

Cost Accounting Level 3



Model Answers

Series 2 2008 Malaysia(Code 3616)

Vision Statement

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Cost Accounting Level 3

Series 2 2008

How to use this booklet

Model Answers have been developed by Education Development International plc (EDI) to offer additional information and guidance to Centres, teachers and candidates as they prepare for LCCI International Qualifications. The contents of this booklet are divided into 3 elements:

- (1) Questions – reproduced from the printed examination paper
- (2) Model Answers – summary of the main points that the Chief Examiner expected to see in the answers to each question in the examination paper, plus a fully worked example or sample answer (where applicable)
- (3) Helpful Hints – where appropriate, additional guidance relating to individual questions or to examination technique

Teachers and candidates should find this booklet an invaluable teaching tool and an aid to success.

EDI provides Model Answers to help candidates gain a general understanding of the standard required. The general standard of model answers is one that would achieve a Distinction grade. EDI accepts that candidates may offer other answers that could be equally valid.

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QUESTION 1

Elbourne Limited manufactures a product whereby the initial raw material passes through two processes (Process One and Process Two).

The output of Process One is passed to Process Two, where further raw material is added.

Direct costs and output for the month just ended were:

Process One

Initial raw material	3,800 kgs costing RM 200,000
Direct labour	RM 145,210
Expected output	85% of input and materials added
Transfer to Process Two	3,150 kgs

Process Two

Transfer from Process One	3,150 kgs
Raw materials added	2,850 kgs costing RM 287,500
Direct labour	RM 89,690
Expected output	90% of input
Actual output	5,520 kgs

There was no work in progress at either the beginning or end of the month.

Overheads for the month totalled RM 420,800.

The overheads are apportioned between the two processes as follows:

Process One 55%

Process Two 45%

Losses that arise from the processes are sold for scrap.

Losses that occur from Process One are sold for RM 20 per kg, whilst the losses that occur from Process Two are sold for RM 18 per kg.

REQUIRED

Prepare for the month just ended:

- (a) Process One Account (6 marks)
- (b) Process Two Account (6 marks)
- (c) Normal Loss/Gain Account (4 marks)
- (d) Abnormal Loss/Gain Account. (4 marks)

(Total 20 marks)

MODEL ANSWER TO QUESTION 1

(a) **Process One Account**

	Kgs	RM		Kgs	RM
Direct material	3,800	200,000	Normal loss	570	11,400
Direct labour		145,210	Process Two	3,150	551,250
Overhead		<u>231,440</u>	Abn Loss	<u>80</u>	<u>14,000</u>
	<u>3,800</u>	<u>576,650</u>		<u>3,800</u>	<u>576,650</u>

Calculation of cost per kg and valuation of process outputs:

$$\text{Cost/kg} = \frac{\text{RM } 576,650 \text{ less } 11,400}{3,230 \text{ kg (85\% of 3,800)}} = \frac{565,250}{3,230} = \text{RM } 175$$

$$\text{Process Two} = 3,150 \text{ kgs} \times \text{RM } 175 = \text{RM } 551,250$$

$$\text{Normal loss} = 3,800 \text{ kg} \times 15\% = 570 \text{ kgs} \times \text{RM } 20 \text{ per kg} = \text{RM } 11,400$$

$$\text{Abnormal loss} = 3,230 \text{ kg} - 3,150 \text{ kg} = 80 \text{ kgs} \times \text{RM } 175 = \text{RM } 14,000$$

(b) **Process Two Account**

	Kgs	RM		Kgs	RM
Process One	3,150	551,250	Normal loss	600	10,800
Direct material	2,850	287,500	Fin Goods	5,520	1,131,600
Direct labour		89,690			
Overhead		189,360			
Abnormal Gain	<u>120</u>	<u>24,600</u>			
	<u>6,120</u>	<u>1,142,400</u>		<u>6,120</u>	<u>1,142,400</u>

