

# Planning, Control and Performance Management

ACCA CERTIFIED ACCOUNTING TECHNICIAN EXAMINATION  
ADVANCED LEVEL

TUESDAY 6 DECEMBER 2005

## 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 The Kilcline Hospital is a state owned hospital located in the United Kingdom. It is financed by public funds. Demand for its services is enormous and long waiting lists for hospital treatment exist.

The two main objectives of the Kilcline Hospital are to provide high quality healthcare to patients and to provide value for money for the taxpayer.

The finance director of the Kilcline Hospital is currently preparing budgets for the year ending 31 December 2006 and asks you for assistance in preparing an income and expenditure budget for the Specialised Surgery Department (SSD).

The SSD performs two types of treatment, hip replacements and knee reconstructions. The hospital receives a standard fee from the United Kingdom government for each treatment performed; a treatment is defined as a complete course of hospital care.

Costs in the SSD are classified as fixed or variable. Fixed costs are made up of the salaries of the three doctors working full time in the department and general overheads. Variable costs relate to drugs, nursing care and patient accommodation costs. Drugs are paid for directly by the SSD. Nursing care and accommodation services (food, bed linen and cleaning services) are managed centrally by the hospital and charged at cost to the SSD on the basis of nursing hours used and patient accommodation days respectively.

The finance director provides you with the following information:

**1. Activity forecasts for the year ending 31 December 2006**

	Hip Replacements	Knee Reconstructions
Forecast activity (number of treatments)	200	300
Average length of hospital stay per treatment	18 days	15 days
Nursing time per patient per day	2 hours	1.5 hours
<b>2. Standard fee per treatment</b>	£5,000	£3,500
<b>3. Drugs cost per treatment</b>	£480	£385
<b>4. Other variable costs</b>		
Accommodation costs are estimated at £50 per patient per day for either type of treatment. Nursing time is charged to the department at £20 per hour.		
<b>5. Fixed costs</b>		
Doctors' salaries for the department are forecast at £180,000 in total for 2006. General overhead costs for the same period are forecast at £900,000.		

**Required:**

- (a) Explain the term 'principal budget factor'. What is the principal budget factor likely to be in the Kilcline Hospital? (3 marks)
- (b) Prepare an income and expenditure budget for the Specialised Surgery Department for the year ending 31 December 2006. Your statement should show:
- (i) the contribution PER TREATMENT (for each type of treatment); (8 marks)
  - (ii) the TOTAL contribution from each of the two treatments; (2 marks)
  - (iii) the surplus or deficit for the department. (2 marks)
- (c) The finance director is concerned that the forecast number of treatments may be incorrect.

**Required:**

Prepare a flexed income and expenditure budget for activity levels 10% lower than those originally forecast. (3 marks)

(d) Explain THREE advantages of using a computer spreadsheet package in the construction and revision of budgets. (6 marks)

(e) The government has suggested that departmental performance be measured using a balanced scorecard.

**Required:**

(i) Briefly explain what is meant by a balanced scorecard approach to performance measurement. (4 marks)

(ii) For each of the balanced scorecard's perspectives on performance give TWO critical success factors and TWO performance indicators appropriate for a state owned hospital. (8 marks)

(iii) Give FOUR advantages of using a balanced scorecard approach. (4 marks)

**(40 marks)**

2 Bennett plc is a manufacturer of soft drinks. Drinks are mixed and bottled in an automated process supervised by a small number of technicians. The majority of production costs are fixed and are common to all of Bennett's products. The market for soft drinks is very competitive and all of Bennett's products face strong price competition.

Bennett has recently developed a new sports energy drink, which will be sold in one-litre bottles under the brand name 'Zoom'. The production of Zoom is more complicated than that of Bennett's existing soft drinks, involving more ingredients, a large variety of more expensive materials and more mixing operations.

The variable production cost of 4,000 litres of Zoom is £0.20 per litre, including packaging. Variable production cost consists entirely of direct material cost.

Bennett's management accountant is considering how to charge overhead costs to the new product and the price at which it should be sold. She is considering the following three approaches:

Approach 1. This would involve not charging overhead to the product and pricing the new product at variable production cost plus a 300% mark up.

