

# Planning, Control and Performance Management

ACCA CERTIFIED ACCOUNTING TECHNICIAN EXAMINATION

ADVANCED LEVEL

TUESDAY 5 JUNE 2007

## QUESTION PAPER

Time allowed **3 hours**

ALL FOUR questions are compulsory and **MUST** be answered

Do not open this paper until instructed by the supervisor

This question paper must not be removed from the examination hall

The Association of Chartered Certified Accountants

# Paper T7



**ALL FOUR questions are compulsory and MUST be attempted**

1 Naceur, a textile manufacturer, makes three products A, B and C. Budgeted cost and production information for the coming period is as follows:

Product	A	B	C
	Per thousand metres		
Costs			
Direct materials	£120·00	£100·00	£60·00
Direct labour	£42·00	£42·00	£28·00
Machine hours	6·00 hrs	6·00 hrs	4·00 hrs
Labour hours	0·1 hrs	0·1 hrs	0·02 hrs
Output in thousand metres	120	100	80

The three products are manufactured using the same production technology. They are usually produced in production runs of 10,000 metres and sold to wholesalers in batches of 5,000 metres.

The company uses a cost plus pricing system and a gross margin of 20% on sales to calculate prices.

Budgeted production overhead is absorbed using a machine hour rate and the budgeted overhead for the coming period has been analysed as follows:

	£
Rates, rent, supervision, power and depreciation	26,000
Set up costs	15,000
Goods inwards	9,600
Finished goods inspection	5,250
Dispatch	9,750
Total	<u>£65,600</u>

Budgeted machine hours for the period are 1,640 hours.

**Required:**

- (a) (i) Calculate the budgeted total cost per thousand metres for each product, showing clearly prime cost, overhead cost and total cost; (5 marks)
- (ii) Using your total cost estimates from (a) (i) and a GROSS MARGIN of 20% on sales calculate the budgeted price per thousand metres of each of the three products. (3 marks)
- (b) The sales manager of Naceur has complained that its main competitor is undercutting its prices for products A and B by several pounds. Naceur's price for product C on the other hand is lower than that of the competitor. She believes these price differences are caused by their competitor using an activity-based costing (ABC) system to cost products, and a cost plus pricing system with a mark-up of 20% on total activity based cost to calculate prices.

In an attempt to make Naceur's costings more accurately reflect the usage of resources by products you have ascertained that the cost drivers for the overhead activities are as follows:

Cost Pool	Cost driver	Budgeted driver activity for the period
Rates, rent supervision, power and depreciation	machine hours	1,640
Set up costs	number of production runs	30
Goods inwards costs	Number of requisitions	120
Finished goods inspection costs	number of production runs	30
Dispatch costs	Number of sales orders	60

The number of requisitions raised by goods inwards was 40 for each product and the number of sales orders was 60 (one order per batch sold).

**Required:**

- (i) Calculate the budgeted cost driver rate for each overhead activity; (5 marks)
  - (ii) Calculate the budgeted total cost per thousand metres for each product using an activity-based costing approach; (10 marks)
  - (iii) Using your total cost estimates from (b) (ii) and a MARK-UP of 20% on total cost, calculate the price per thousand metres of each of the three products. Comment briefly on the causes of any changes in prices. (7 marks)
- (c) Describe three benefits which might result from the introduction of an activity based costing system. (6 marks)
- (d) Describe two circumstances in which activity based costing would be a more appropriate approach to product costing than traditional approaches to overhead absorption. (4 marks)

**(40 marks)**

2 Shilton Ltd produces three chemicals X, Y and Z. The selling price and cost per litre for each of these products are budgeted as follows:

	X	Y	Z
	£/litre	£/litre	£/litre
Selling price	100	120	120
Direct materials	20	16	21
Direct labour (£12 per hour)	18	24	27
Other direct expenses	–	3	–
Variable overhead	12	16	18
Fixed overhead	6	8	9

**Notes**

1. The fixed overhead is absorbed on the basis of labour hours, based on a budget of 440 hours per month.
2. Maximum demand for each product for month 4 is as follows:
  - X 150 litres
  - Y 40 litres
  - Z 60 litres
3. Included in the maximum demand totals is an unavoidable commitment to a major customer to supply 15 litres per month of each of the three products.
4. During month 4 there is a shortage of labour hours that will restrict production. The total number of labour hours available is 375 hours.
5. Shilton is able to produce and sell fractions of a litre.

**Required:**

**(a) Determine the production mix that will maximise profit in month 4 and calculate the resulting profit.** (12 marks)

**(b)** After completing the production plan you are informed that new environmental controls on pollution are to be introduced from the beginning of month 4. These controls relate to the production of product Z only, and will incur an additional fixed cost of £1,000 per month for each month that Z is manufactured.

In addition you also learn that an overseas supplier will supply as many litres of chemical Z as Shilton Ltd needs at a cost of £100 per litre. Importation of Z will not incur the additional fixed pollution control costs.

**Required:**

**Using the above information calculate how much chemical Z (if any) should be purchased by Shilton Ltd from the overseas supplier in month 4.** (4 marks)

**(c) Briefly explain TWO factors, other than costs or selling price, which should be taken into consideration when deciding whether to subcontract the manufacture of chemical Z.** (4 marks)

**(20 marks)**

- 3** Maradona operates a central distribution warehouse which it classifies as a cost centre. The warehouse can stock up to 600,000 units of finished goods per month. If demand for warehouse space exceeds this amount in any given month extra capacity can be purchased from a nearby factory for fixed payments of £30,000 for each capacity increase of up to 40,000 additional units per month. Stock is picked from shelves by hourly paid labourers who are paid £16 per hour and in this time are expected to pick 20 stock units. Picked units are loaded on to customer vehicles by fork-lift trucks.

Budgeted costs per month throughout 2007, at two different capacity levels are as follows:

Cost element	Behaviour of cost	Warehouse space required	
		200,000 units £	500,000 units £
Warehouse rental	Stepped fixed (see above)	160,000	160,000
Stock picking costs	Variable	160,000	400,000
Fork-lift costs	Semi variable	500,000	1,100,000

During May 2007 when demand was for 724,000 units and 36,250 labour hours were worked; actual costs for each cost element were reported as:

Warehouse rental	£284,000
Stock picking costs	£622,640
Fork-lift costs	£1,528,822

**Required:**

- (a) Prepare a flexed budget statement of warehouse costs for May 2007 for an activity level of 724,000 units. (5 marks)
- (b) Using the flexed budget and other information provided above calculate the following variances for May 2007.
- (i) Direct picking labour rate variance;
  - (ii) Direct picking labour efficiency variance;
  - (iii) The fork-lift total cost variance. (6 marks)
- (c) Define the terms cost centre, profit centre and investment centre. Describe one appropriate performance measure for each and state one difficulty of each of your suggested measures. (9 marks)

**(20 marks)**

- 4** You are an accounting technician in the administration department of a small manufacturing company. Your manager, who is not an accountant, is about to attend a meeting and is unsure of the meaning of several items that appear on the agenda.

**Required:**

Produce notes on any TWO of the following three items to help your manager understand their meaning:

- (i) The balanced scorecard and its perspectives on performance;
- (ii) Total quality management (TQM) and the costs of quality;
- (iii) Benchmarking (including internal, competitive, functional and strategic benchmarking).

Note: each of the areas you select will be worth 10 marks.

**(20 marks)**

**End of Question Paper**