Calculation of cost per kg and valuation of process outputs:

$$\text{Cost/kg} = \frac{\text{RM } 1,117,800 - 10,800}{5,400 \text{ (90\% of 6,000)}} = \frac{1,107,000}{5,400} = \text{RM } 205$$

$$\text{Normal Loss} = 6,000 \text{ kg} \times 10\% = 600 \text{ kgs} \times \text{RM } 18 = \text{RM } 10,800$$

$$\text{Abnormal Gain} = (5,520 - 5,400) = 120 \times \text{RM } 205 = \text{RM } 24,600$$

$$\text{Finished Goods} = 5,520 \text{ kg} \times \text{RM } 205 = \text{RM } 1,131,600$$

(c) **Normal Loss/Gain Account**

	Kgs	RM		Kgs	RM
Process One	570	11,400	Abnormal Gain	120	2,160
Abnormal Loss	80	1,600	Bank a/c	1,130	21,640
Process Two	<u>600</u>	<u>10,800</u>			
	<u>1,250</u>	<u>23,800</u>		<u>1,250</u>	<u>23,800</u>

(d) **Abnormal Loss/Gain Account**

	Kgs	RM		Kgs	RM
Process One	80	14,000	Scrap sales	80	1,600
Scrap sales	120	2,160	Process Two	120	24,600
Profit & Loss a/c		<u>10,040</u>			
		<u>26,200</u>			<u>26,200</u>

QUESTION 2

Myhill Limited manufactures and sells a single product A, which uses raw material X in its production.

The sales budget for the next four month period is as follows:

	Month 1	Month 2	Month 3	Month 4
Product A (units)	9,500	9,700	10,100	10,200

Stock of finished goods at the start of the budget period is expected to be sufficient to meet 20% of the budgeted sales for the first month, and by the end of each month in the budget period should be sufficient to meet 25% of the budgeted sales for each following month.

The quantity of raw material X required, per unit of product manufactured, is 9 kgs.

In addition to this requirement for raw material in the finished product, allowance has to be made for a 10% loss in weight in the preparation of material X.

Stock of raw material X at the start of the period is expected to be 12,000 kgs.

At the end of each month in the budget period the stock of material X should be increased by 10%.

The price for material X is expected to be RM 3 per kg.

REQUIRED

(a) Prepare the following budgets for each of months 1, 2 and 3:

- (i) Production of product A (units) (6 marks)
- (ii) Purchases of raw material X (kgs and total RM). (9 marks)

(b) Define, giving **2** examples, the term principal budget factor, and explain its influence on the budget setting process.

(5 marks)

(Total 20 marks)

MODEL ANSWER TO QUESTION 2

(a) (i) Production Budget (units of product A)

Units	Month 1	Month 2	Month 3
Sales	9,500	9,700	10,100
Less opening stock	<u>1,900</u>	<u>2,425</u>	<u>2,525</u>
	7,600	7,275	7,575
Plus closing stock	<u>2,425</u>	<u>2,525</u>	<u>2,550</u>
Production	<u>10,025</u>	<u>9,800</u>	<u>10,125</u>

Workings:

Opening stock month 1 = 20% of 9,500	= 1,900
Closing stock month 1 = 25% of 9,700	= 2,425
Closing stock month 2 = 25% of 10,100	= 2,525
Closing stock month 3 = 25% of 10,200	= 2,550

(a) (ii) Material Purchases budget (kgs and total RM of raw material X):

	Month 1 kgs	Month 2 kgs	Month 3 kgs
Required for final products produced (W1)	90,225	88,200	91,125
Plus wastage (W2)	<u>10,025</u>	<u>9,800</u>	<u>10,125</u>
	100,250	98,000	101,250
Less opening stock	(12,000)	(13,200)	(14,520)
Plus closing stock	<u>13,200</u>	<u>14,520</u>	<u>15,972</u>
Purchases (kgs)	101,450	99,320	102,702
	x RM 3	x RM 3	x RM 3
	RM 304,350	RM 297,960	RM 308,106

W1 Production units x 9 (kgs)

W2

90,225/90 x 10 = 10,025 kgs
88,200/90 x 10 = 9,800 kgs
91,125/90 x 10 = 10,125 kgs

(b) The principal budget factor is the factor which restricts the activities of the organisation during the budget period. This budget must be prepared first and all the other budgets will be derived from it.

