

Planning, Control and Performance Management

ACCA CERTIFIED ACCOUNTING TECHNICIAN EXAMINATION

ADVANCED LEVEL

TUESDAY 7 DECEMBER 2004

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 (a) Explain four benefits which would result from the introduction of a budgeting system by a company. (8 marks)

(b) Bowyer Ltd is a small company that manufactures sports wear. Its financial director is considering setting up a budgeting system. As a starting point he needs to decide on monthly production levels for the first three months of 2005.

Bowyer Ltd's products are very popular and the firm expects to be able to sell up to 20,000 units of each of its two products (shirts and shorts) per month. However, for the the first three months of 2005 production will be constrained by a lack of direct labour. It is estimated that only 6,000 hours of direct labour will be available each month.

For sales reasons production of either of the two garments must be at least 25% of the production of the other. Because of building works in the factory Bowyer is unable to carry any month end stock of finished goods or raw materials in the first quarter (three months) of the year. There will be no opening stocks at the beginning of January.

Estimated costs and revenues per garment are as follows:

	£ per garment	
	shirts	shorts
	£	£
Sales price	30	22
Raw materials		
Fabric at £12 per square metre	(12)	(6)
Dyes and cotton	(3)	(2)
Direct labour at £8 per hour	(4)	(2)
Fixed overheads at £4 per hour	(2)	(1)
Profit	<u>£9</u>	<u>£11</u>

Required:

Calculate the number of shirts and shorts to be produced per month in the first quarter of 2005 to maximise Bowyer Ltd's profit. (8 marks)

(c) After the first three months of 2005 direct labour will no longer be a constraint, due to recruitment of more workers. Building work will also be complete and the firm will once again be able to carry stock. The company expects to be able to sell 15,000 shirts and 20,000 shorts in April 2005. Sales volumes are expected to grow at 2% per month cumulatively thereafter throughout 2005. The following additional information is available.

1. The company intends to carry a stock of finished garments sufficient to meet 40% of the next month's sales.
2. The company intends to carry sufficient raw material stock to meet the following month's production.
3. The estimated variable costs and selling prices per unit for shirts and shorts are as detailed above.

Required:

Prepare the following budgets on a monthly basis for each of the three months April to June 2005:

(i) A sales budget showing sales units and sales revenue for each product; (4 marks)

(ii) A production budget (in units) for each product; (8 marks)

(iii) A fabric purchases budget (in square metres). (4 marks)

- (d) The financial director has not discussed the proposed budgeting system with junior managers. He is considering imposing production and sales budgets upon them, without their involvement.

Explain the following approaches to budget setting and give two advantages of each approach.

- (i) a 'top down' (or imposed) approach; and
(ii) a 'bottom up' (or participative) approach.

(8 marks)

(40 marks)

- 2 John Robertson, a self employed builder, has been asked to provide a fixed price quotation for some building work required by a customer. Robertson's accountant has compiled the following figures, together with some notes as a basis for a quotation.

	£	
Direct materials:		
Bricks 200,000 at £100 per thousand	20,000	note 1
200,000 at £120 per thousand	24,000	
Other materials	5,000	note 2
Direct labour:		
Skilled 3,200 hours at £12 per hour	38,400	note 3
Unskilled 2,000 hours at £6 per hour	12,000	note 4
Other costs:		
Scaffolding hire	3,500	note 5
Depreciation of general purpose machinery	2,000	note 6
General overheads 5,200 hours at £1 per hour	5,200	note 7
Plans	2,000	note 8
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Total cost	112,100	
Profit	22,420	note 9
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Suggested price	<u>£134,520</u>	

Notes

- The contract requires 400,000 bricks, 200,000 are already in stock and 200,000 will have to be bought in. This is a standard type of brick regularly used by Robertson. The 200,000 in stock were purchased earlier in the year at £100 per 1,000. The current replacement cost of this type of brick is £120 per 1,000. If the bricks in stock are not used on this job John is confident that he will be able to use them later in the year.
- Other materials will be bought in as required; this figure represents the purchase price.
- Robertson will need to be on site whilst the building work is performed. He therefore intends to do 800 hours of the skilled work himself. The remainder will be hired on an hourly basis. The current cost of skilled workers is £12 per hour. If John Robertson does not undertake the building work for this customer he can either work as a skilled worker for other builders at a rate of £12 per hour or spend the 800 hours completing urgently needed repairs to his own house. He has recently had a quotation of £12,000 for labour to repair his home.
- John employs four unskilled workers on contracts guaranteeing them a 40 hour week at £6 per hour. These unskilled labourers are currently idle and would have sufficient spare time to complete the proposal under consideration.
- This is the estimated cost of hiring scaffolding.
- John estimates that the project will take 20 weeks to complete. This represents 20 weeks' straight line depreciation on equipment used. If the equipment is not used on this job it will stand idle for the 20 week period. In either case its value at the end of the 20 week period will be identical.
- This represents the rental cost of John's storage yard. If he does not undertake the above job he can rent his yard out to a competitor who will pay him rent of £500 per week for the 20 week period.
- This is the cost of the plans that John has already had drawn for the project.
- John attempts to earn a mark up of 20% on cost on all work undertaken.

