take 930 design hours.

Each contract will need a number of supervisor visits to the site and these will amount to 45 visits for Roseby and 15 visits for Troonsdale.

Roseby NHS Trust is 80 miles from the main factory and offices and Troonsdale NHS Trust is 45 miles.

You have done some initial work on ABC systems and have ascertained the following information in relation to overhead costs:

Activity	Cost pool cost per annum £	Cost driver	Cost driver units per annum
Site management	1,125,000	Direct labour hours	450,000
Design offices	1,012,500	Design hours	37,500
Site supervisors	555,000	Miles travelled	277,500
Post installation			
Equipment inspection	120,000	Items purchased	30,000
Purchasing department	157,500	Items purchased	22,500
Payroll function	112,500	Direct labour hours	450,000

• **Requirement for question 2**

- (a) Calculate the prices to be quoted for each of the two jobs based on the current method of pricing. 2
- (b) Calculate the amount of overheads that should be allocated to each contract using Activity Based Costing. 12
- (c) Assuming that the net profit margin of 20% is maintained, calculate and comment on the revised price for each contract. 6
- (20)**
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3

'Pro Part Engineering' is a company based in the South East of England. It tenders for varying size contracts in most parts of the United Kingdom.

It has recently successfully tendered for a Local Authority contract in Munchester in the North West. Work is due to begin in January next year. The price that the company submitted in its bid was £432,000.

The company has also been requested to undertake another contract in Bloomshire on the South Coast. The price that has been offered for this work to be completed is £528,000. However, due to staffing problems, the two contracts cannot both be carried out at the same time. 'Pro Part' has to choose which is the most financially viable to the company.

'Pro Part' is able to withdraw from the contract in Munchester, thanks to a clause that was written into the contract before it was signed. However, if it does this it would have to notify the Local Authority of its intention by October this year and pay a penalty clause of £42,000.

The following estimates relating to the costs and revenues of each contract have been compiled:

	Munchester £	Bloomshire £
Materials: Material A (in stock, original cost)	32,400	
Material B (in stock, original cost)		37,200
Committed orders at original cost for material A	45,600	
Further material A required (current cost)	90,000	
Further material C required (current cost)		106,800
Direct labour (from local agency)	129,000	165,000
Plant on site depreciation	14,400	19,200
Site foremen	51,000	51,000
Temporary accommodation for foremen	10,200	8,400
Interest 8%	7,680	9,600
Total contract costs	380,280	397,200
Central overheads from headquarters	19,014	19,860
Total	399,294	417,060
Contract price	432,000	528,000
Anticipated profit	32,706	110,940

Additional information:

1. Material A does not have a resale value outside of the company, as it is not used commonly in the engineering industry. It could be used as a substitute for another material which currently costs 10% less than the original cost of material A.
2. Material B has gone up in price to twice the price that it was first purchased at. Material B can be resold for its current market price. The costs of disposal are 12% of selling price. If not sold, any material B could be used on future contracts as it does not deteriorate.
3. The plant that would be required is common to both contracts. If it were used on the Bloomshire contract, all of the plant would be required due to the nature of the work to be undertaken. However, if the North West contract goes ahead,

- less plant will be required. The plant that is not used will be rented to a neighbouring business for a total rental of £9,000 during the period of the contract.
4. The interest charge of 8% relates to a notional charge for working capital that may be required during the period of the contract. The customer would pay the company progress payments according to the work completed.
 5. Both contracts would run for a 12 month period.
 6. Site foremen are paid an annual salary. This does not vary according to the amount of work undertaken. They will however, expect to stay in temporary accommodation near to the site. The costs of this have been estimated based on past experience.
 7. The costs of the central headquarters consist of the salaries of the personnel who work in the administration and payroll departments. These are £162,000 in total. The headquarters supervise about 15 contracts at any one time.
 8. It is not expected that labour will be in short supply.
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• **Requirement for question 3**

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|--|----|
| (a) Prepare a statement that compares the net benefits of the two contracts. | 7 |
| (b) Write a memo to the Contracts Manager of Pro Part that explains your treatment of the elements in the statements in part (a), including your treatment of any items that you have omitted. Clearly state your recommendations. | 10 |
| (c) Explain clearly the criteria that would influence your decision to include or exclude fixed overheads in any relevant costing decision making scenario. | 3 |

(20)

SECTION B (Answer two questions from this section)**4**

'Excaliber Exteriors' is a medium sized business that manufactures and distributes a range of garden building materials and accessories. One of the newest product lines is garden decking. The decking is produced in sheets and sold in packs to the customer. To produce the decking, untreated wood is cut to size and then treated manually in order to protect it from the weather.

The company has a standard costing system in place. Each new product line is subject to preliminary testing to establish the standard inputs that are required. As Management Accountant, part of your job is to prepare the next set of management accounts. The company reports on a four weekly basis.

