

Series 3 Examination 2008

COST ACCOUNTING

Level 3

Friday 6 June

Subject Code: 3016

Time allowed: **3 hours**

INSTRUCTIONS FOR CANDIDATES

- Answer **5** questions.
- All questions carry equal marks.
- Write your answers in blue or black ink/ballpoint. Pencil may be used only for graphs, charts, diagrams, etc.
- Begin your answer to each question on a new page.
- All answers must be correctly numbered but need not be in numerical order.
- Workings must be shown.
- Presentation is important.
- You may use a calculator provided the calculator gives no printout, has no word display facilities, is silent and cordless. The provision of batteries and their condition is your responsibility.

QUESTION 1

A company uses a two stage processing system to jointly produce its three main products, Products A, B and C. By-product D is also produced during the process.

Product A is complete at the end of stage 1 and Products B, C and By-product D emerge at the end of stage 2.

Information regarding the joint process for the last period is as follows:

Input

Process stage 1

Raw material X	360 kg at £6 per kg
Raw material Y	400 kg at £5 per kg
Direct labour	510 hrs at £8 per hr

Process stage 2

Raw material Z	800kg at £4 per kg
Direct labour	200hrs at £8 per hr

Factory overheads in each process stage are absorbed at £12.00 per direct labour hour.

Output

Process stage 1	Quantity	Selling price per kg
Product A	120 kg	£30
Material transfer to stage 2	600 kg	-
Process stage 2		
Product B	650 kg	£20
Product C	550 kg	£25
By-product D	150 kg	£8

Process losses from stage 1 are disposed of at a cost of £1 per kg. The losses that occurred in stage 1, in the last period, were normal.

No losses are expected in stage 2.

There was no work in progress at the beginning or at the end of the period in either process stage.

Joint processing costs are apportioned on the basis of relative weight of output.

REQUIRED

(a) For the last period prepare the process accounts for:

- (i) Process stage 1
- (ii) Process stage 2

(12 marks)

(b) Assuming that all production was sold prepare a profit statement for the last period.

(4 marks)

(c) Explain the meaning of:

- (i) Joint products
- (ii) By-product

(4 marks)

(Total 20 marks)

QUESTION 2

A company manufactures and distributes a single product. The variable costs per unit are as follows:

Direct materials	£60.00
Direct labour	£25.00
Variable overheads	£15.00

The product sells for £125.00 per unit and the company expects total sales revenue in this current year of £1,250,000. Fixed overheads are forecasted at £200,000 for the year.

REQUIRED

(a) Calculate for the current year the:

- (i) break-even point in units
- (ii) contribution/sales ratio
- (iii) margin of safety as a percentage of sales
- (iv) expected profit

(8 marks)

The following changes in cost are expected in the following year:

- Raw material prices to increase by 5%
- Direct wage rate to increase by 4%
- Variable overheads to rise by 8% per unit of product
- Fixed overheads to increase by £17,800

REQUIRED

(b) Calculate for the following year:

- (i) a new selling price that maintains the current year's contribution/sales ratio
- (ii) the sales volume required to maintain the current year's margin of safety percentage if the selling price remains at £125
- (iii) the sales volume required to maintain the current year's profit if the selling price remains at £125

(12 marks)

(Total 20 marks)

QUESTION 3

A company, which produces a single product and uses a standard costing system, prepares a monthly reconciliation statement showing the variances between standard production costs and actual costs.

The following is the statement for the month just ended.

Standard cost of production		£28,560
Variences:		
Material price	1360A	
Material usage	200A	
Labour rate	300A	
Labour efficiency	320F	
Fixed overhead expenditure	600A	
Fixed overhead volume	<u>480F</u>	<u>1,660A</u>
Actual cost of production		£30,220

Actual production for the month 420 units

The standard direct cost for one unit was as follows:

Direct materials	8 kg @ £4 per kg
Direct labour	2 hours @ £8 per hour

Fixed production overheads are absorbed at a rate of £10 per direct labour hour

REQUIRED

(a) Calculate for the month just ended:

- (i) the actual quantity of direct materials used and the total actual direct material cost (assume usage quantity equals purchased quantity)
- (ii) the actual direct labour hours worked and the actual direct labour cost
- (iii) the actual fixed production overhead incurred
- (iv) the budgeted production units.