John is surprised at the suggested price and considers it rather high. He knows that there will be a lot of competition for the work.

Required:

Using relevant costing principles, calculate the lowest price that John could quote for the customer's building work. Explain your treatment of each item in the accountant's estimate.

(20 marks)

Note: 11 marks are available for calculation and 9 marks for explanation.

- 3 (a) Birtles plc is a manufacturer of small domestic electrical appliances. Its market is very competitive in terms of both price and new product innovation. As a result product life cycles are short.

Birtles plc's managers are concerned about the reliability of its product costing system. It currently uses an absorption costing system, and absorbs overheads on the basis of budgeted direct labour hours. On this basis the estimated cost of its latest product, a talking electric kettle, is as follows:

	£ per unit
Direct material	4.50
Direct labour (£12 per hour)	0.50
Production overheads (£120 per hour)	5.00
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Production cost	10.00
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The firm's management accountant has suggested that more accurate product costs would be obtained if an activity based costing (ABC) approach were used. He has collected the following information as a starting point for an ABC treatment of production overhead costs.

Budgeted factory overhead per annum

Cost Pools	Cost per annum £000	Cost Driver
Stores administration	5,000	Number of different components
Production line set ups	3,000	Number of set ups
Dispatch	1,000	Number of dispatches
Other overheads	3,000	Direct labour hours
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Total production overhead	12,000	
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Estimated activity per annum

Cost Driver	Total Activity per annum
Number of components	2,000 items
Number of set ups	10,000 set ups
Number of dispatches	20,000 dispatches
Direct labour hours	100,000 hours

Each talking kettle uses 10 different components and kettle manufacture will involve six production line set ups per annum. Five hundred dispatches will be required per annum. Budgeted production is 10,000 kettles per annum.

Required:

Estimate the cost of a talking kettle using an ABC approach and the cost drivers suggested by the management accountant. (8 marks)

- (b) Birtles plc's Finance Director supports the proposal to introduce activity based costing but argues that the firm should consider all the costs involved in the development, production and marketing of the kettle. In addition to the above ABC costs, £30,000 has already been spent on research and development for the talking electric kettle and he estimates that a further £5,000 will be spent on marketing the new product. There are no other costs attributable to the new product. Total sales over its life will be 10,000 units per annum for the next two years. On past experience he knows that the firm will have to reduce the selling price of the kettle by 40% in its second year of sales in order to remain competitive.

Required:

Calculate the price to be charged per unit for the talking electric kettle in the first year of sales so that it will earn an OVERALL 20% margin on sales over its two year life after covering ALL attributable costs outlined above. (8 marks)

- (c) **Explain what is meant by life-cycle costing. Give two reasons why a life cycle costing approach could be of value to Birtles plc.** (4 marks)

(20 marks)

4 Francis plc is a manufacturing company. It assesses managerial performance by comparing actual with budgeted results. Due to staff shortages in the accounting department, figures for November 2004 budget reports have been prepared by a trainee. A copy of the budget report for November 2004 for the appliances division is given below.

	Budgeted	Actual	Variance
Sales and production volumes (units)	5,000	5,500	500 F
	£000	£000	£000
Sales revenue	1,000	1,078	78 F
Direct material	(250)	(286)	36 A
Direct labour	(150)	(176)	26 A
Other manufacturing costs	(300)	(308)	8 A
Divisional fixed overhead	(200)	(190)	10 F
Profit	<u>100</u>	<u>118</u>	<u>18 A</u>

Note: F = favourable variance A = adverse variance.

The manager of the appliances division does not believe that the variances calculated give a fair assessment of her division's performance. She thinks that the budget figures are inappropriate and that a flexed budget should be used to calculate the variances. To assist in preparing a flexed budget she provides the following information:

- Budgeted selling price is £200 per unit and actual selling price was £196 per unit.
- Direct material is a variable cost.
- Budgeted direct labour cost has a fixed element of £50,000 per month, the balance is variable.
- Other manufacturing costs are semi-variable. Budgeted cost and output for the previous two months have been as follows:

Month	October 2004	September 2004
Budgeted Output (units)	4,000	3,000
Budgeted Cost (£000)	210	170

There is known to be 'step up' of £50,000 in the fixed element of this cost for volumes in excess of 4,500 units.

Required:

- Explain why budget variances should be calculated using flexed budget figures.** (3 marks)
- Prepare a flexed budget for the appliances division for November 2004 and recalculate the budget variances.** (9 marks)
- Briefly discuss four factors that should be considered before deciding whether to investigate the causes of a variance.** (8 marks)

(20 marks)

End of Question Paper