Examples of principal budget factors: (maximum of two)

Sales

Skilled labour

Working capital

Machine/production capacity

QUESTION 3

Paton Limited operates a non-integrated accounting system.

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

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

	Cost accounts RM	Financial accounts RM
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
Sundry investment income		4,125
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)

MODEL ANSWER TO QUESTION 3

(a)	RM	RM
Profit as per financial accounts		26,094
<u>Stock adjustments</u>		
Raw materials - opening	(1,311)	
Raw materials - closing	2,580	
WIP - opening	3,108	
WIP - closing	1,378	
Finished goods - opening	(2,620)	
Finished goods – closing	<u>1,138</u>	
		4,273
<u>Add</u>		
Depreciation	988	
Discounts Allowed	<u>2,542</u>	
		3,530
<u>Less</u>		
Profit on sale of asset	2,250	
Dividends received	3,750	
Notional rent charge	11,250	
Sundry Investment Income	<u>4,125</u>	
		<u>(21,375)</u>
Profit as per cost accounts		12,522

- (b) An integrated system uses a common input of data for both financial and cost accounts. A non-integrated system has two sets of accounts being kept in agreement by the use of control accounts or reconciled by other means.
- (c) A notional cost or charge represents the cost of using a resource which has no actual cost. It is important to include these in the cost of the production or service to calculate the cost for pricing purposes.
- (d) They may have used different methods to calculate the depreciation charge.

QUESTION 4

Forrest Limited manufactures a single product and the following standard costs apply:

	RM per unit
Direct materials 5 kilos at RM 6 per kilo	30.00
Direct labour 4.5 hours at RM 9 per hour	40.50
Variable production overheads at RM 3 per direct labour hour	13.50
Fixed production overheads at RM 4 per direct labour hour	<u>18.00</u>
Total Standard Production Cost (per unit)	<u>102.00</u>

For the period, production and sales were budgeted at 15,000 units.

The actual data for the period is as follows:

Production 15,900 units
Direct materials purchased and used 82,500 kilos costing RM 478,500
Direct labour 69,900 hours at a cost of RM 650,070
Variable production overheads amounted to RM 223,680
Fixed production overheads totalled RM 261,000

REQUIRED

(a) Calculate the following production cost variances for the period:

- (i) Direct Material Price
- (ii) Direct Material Usage
- (iii) Direct Labour Rate
- (iv) Direct Labour Efficiency
- (v) Variable Overhead Expenditure
- (vi) Variable Overhead Efficiency
- (vii) Fixed Overhead Expenditure
- (viii) Fixed Overhead Volume.

(10 marks)

(b) Using the variances above, prepare a statement reconciling the total standard and the total actual costs for the period.

(6 marks)

(c) State the reason for each of the variances on the Direct Materials and Direct Labour costs.

(4 marks)

(Total 20 marks)

MODEL ANSWER TO QUESTION 4

(a) Direct Material Variances:

(i) Price Variance	Actual price x actual usage (82,500 kg x RM 5.80)	478,500	
	Standard price x actual usage RM 6 x 82,500 kg	<u>495,000</u>	16,500 Fav
(ii) Usage Variance	Standard price x actual usage	495,000	
	Standard price x standard usage RM 6 x 5 kg x 15,900	<u>477,000</u>	18,000 Adv

Direct Labour Variances:

(iii) Rate Variance	Actual rate x actual hours (69,900 x RM 9.30)	650,070	
	Standard rate x actual hours RM 9 x 69,900	<u>629,100</u>	20,970 Adv
(iv) Efficiency Variance	Standard rate x actual hours	629,100	
	Standard rate x standard hours RM 9 x 4.5 x 15,900	<u>643,950</u>	14,850 Fav

