

SERIES 3 EXAMINATION 2006

COST ACCOUNTING

LEVEL 3

(Code No: 3016)

MONDAY 12 JUNE

Instructions to Candidates

- (a) *The time allowed for this examination is 3 hours.*
 - (b) *Answer 5 questions.*
 - (c) *All questions carry equal marks.*
 - (d) *All answers must be clearly and correctly numbered but need not be in numerical order.*
 - (e) *Your answers should be written in blue or black ink/ballpoint. Pencil may be used only for graphs, charts, diagrams, etc.*
 - (f) *Presentation is important.*
 - (g) *Candidates may use calculators provided the calculators give no printout, have no word display facilities, are silent and cordless. The provision of batteries and responsibility for their condition must rest with the candidate.*
 - (h) *It is recommended that candidates show essential workings.*
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QUESTION 1

A company has three production departments (Machining, Assembly and Finishing) and two service departments (Stores and Maintenance) within its factory. The budgeted production overhead costs, allocated to the five departments for a period, were as follows:

Allocated overheads	£
Machining dept	134,980
Assembly dept	96,000
Finishing dept	51,990
Stores dept	63,860
Maintenance dept	69,350

The following budgeted costs for the period have yet to be apportioned to the five departments:

	£
Building related	32,400
Labour related	16,820
Depreciation of machinery	19,600

In addition, the following budgeted information relating to the five departments for the period is available:

Department	Floor Area (Sq meters)	Direct Labour Hours	Machine Hours	Number of Employees	Machine Value (£)
Machining	4,000	16,000	16,400	20	70,000
Assembly	4,000	32,000	-	40	-
Finishing	8,000	24,000	1,000	30	10,000
Stores	1,000	-	-	20	15,000
Maintenance	1,000	-	-	6	5,000

Service department overhead costs are apportioned on the following basis:

Department	Stores	Maintenance
Machining	40%	50%
Assembly	20%	20%
Finishing	20%	15%
Stores	-	15%
Maintenance	20%	-

Actual results for the period were:

Department	Direct Labour Hours	Machine Hours	Actual Overheads (Allocated and apportioned) (£)
Machining	15,500	15,900	222,550
Assembly	31,200	-	135,400
Finishing	24,800	950	108,640

REQUIRED

For the period:

- (a) Produce a budgeted overhead distribution table, showing the allocated and apportioned costs for the five departments. (3 marks)
 - (b) Re-apportion the budgeted service departments costs to the production departments using simultaneous equations.
(Full marks will not be awarded for other methods) (10 marks)
 - (c) Calculate a suitable overhead absorption rate for each of the production departments. (3 marks)
 - (d) Calculate the over/under absorbed overhead for each of the production departments. (4 marks)
- (Total 20 marks)**

QUESTION 2

A company budgeted to make and sell 1000 units of its single product in a period. The company uses standard costing and produced the following budgeted information on the product:

	£/unit	£/unit
Selling price		80
Direct labour (2hrs @ £8.00 per hour)	16	
Direct materials	28	
Fixed overheads (£12 per direct labour hour)	24	
Standard cost		<u>68</u>
Gross profit		<u>12</u>

Actual sales and costs relating to the period were as follows:

Sales volume	900 units
Revenue from sales	£76,500
Direct labour	£13,950
Direct material	£26,550
Fixed production overheads.	£20,500

The following information has also been provided:

- (1) All production was sold during the period and there was no opening stock.
- (2) Actual direct labour worked was 1860 hours.

REQUIRED

- (a) Calculate the following variances for the period:
- sales price
 - sales volume profit
 - total cost.
- (6 marks)
- (b) Reconcile the budgeted gross profit with the actual gross profit using the variances calculated in part (a).
- (3 marks)
- (c) Calculate the following fixed overhead variances for the period:
- expenditure
 - volume
 - capacity
 - efficiency.
- (8 marks)
- (d) Distinguish between an ideal and an attainable standard.
- (3 marks)

(Total 20 marks)

QUESTION 3

ACE Ltd, which produces a single component for the motor industry, has just completed its first year of trading. The summary profit and loss account for the year, is set out below:

	£000	£000
Sales (16,000 units)		1152
Direct Costs		
Direct material	336	
Direct labour	304	
Direct expenses	96	
Overheads		
Production	202	
Administration	60	
Selling	<u>176</u>	<u>1174</u>
Net Loss		<u>22</u>

The following information is available:

- (1) All of the direct costs are variable with production.
- (2) The production overhead figure includes £90,000 fixed costs. The remaining production overheads vary with production.
- (3) All of the administration overheads are fixed.
- (4) Variable selling overheads are incurred at the rate of £8 per unit. The remaining selling overheads are fixed.

REQUIRED

Calculate for Year 1:

- (a) The break-even point in units and sales value. (7 marks)
- (b) The profit that would have been earned from the sale of 20,000 units. (2 marks)
- (c) The number of units needed to be sold to achieve a profit of £11,000. (2 marks)

The company has set a profit objective of £16,000 for year 2. Two suggestions have been made as to how this profit could be achieved.

Suggestion 1.

Reduce the selling price by £3 per unit and use a less expensive material that would reduce the direct material cost by £2 per unit.

Suggestion 2.

Increase the selling price by £4 per unit and increase advertising expenditure by £58,000. In addition use a less expensive material that would reduce the direct material cost by £2 per unit.

All other fixed costs and unit variable costs will remain unchanged for Year 2.