Standard costing and budget data resulting from the preliminary testing for the four week period ended 31 May 2005 is shown below.

The planned production for the four week period was 3,500 packs. The budgeted standard cost of planned production was £527,450. The standard costs are shown below.

	Quantity per pack	Unit price £	Cost per pack £
Untreated wood (kg)	9	9.50	85.50
Labour (hours)	4	8.70	34.80
Fixed overhead (hours)	4	7.60	30.40
Standard cost per pack			<u>150.70</u>

Although the standards were useful to the company in planning their budgets for the period, the actual production and expenditure did differ from that expected as follows:

- The actual number of packs produced was 3,100.
- 29,450 kilograms of wood were used at a total cost of £262,105.
- 12,175 hours of labour were used at a cost of £112,500.
- Expenditure on fixed overheads that was directly attributable to the decking was £105,800.

- **Requirement for question 4**

Prepare a report for the managing director that:

- (a) Details all expenditure variances and reconciles the standard cost of production with the actual cost of production and briefly explains possible reasons for significant variances.
- (b) Explains the potential weaknesses that may be encountered when implementing and reporting using a standard costing system.

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(20)

5

Victoria Darling has just returned from a long break overseas at a health spa. Although her previous experience has been in the restaurant business, she is currently considering the possibility of setting up her own health spa in this country. She has an idea of the costs involved, but needs to put together a business plan to present to her bank manager so she can secure the bank's backing.

As her friend, she has asked for your help and has given you the following estimates of costs and revenues:

Costs

- She has found a suitable property that is currently being used for a similar purpose on the market for leasehold. The cost of the lease will be £220,000 per annum.
- The spa will be managed by a full time manager who will be paid £30,000 per annum. In addition to this, there will be one assistant manager who will cost £18,000 per annum and 6 full time health professionals trained in various disciplines, costing £13,500 each per annum.
- The maintenance costs for the spa are estimated at £28,000 per annum.
- The utilities are expected to cost £29,000 per annum.
- Advertising will cost £6,500 per annum.
- The cost of breakfast is expected to be £3.30 per guest per day, lunch £4.75 per guest per day and evening meal £6.30 per guest per day.
- Victoria will employ local people to work as domestic staff. They will be paid £7.50 per hour. It is expected that they will be able to clean 3 rooms per hour and each room will only be cleaned after a guest has occupied it. The main spa areas will be cleaned by a part time member of staff, costing £7,500 per annum.
- Towels and robes will be supplied to each resident. These will be provided clean every day. The cost of this is expected to be £3.45 per day per guest.
- Each treatment involves some consumables and these are estimated to cost £10.60 per treatment.

Revenues

- It is proposed that the price charged will be £110 per night, although Victoria feels that the market could take a higher price. This price would be for use of the fitness facilities, all meals (breakfast, lunch and dinner), and clean laundry. Any treatments would be charged in addition to this.
- Treatments offered will be charged at £20 each. It is expected that guests on average will choose to have 2 treatments per day of their visit.
- The spa will be able to accommodate 20 guests per night. It is expected that the spa will operate 365 days per year and on average will achieve 65% occupancy.

- **Requirement for question 5**

- (a) Calculate the breakeven number of nights. 5
- (b) Calculate the margin of safety (expressed as a percentage and in days) that would be achieved assuming that the occupancy levels are as anticipated. 2
- (c) What would be the price per guest night that could be charged if Victoria wanted to ensure that her current level of profit of £70,000 is maintained, assuming that there is no change in estimated occupancy levels? 2
- (d) List four key assumptions of the techniques that you have used above. 4
- (e) Draft a statement that clearly shows the level of profit that can be expected from the health spa assuming levels of occupancy at 60%, 65% and 70%. 7

(20)

6

'Technolax ' is a company that has been established for many years. In the past the company manufactured computer hardware and related products. Recently, the company has expanded and diversified to include some high technology components in it's product range.

You have recently been appointed to the company from a rival high technology competitor and have spent your first week familiarising yourself with the management accounting methodologies used within the organisation.

What you are surprised to learn is that your predecessor and other members of the management accounting department have not heard of many of the more modern methodologies that were in the process of being developed in your previous company.

In addition, one member of staff in particular has commented '...these are probably just the same old ideas given twenty-first century names'.

Your line manager is concerned about these negative attitudes and has asked you to prepare a short presentation to the management accounting department to raise awareness of the developments in management accounting methodologies.

- **Requirement for question 6**

Prepare briefing notes for the presentation to explain the following:

- | | |
|---|-------------|
| (a) World class manufacturing. | 6 |
| (b) Total quality management. | 6 |
| (c) Value added and non-value added activities and the value chain. | 4 |
| (d) Just in time management. | 4 |
| | (20) |