Variable Production Overhead Variances:

(v) Exp Variance	Actual overhead	223,680	
	Standard rate x actual hours RM 3 x 69,900	<u>209,700</u>	13,980 Adv
(vi) Efficiency Variance	Standard rate x actual hours	209,700	
	Standard rate x standard hours RM 3 X15,900 x 4.5	<u>214,650</u>	4,950 Fav

Fixed Production Overhead Variances:

(vii) Exp Variance	Actual overhead	261,000	
	Budgeted overhead 15,000 x RM 18	<u>270,000</u>	9,000 Fav
(viii) Volume Variance	Budgeted overhead	270,000	
	Actual units x Standard rate 15,900 x RM 18	<u>286,200</u>	16,200 Fav

MODEL ANSWER TO QUESTION 4 CONTINUED

(b) **Standard Cost**

Direct materials	(15,900 x 5 x RM 6)	477,000
Direct labour	(15,900 x 4.5 x RM 9)	643,950
Variable overheads	(15,900 x 4.5 x RM 3)	214,650
Fixed overheads	(15,900 x 4.5 x RM 4)	<u>286,200</u>
	= 15,900 X RM 102	<u>1,621,800</u>

Actual costs

Direct materials	478,500
Direct labour	650,070
Variable overheads	223,680
Fixed overheads	<u>261,000</u>
	<u>1,613,250</u>

Reconciliation

Standard cost			1,621,800
	Favourable	Adverse	
Materials	Price	16,500	
	Usage		18,000
Labour	Rate		20,970
	Efficiency	14,850	
Variable	Expenditure		13,980
Overheads	Efficiency	4,950	
Fixed	Expenditure	9,000	
Overheads	Volume	<u>16,200</u>	
		<u>61,500</u>	
		<u>52,950</u>	<u>8,550</u> Favourable
Actual cost			<u>1,613,250</u>

(6 marks)

- (c) Material price variance was favourable because of a lower price than standard.
Material usage variance was adverse because of increased usage versus standard.

(2 marks)

Labour rate variance was adverse because of a higher rate than standard.
Labour efficiency was favourable because of a saving in time versus standard.

(2 marks)

(Total 20 marks)

QUESTION 5

Wiseman Ltd makes four separate components, which are used in the assembly of its products.

There is a limit on capacity of 44,000 direct labour hours in the next period for the manufacture of components, which will not be sufficient to meet the anticipated demand.

Therefore it will be necessary to buy in some components from an outside supplier to make up any shortfall.

The company has the following requirements for the four components in the next period:

Component	One	Two	Three	Four
Requirements: Units	2,000	5,000	6,000	3,000

The following information also relates to the next period:

Components	One	Two	Three	Four
Direct material per unit @ RM 5 per kg	8 kgs	10 kgs	4 kgs	8 kgs
Direct labour hours per unit	3	4	3	4
Machine hours per unit	4	6	4	2

The direct labour rates, per hour, are as follows:

Component One	Component Two	Component Three	Component Four
RM 16	RM 14	RM 12	RM 12

Variable production overheads are absorbed on direct labour hours at RM 4 per hour.

Fixed production overheads are absorbed on direct labour hours at RM 8 per hour.

A sub-contractor has offered to supply components for the following unit prices:

Component One RM 121; Component Two RM 166; Component Three RM 98; and Component Four RM 136

REQUIRED

For the next period:

- (a) Calculate the shortfall in capacity (2 marks)
- (b) Determine the production schedule, and the details of bought in requirements, that should be undertaken by the company to maximize profit (14 marks)
- (c) Identify two other factors, apart from cost, that the company ought to take into consideration when buying in components. (4 marks)

(Total 20 marks)

MODEL ANSWER TO QUESTION 5

(a) Labour hours required:

Component One	$2,000 \times 3 = 6,000$
Component Two	$5,000 \times 4 = 20,000$
Component Three	$6,000 \times 3 = 18,000$
Component Four	$3,000 \times 4 = \underline{12,000}$
Total	56,000