- (d) Calculate for each suggestion how many units need to be sold to achieve the profit objective of £16,000. (9 marks)

(Total 20 marks)

QUESTION 4

A company sells four products (A, B, C, and D). The products are manufactured on a bank of 20 machines any of which can be used on each of the products. Each machine can produce 106 hours of work per period.

The following information is provided for the next period:

	Product			
	A	B	C	D
Units required	200	120	80	120
Selling price (per unit)	£72	£92	£114	£76
Direct labour (per unit)	2.5 hrs	3.0 hrs	4.0 hrs	2.0 hrs
Direct materials (per unit)	£29	£38	£40	£24
Machine hours (per unit)	3.0 hrs	6.0 hrs	7.0 hrs	4.0 hrs
Fixed overheads (per unit)	£2.00	£5.00	£6.00	£3.00

Fixed overheads for period are £1,840.

Direct labour costs £8.00 per hour

REQUIRED

- (a) Calculate the production capacity shortfall (in machine hours) in the next period. (2 marks)
- (b) Determine the production quantities of each product, which will maximise profit in the next period. (8 marks)
- (c) Prepare a statement showing both contribution and profit for the period based on your answer to (b) above. (4 marks)

The company is considering working overtime to overcome the shortfall in production capacity. If overtime is worked the labour cost per unit will increase by 25% for the additional hours worked, and the fixed overheads will increase by £500 per period.

- (d) Advise the company on whether or not to introduce overtime to overcome the production capacity shortfall. Your advice should be accompanied by calculation. (6 marks)

(Total 20 marks)

QUESTION 5

Dual Products Ltd manufactures two products, Tee and Pee, from a single raw material. Each product passes through two production departments, Cutting and Finishing, before final inspection. The company is in the process of preparing its budgets for month 8 and has provided the following information:

	Tee	Pee
Budgeted sales (units)-first quality	2,000	1,500
Budgeted selling price (per unit)	£10	£15
Direct labour (per batch of 100 units)		
Cutting dept (@ £8 per hour.)	8hrs	12hrs
Finishing dept (@ £10 per hour.)	4hrs	8hrs
Finished weight of completed unit	1.5 kg	3 kg

Raw material cost £3 per kg

Raw material wastage rate (Cutting dept) - 25% of input material

No raw material waste occurs in the Finishing dept

Raw material waste is sold back to the original supplier at £2 per kg

Finished product rejection rate - 20% of products inspected

Rejected products are sold, as second quality, for £5 and £8 for Tee and Pee respectively.

Production overheads for month 8 (including inspection) £6,000

No stocks of finished units or work in progress are budgeted for

Stock levels of raw material are expected to be:

Month 7 (end)	1,500 kg
Month 8 (end)	1,350 kg

Assume that all waste material and second quality products that arise in the period are sold.

REQUIRED

(a) Prepare the following budgets for month 8:

- (i) Production (units of each product)
- (ii) Raw material usage (kgs)
- (iii) Raw material purchases (kgs)
- (iv) Sale of raw material waste (kgs)
- (v) Sale of second quality products (units of each product)

(11 marks)

(b) Prepare a budgeted profit statement for month 8.

(6 marks)

(c) Define, giving two examples, the term 'principle budget factor', and explain its influence on the budget setting process.

(3 marks)

(Total 20 marks)

QUESTION 6

A manufacturing company operates a non-integrated accounting system. For the accounting year ended 31 December Year 6 the statement which reconciles the profit shown in the Financial Accounts with that shown in the Cost Accounts is as follows:

	£	£
Profit as per financial accounts		36,000
Add:		
Raw material closing stock difference	900	
Work in progress opening stock difference	1100	
Finished goods closing stock difference	4500	
Under absorbed production overheads carried forward in the Cost Accounts	<u>1500</u>	
		<u>8,000</u>
		44,000
Deduct:		
Raw material opening stock difference	1400	
Work in progress closing stock difference	800	
Finished goods opening stock difference	2200	
Dividends received	3750	
Rent received	<u>8000</u>	
		<u>16,150</u>
Profit as per cost accounts		<u>27,850</u>

The Financial ledger included the following stock accounts for Year 6:

Raw Materials					
1 Jan	Balance b/f	17,500	Jan-Dec	Returns to suppliers	1,560
Jan-Dec	Purchases	265,600	Jan-Dec	Work in progress	215,200
			31 Dec	Balance c/f	66,340
		<u>283,100</u>			<u>283,100</u>
Work in Progress					
1 Jan	Balance b/f	35,200	Jan-Dec	Finished Goods	663,700
Jan-Dec	Raw Materials	215,200	Jan-Dec	Balance c/f	37,500
	Direct Wages	315,600	31 Dec		
	Production Overhead	<u>135,200</u>			
		<u>701,200</u>			<u>701,200</u>
Finished Goods					
1 Jan	Balance b/f	65,500	Jan-Dec	Cost of Goods Sold	654,400
Jan-Dec	Work in progress	<u>663,700</u>	31 Dec	Balance c/f	74,800
		<u>729,200</u>			<u>729,200</u>

REQUIRED

- (a) For the year ended 31 December Year 6 prepare the following Accounts, as they would appear in the Cost Ledger.
- (i) Raw Material Stock Control Account.
 - (ii) Work in Progress Stock Control Account
 - (iii) Finished Goods Stock Control Account
 - (iv) Production Overhead Control Account. Balance in this account as at 1 Jan Year 6 was nil.
- (16 marks)
- (b) Distinguish between integrated and non-integrated accounting systems.
- (4 marks)

(Total 20 marks)