

**Series 3 Examination 2007**

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**COST ACCOUNTING**

**Level 3**

**Tuesday 5 June**

Subject Code: 3716 (S)

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) Roland Green Ltd uses batch production methods to produce a single product by combining two materials Exe and Wye.

The following information relates to the standard material cost of a batch:

Direct material input	100kgs
Material price - Exe	\$ 7.50 per kg
Material price - Wye	\$ 12.50 per kg

The company has budgeted for a material mix ratio of 80:20 for Exe and Wye respectively.

The standard production specification states that a 90% yield of the product is expected. The waste generated has no scrap value.

Actual results for a period were as follows:

Output	41,850 kg	
Direct material - Exe	40,800 kg	\$285,600
Direct material - Wye	7,200 kg	\$93,600

#### REQUIRED:

Calculate the following variances for the period:

Material price for each material and in total

Material mix for each material and in total

Material yield in total.

(12 marks)

- (b) Elliot Barmby Limited makes a single product and uses a standard absorption costing system.

The production department budgets for a period include the following:

Production	27,000 units
Direct labour hours per unit	6.75 hrs

During the period the actual results were:

Production	27,800 units
Direct labour hours	192,384 hrs

#### REQUIRED:

Calculate the following production ratios for the period:

- (i) Efficiency
- (ii) Capacity
- (iii) Volume (activity)

(8 marks)

**(Total 20 marks)**

## QUESTION 2

Lewis Ellison operates a non-integrated accounting system.

At the end of an accounting period the profit for the period shown in the financial accounts was \$26,094.

Examination of the two sets of accounts revealed the following differences.

	<b>Cost accounts</b>	<b>Financial accounts</b>
	<b>\$</b>	<b>\$</b>
Opening stock valuations:		
Raw materials	38,550	37,239
Work-in-progress	25,929	29,037
Finished goods	65,538	62,918
Closing stock valuations:		
Raw materials	42,810	40,230
Work-in-progress	21,730	20,352
Finished goods	79,026	77,888
Depreciation	14,589	15,577
Profit on sale of an asset		2,250
Dividends received		3,750
Discount allowed to customers		2,542
Notional rent charge	11,250	

### REQUIRED

- (a) Calculate the profit for the period as shown in the cost accounts by means of a profit reconciliation statement. (12 marks)
- (b) Distinguish between an integrated and a non-integrated accounting system. (3 marks)
- (c) One of the items appearing in the cost accounts is a notional rent charge. Explain what is meant by a notional charge and why it is used. (3 marks)
- (d) Suggest a reason why the depreciation charges are different in the two sets of accounts (2 marks)

**(Total 20 marks)**

### QUESTION 3

Thelwell Lynch has budgeted the following figures for a product:

	<b>\$ per unit</b>
Selling price	75.00
Direct materials	25.00
Direct labour	12.50
Variable production overheads	20.00

Budgeted fixed production overheads \$71,250 per month. (Absorbed at a predetermined rate per unit if absorption costing is applied).

Budgeted output 9,500 units per month.

500 units of the product were in stock at the beginning of month 1.

Actual units for months 1 and 2:

	<b>Month 1</b>	<b>Month 2</b>
Production	9,250	9,800
Sales	8,750	9,250

Actual selling price, unit variable costs and total fixed costs were as budget in months 1 and 2.

### REQUIRED

(a) Prepare an actual profit statement for each of the two months using each of the following:

(i) Marginal costing

(ii) Absorption costing

(18 marks)

(b) Explain the reason for the differences between the profits calculated using the above two methods.

(2 marks)

**(Total 20 marks)**

#### QUESTION 4

Barmby Anderson manufactures a single product. It is anticipated that monthly production and sales will be between 10,000 and 14,000 units.