56,000 labour hours required, 44,000 hours available, therefore the shortfall is 12,000 hours

(b) Components	One	Two	Three	Four
Variable costs (RM per unit)				
Direct materials	40	50	20	40
Direct labour	48	56	36	48
Variable overheads	<u>12</u>	<u>16</u>	<u>12</u>	<u>16</u>
Variable cost of making	100	122	68	
Variable cost of buying	121	166	98	136
Variable cost savings from manufacture	21	44	30	32
Labour hours per unit	3	4	3	4
Variable cost savings from manufacture per direct labour hour	7	11	10	8
Production priority	4	1	2	3

Production schedule:

Component Two	$5,000 \text{ units} \times 4 \text{ labour hours} = 20,000 \text{ hours}$
Component Three	$6,000 \text{ units} \times 3 \text{ labour hours} = 18,000 \text{ hours}$
Component Four	$1,500 \text{ units} \times 4 \text{ labour hours} = 6,000 \text{ hours}$
Capacity of production equals	44,000 hours

Therefore to make up the shortfall they need to buy in:

1,500 units of component Four
2,000 units of component One

(c) Important further considerations

- Could the supplier meet the delivery times required?
- Could the supplier guarantee the quality of the products?
- Would the prices quoted remain stable?
- Would you be able to negotiate a just in time system, thus cutting storage costs?

QUESTION 6

Rodgers Limited has budgeted to sell 50,000 units of its product in December.

The following further budgeted information has been prepared for the month:

Selling price RM 80 per unit

Direct labour 4 hrs per unit @ RM 6 per hour

Direct materials 4 kgs per unit @ RM 4 per kg

Variable production overheads RM 4 per direct labour hour

Variable administration overheads RM 5 per unit

Variable selling overheads RM 4 per unit

Fixed overheads total for the month RM 273,750

REQUIRED

- (a) Prepare a budgeted profit statement for December in a marginal costing format both in RM per unit and total RM. (6 marks)
- (b) Calculate the break-even point, in units, for the month and the margin of safety as a percentage of budgeted sales. (4 marks)
- (c) Prepare a conventional break-even chart on the graph paper provided, with sales measured in units, clearly showing:
- (i) The break-even point
 - (ii) The margin of safety. (6 marks)

The company is considering installing new machinery which would increase the fixed overheads by RM 53,750 per month but would reduce direct labour time by one hour per unit.

- (d) Calculate the revised break-even point, in units, for the month and the revised margin of safety as a percentage of budgeted sales. (4 marks)

(Total 20 marks)

MODEL ANSWER TO QUESTION 6

(a) Budgeted profit statement for December

	Per unit	Total (50,000 units)
Sales	80	4,000,000
Variable costs		
Direct labour (4 hrs x RM6)	24	1,200,000
Direct materials (4 hrs x RM4)	16	800,000
Variable production overheads (4 hrs x RM4)	16	800,000
Administrative overheads	5	250,000
Selling and distribution overheads	4	200,000
Total variable costs	<u>65</u>	<u>3,250,000</u>
Contribution	15	750,000
Fixed costs	<u>5.475</u>	<u>273,750</u>
Profit	<u>9.525</u>	<u>476,250</u>

