

**Series 3 Examination 2010**

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**COST ACCOUNTING**

**Level 3**

**Monday 7 June**

Subject Code: 3017

Time allowed: **3 hours**

**INSTRUCTIONS FOR CANDIDATES**

- Answer **all 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

Twin Products Ltd manufacture two products, each of which passes through two operations, cutting and forming.

At present the company uses a traditional absorption costing system, based on a machine hours rate, to establish the costs of production. The company is considering the introduction of an activity based costing system. Budgeted production and product data for the next period is as follows:

Product	Aye	Bee
Budgeted production	5,000 units	4,000 units
Direct material cost for period	£60,000	£40,000
Direct labour cost for period	£50,000	£80,000
Batch size	40 units	80 units
Cutting	6 operations per unit	4 operations per unit
Forming	2 operations per unit	3 operations per unit
Machine set up	1 per batch	1 per batch
Inspection	2 times per unit	2 times per unit
Machine hours	2 per unit	1.5 per unit

Both products are made from the same raw material, which is issued on a single sheet basis, against a material requisition. One sheet of material will make 10 units of Aye or 8 units of Bee. No wastage of raw material is expected.

Budgeted costs for the period for each activity and their related cost drivers are:

	Cost (£)	Cost Driver
Cutting	69,000	Operations
Forming	33,000	Operations
Machine set up	7,000	Machine set ups
Inspection	45,000	Inspections
Stores	22,000	Material requisitions

## REQUIRED

(a) Calculate the production overhead cost per unit for each product using:

- (i) Traditional absorption costing
- (ii) Activity based costing.

(14 marks)

(b) Calculate the budgeted production cost to manufacture one batch of each product using:

- (i) Traditional absorption costing
- (ii) Activity based costing.

(4 marks)

(c) Explain the meaning of the term 'cost driver'.

(2 marks)

**(Total 20 marks)**

## QUESTION 2

Models Ltd manufactures a single product for the Toy Industry. The product is manufactured in the Production department and individually packed into a box in the Dispatch department. The company has provided the following budgeted information:

Direct material (per unit)	£20
Direct production labour (per unit at £10.00 per hour)	2 hours
Packing boxes	£2.00 each
Dispatch dept labour (per box packed) at £8.00 per hour	0.10 hours

Variable overheads are absorbed at £4.00 per labour hour in both departments.

Fixed overhead absorption (if absorption costing is applied:- based on planned production quantities)

Production dept	Absorbed at a rate of £2.50 per labour hour
Dispatch dept	Absorbed at a rate of £2.00 per unit packed

Unit selling price      £65.00

Planned production and sales for the next period are as follows.

Production units manufactured	2,500
Production units packed	2,350
Sale of packed units	2,300

There is no stock of packed or unpacked units, direct material or packing boxes at the beginning of the period.

### REQUIRED

Produce a single budgeted manufacturing and trading account, which includes closing stock figures, for the three month period ending September using:

- (a) Absorption Costing (9 marks)
- (b) Marginal Costing (6 marks)
- (c) Explain and reconcile the difference between the profits calculated in part (a) and (b) (5 marks)

**(Total 20 marks)**

### QUESTION 3

Solar Products Ltd manufactures and sells a single product. The following information is also available for the next 6 month period:

#### Sales:

The budgeted sales, in units, are as follows:

Month	July	Aug	Sept	Oct	Nov	Dec
Sales (units)	240	260	270	280	280	270

The standard selling price is £50 per unit. 40% are expected to be cash sales with the remaining customers allowed one month's credit. It is estimated that 5% of credit customers will be bad debts.

#### Production:

The company manufactures 60% of the budgeted sales during the month before the sale and the remaining 40% in the month of sale.

#### Costs:

- (i) Direct material will be £20 per unit of the finished product. Material will be purchased in the month prior to their use in production and paid for in the following month.
- (ii) Wages will be paid at the rate of £8 per unit of finished product, payable in the month of production. A bonus payment of £4 per unit will be paid on all additional monthly production in excess of 250 units, paid in the month following production.
- (iii) Fixed production overheads of £18,000, including depreciation of £6,000, are budgeted for the year ahead. These are budgeted to be the same each month and, apart from depreciation are payable in the month they are incurred.
- (iv) Variable selling expenses are expected to be £3 per unit payable in month they are incurred.
- (v) Fixed administration overheads of £6,000 for the year ahead are budgeted to be same per month and payable in the month they are incurred.

#### Cash:

The company expects to have a bank overdraft of £3,500 at the start of August.

### REQUIRED

Prepare the following budgets for each of the months August to October:

- (a) Production (units) (3 marks)
- (b) Material purchases (£'s) (2 marks)
- (c) Labour cost (3 marks)
- (d) Cash (12 marks)

**(Total 20 marks)**

#### QUESTION 4

Sole Products, which manufactures and distributes a single product, has budgeted to produce 5,000 units in month 5.

The standard production cost for one unit of the product is as follows:

	<b>£'s</b>
Direct materials (5kg @ £12.00 per kg)	60.00
Direct labour (2 hours @ £10.00 per hour)	20.00
Fixed production overheads (2 hours @ £8.00 per hour)	<u>16.00</u>
Standard Production cost per unit	<u>96.00</u>

The actual production for the month was 5,400 units and the actual costs incurred were as follows:

	<b>£'s</b>
Direct materials purchased (28,500 kg)	340,000
Direct labour (12,000 hours)	112,000
Fixed production overheads	85,000

Direct labour includes 200 hours idle time due to machine breakdown.

The opening stock of raw materials was 5,000kg, valued at standard purchase price, the raw material price variance being calculated at the time of purchase.

29,000 kg of material were issued to production in month 5.

There is no opening or closing stock of work in progress.

#### REQUIRED

(a) Calculate the following:

- (i) material price variance
- (ii) material usage variance
- (iii) labour rate variance
- (iv) idle time variance
- (v) labour efficiency variance
- (vi) fixed overhead volume variance
- (vii) fixed overhead expenditure variance

(8 marks)

(b) Prepare the following accounts in the company's integrated accounting system:

- (i) raw material stock
- (ii) production overhead
- (iii) work in progress

When compiling the above, show clearly all the relevant variances within all three accounts.

(12 marks)

**(Total 20 marks)**

## QUESTION 5

Makit Ltd manufactures and sells its single product at £16 per unit. The company, which currently has a monthly manufacturing capacity of 20,000 units has orders for, and plans to sell, 18,000 units in the next month.

Total monthly costs for production and sales of 16,000 units and 18,000 units are estimated at £136,000 and £148,000 respectively. The company only manufactures to sales orders received and keeps no stock.

### REQUIRED

(a) Calculate for next month the estimated:

- (i) Variable cost per unit
- (ii) Contribution/Sales ratio
- (iii) Break even point (in revenue)
- (iv) Margin of safety as a % of sales
- (v) Net profit.

(11 marks)

A mail order company has approached Makit Ltd with the following two order options:

- (i) 2,000 units at a price of £15 each
- or
- (ii) 4,000 units at a price of £14 each

This is in addition to the sales orders already received by Makit Ltd and must be completed during next month's production. Makit Ltd can increase its monthly manufacturing capacity to 22,000 units by hiring additional equipment at a cost of £10,000 per month. No changes in variable costs are expected.

### REQUIRED

(b) Advise Makit Ltd, using supporting calculations, whether either of the mail order options should be accepted.

(6 marks)

(c) State three assumptions in cost-volume-profit analysis.

(3 marks)

**(Total 20 marks)**