The following monthly cost budgets have been prepared covering these two levels of activity:

<b>Monthly costs \$</b>		
<b>Cost element</b>	<b>10,000 units</b>	<b>14,000 units</b>
Direct materials	156,000	217,230
Direct labour	108,000	152,280
Production overheads	145,500	162,900
Administration overheads	95,100	95,100
Selling overheads	74,700	88,380

The following budgeted information is also provided:

- (i) Each unit requires 3 kg of raw material. A 5% discount is received on the excess of purchases of raw material over 37,500 kg per month.
- (ii) The direct labour cost per unit increases by 20% on the excess of production over 13,500 units per month.
- (iii) Production overheads consist of a proportionately variable element plus a fixed monthly amount. In addition, there is a stepped increase of \$9,000 in the fixed monthly amount when production reaches 11,500 units.
- (iv) Selling overheads include variable costs of \$3.42 per unit.
- (v) No stock of finished goods or raw materials is held.
- (vi) The selling price of each unit is \$57.

During the month just ended, 13,200 units were manufactured and sold and the following costs were incurred:

	<b>\$</b>
Direct materials	205,665
Direct labour	141,309
Production overheads	163,317
Administration overheads	94,698
Selling overheads	86,264

#### REQUIRED:

- (a) Prepare a statement for the month just ended showing, for each cost element, the flexed cost budget, the actual costs and the variance.

(14 marks)

- (b) Calculate the budgeted break-even sales per month in both units and value.

(6 marks)

**(Total 20 marks)**

## QUESTION 5

(a) Jason Fagan uses a material which it obtains from an outside supplier.

Each delivery of the material consists of 45,000 kilograms at a cost of \$15 per kg

The lead time for delivery can vary between 12 and 18 days and the rate of usage of the material also varies between 480 and 720 kgs per day.

Stock holding costs amount to 6% per annum of the average stockholding value.

### REQUIRED

Calculate:

- (i) The reorder level in kgs (to avoid a stockout) (2 marks)
- (ii) The minimum and maximum stock control levels in kgs (4 marks)
- (iii) The average stock in kgs (2 marks)
- (iv) The annual stock holding costs in \$ (2 marks)

(b) The company converts this material into a single product.

The following information is available for the period December 2006 to June 2007:

### Sales:

The budgeted sales, in units, are as follows:

January	February	March	April	May	June
21,000	23,000	24,000	26,000	24,000	22,000

### Stocks:

The company maintains a closing stock each month equivalent to 10% of the following month's sales. The stock of finished goods at the end of June 2007 is expected to be 3,000 units. Each product takes 2 kgs of the raw material to produce.

The company maintains a closing stock each month equivalent to 20% of the materials used in the following months production. Closing stock of raw materials at the end of June 2007 is expected to be 9,200 kgs.

### REQUIRED

- (i) Production budget (in units) by month for the **six** month period January to June 2007 (4 marks)
- (ii) Raw materials purchases budget (in kgs and \$) by month for the **six** month period January to June 2007 (6 marks)

**(Total 20 marks)**

## QUESTION 6

William Payton Limited makes three products and at present uses a traditional absorption costing approach in order to establish the production costs for these products.

The details for a period are as follows

	<b>Product One</b>	<b>Product Two</b>	<b>Product Three</b>
Production units	3,000	2,500	2,000
Per unit:			
Direct materials @ \$9 per kg	7.5kg	6kg	4.5kg
Direct labour hours @ \$14 per hour	4	5	4
Machine hours	3	6	6

Production overheads for the period are \$258,375 and are absorbed on a direct labour hour basis.

Payton is considering using an activity based costing (ABC) approach to calculate the production costs of each product.

The following information gives a breakdown of the production overhead costs for the period:

<b>ACTIVITIES</b>	<b>COSTS (\$)</b>	<b>COST DRIVERS</b>
Set up	31,500	Number of production runs
Machining	67,500	Number of machine hours
Inspection	43,200	Number of production runs
Packaging	37,125	Number of orders
Material handling	79,050	Quantity of material used

You are given the following additional information for the period:

	<b>Product One</b>	<b>Product Two</b>	<b>Product Three</b>
Number of production runs	15	20	25
Number of orders	150	175	225

### REQUIRED:

- (a) Calculate the production costs (to two decimal places) for one unit of each product using the traditional absorption costing approach. (6 marks)
- (b) Calculate the production costs (to two decimal places) for one unit of each product using an activity based costing (ABC) approach. (14 marks)

**(Total 20 marks)**