(14 marks)

(b) State possible reasons for the variances on:

- (i) Direct material
- (ii) Direct labour

(6 marks)

(Total 20 marks)

QUESTION 4

A company sells four products (P, Q, R, and S). 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 101 hours of work per period.

The following information is provided for the next period:

	Product			
	P	Q	R	S
Units required	60	100	200	150
Selling price (per unit)	£104	£76	£72	£92
Direct labour (per unit)	4.0 hrs	2.0 hrs	2.5 hrs	3.0 hrs
Direct materials (per unit)	£40	£24	£29	£38
Machine hours (per unit)	5.0 hrs	4.0 hrs	3.0 hrs	6.0 hrs
Fixed overheads (per unit)	£6.00	£3.00	£2.00	£5.00

Fixed overheads for the period are £1,720.
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.

REQUIRED

- (d) Advise the company whether to introduce overtime to overcome the production capacity shortfall. Your advice should be accompanied by calculation. (6 marks)

(Total 20 marks)

QUESTION 5

A manufacturing company has prepared the following monthly overhead budget for its cost centre B15.

Units produced	4,500	5,000	5,500	6,000
	£	£	£	£
Indirect materials	22,500	24,500	26,950	29,400
Indirect labour	13,500	15,000	17,325	18,900
Power	2,360	2,560	2,760	2,960
Maintenance	13,200	14,500	15,800	17,100
Depreciation	6,440	6,440	6,440	6,440
Supervision	18,000	27,000	27,000	36,000

The variable indirect material cost per unit reduces by 2% for production of 5,000 units and over.

The variable indirect labour cost per unit increases by 5% for production of 5,500 units and over.

In Month 1 5,200 units were produced and actual overhead expenditure was:

	£
Indirect materials	26,480
Indirect labour	15,100
Power	2,540
Maintenance	15,620
Depreciation	6,240
Supervision	27,800

REQUIRED

(a) Briefly explain the main difference between flexible and fixed budgets. (4 marks)

(b) Prepare a statement for Month 1 for cost centre B15, showing for each item of cost, the following:

Flexed budget allowance
Actual cost
Expenditure variance

(16 marks)

(Total 20 marks)

QUESTION 6

A manufacturing company operates a non-integrated accounting system. For the accounting year ended 31 December Year 7 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		54,000
Add:		
Raw material closing stock difference	800	
Work in progress opening stock difference	1,000	
Finished goods closing stock difference	4,600	
Under absorbed production overheads carried forward in the Cost Accounts	<u>1,500</u>	
		<u>7,900</u>
		61,900
Deduct:		
Raw material opening stock difference	1,500	
Work in progress closing stock difference	900	
Finished goods opening stock difference	2,500	
Dividends received	2,750	
Rent received	<u>8,000</u>	
		<u>15,650</u>
Profit as per cost accounts		<u>46,250</u>

The Financial ledger included the following stock accounts for Year 7:

Raw Materials					
1 Jan	Balance b/f	17,500	Jan-Dec	Return to suppliers	1,560
Jan-Dec	Purchases	265,600	Jan-Dec	Work in progress	215,200
			31 Dec	Balance c/f	<u>66,340</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	31 Dec	Balance c/f	37,500
Jan-Dec	Direct Wages	315,600			
Jan-Dec	Prod Overheads	<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	<u>74,800</u>
		<u>729,200</u>			<u>729,200</u>

REQUIRED

- (a) For the year ended 31 December Year 7 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 7 was nil

(16 marks)

- (b) Distinguish between integrated and non-integrated accounting systems.

(4 marks)

(Total 20 marks)