Approach 2. This would involve using a general overhead absorption rate of 400% of direct material cost. The product would then be priced at full absorption cost plus a 20% margin on sales.

Approach 3. This would involve using an activity-based costing approach to arrive at the full cost. The product will be priced at this full cost plus a 20% margin on sales.

Activity based costing rates

Overhead item	Driver rate
Stores administration cost	£100 per ingredient used.
Technician salaries	£300 per mixing operation.
Despatch cost	£200 per customer delivery.

The 4,000 litres of Zoom used twelve different ingredients and required eight mixing operations. Ten separate deliveries were required to deliver it to customers.

**Required:**

(a) Calculate the selling price per one-litre bottle of Zoom that would result from each of the above three approaches. (8 marks)

(b) Explain why an activity based costing approach would be more useful in costing products than a traditional absorption costing approach, given the circumstances faced by Bennett. (6 marks)

(c) Explain two advantages and two disadvantages of cost plus pricing. (6 marks)

**(20 marks)**

3 Houchen Ltd uses a standard absorption costing system to control the manufacturing costs of its single product. The following standards have been set:

		£ per unit
Direct material	2 kgs at £6 per kg.	12
Direct labour	1 hour at £7 per hour	7
Fixed overheads		9
		<hr/>
Total production cost		£28
		<hr/> <hr/>

The fixed overhead standard cost per unit is based upon a budgeted monthly production of 4,000 units.

Actual results for the most recent month were:

Production	4,300 units.
Direct material	Cost £56,000 for 9,000 kgs.
Direct labour	Cost £32,800 for 4,600 hours paid. Only 4,000 hours were worked.
Fixed overheads	£35,000.

No direct material stocks are held.

**Required:**

**(a) Calculate the following variances:**

- (i) Direct material price;
- (ii) Direct material usage;
- (iii) Direct labour rate;
- (iv) Labour idle time;
- (v) Direct labour efficiency;
- (vi) Fixed overhead expenditure;
- (vii) Fixed overhead volume. (14 marks)

**(b) Explain the meaning and suggest one potential cause of each of the following variances:**

- (i) Direct labour rate;
- (ii) Labour idle time;
- (iii) Direct labour efficiency. (6 marks)

**(20 marks)**

- 4 Mabbutt plc makes four types of electrical sub-assembly: A, B, C and D. Demand and costs per unit in the coming period are estimated to be as follows:

Sub-assembly	A	B	C	D
Demand (units)	10,000	50,000	120,000	60,000
<b>Unit variable costs</b>	<b>£ per unit</b>	<b>£ per unit</b>	<b>£ per unit</b>	<b>£ per unit</b>
Direct labour (£4.00 per hour)	4	6	8	6
Direct material	2	5	2	11
Variable overhead	2	3	4	3
	<hr/>	<hr/>	<hr/>	<hr/>
Total variable cost per unit	8	14	14	20
Absorbed fixed overhead	8	12	16	12
	<hr/>	<hr/>	<hr/>	<hr/>
Total production cost	16	26	30	32
	<hr/>	<hr/>	<hr/>	<hr/>

Fixed overheads are absorbed on the basis of direct labour hours and represent apportioned general factory overhead.

The direct labour used to build the sub-assemblies is highly skilled and Mabbutt plc sometimes has difficulties in recruitment, resulting in shortages of labour. Due to rapid technological change, stocks of completed sub-assemblies are never carried.

The finance director of Mabbutt plc considers the costs of the sub-assemblies to be too high and is considering subcontracting their manufacture. A supplier has offered to supply any quantity of A, B, C or D for £10, £16, £13 and £25 per unit respectively.

Mabbutt plc seeks to satisfy demand at minimum cost.

**Required:**

- (a) **On a purely financial basis, determine how many of each sub-assembly should be made by Mabbutt plc and how many should be bought in from the supplier, if Mabbutt plc expects direct labour hours in the coming period to be:**

(i) **in unlimited supply;** (4 marks)

(ii) **restricted to 145,000 hours.** (8 marks)

- (b) The finance director of Mabbutt plc is also considering a cost reduction campaign to reduce the cost of the four sub-assemblies.

**Suggest four actions (other than subcontracting manufacture) the company could take to reduce the cost of the sub-assemblies.** (8 marks)

**(20 marks)**

**End of Question Paper**