(b) Break-even point = $\frac{273,750}{15} = 18,250$ units

Margin of safety

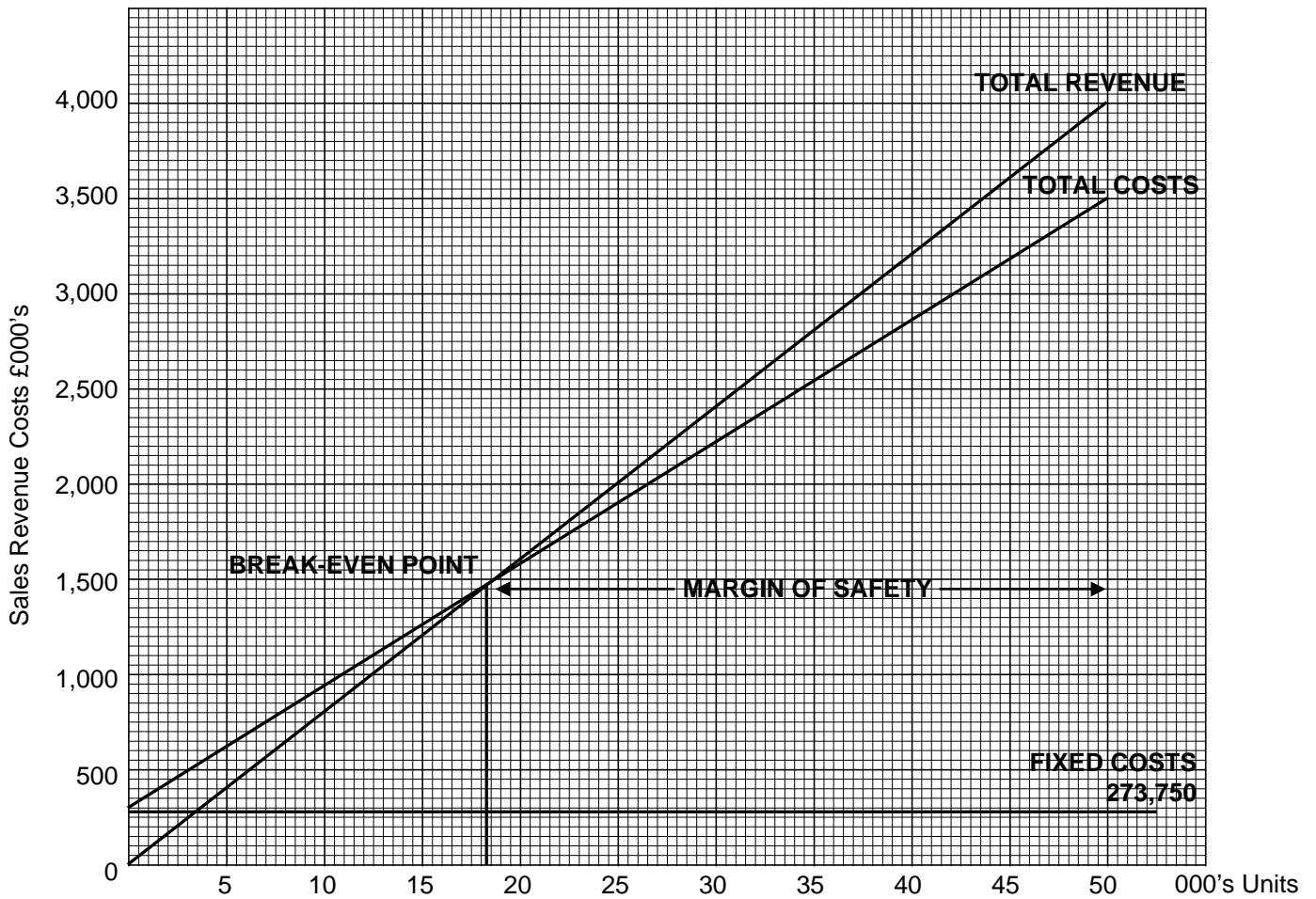
50,000 less 18,250 = 31,750 units

= $\frac{31,750}{50,000} \times 100 = 63.5\%$ of budgeted sales

MODEL ANSWER TO QUESTION 6 CONTINUED

(c)

BREAK-EVEN CHART – RODGERS LIMITED



(d) Revised break-even point:
 $= 327,500 / 25 = 13,100$ units

Workings:

Revised fixed costs $273,750 + 53,750 = \text{RM}327,500$

Revised variable costs $65 - 10 = \text{RM}55$ per unit

Revised contribution $= 80 - 55 = \text{RM}25$ per unit

Revised margin of safety:

$50,000$ less $13,100 = 36,900$

$$= \frac{36,900}{50,000} \times 100 = 73.8\% \text{ of budgeted sales}$$