

Management Accounting Level 3

Model Answers Series 3 2013 (ASE3024)

Level 3 Management Accounting

Series 3 2013

How to use this booklet

Model Answers have been developed 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.

Pearson 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. Pearson accepts that candidates may offer other answers that could be equally valid.

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EDUCATION DEVELOPMENT INTERNATIONAL PLC
LCCI IQ SERIES 3 EXAMINATION 2013
MANAGEMENT ACCOUNTING
LEVEL 3
MARKING SCHEME

DISTINCTION MARK 75%
MERIT MARK 60%
PASS MARK 50%

TOTAL 100 MARKS

Question 1

Syllabus Topic 2: CVP analysis 2.1, 2.2, 2.3 & 2.7

- (a) (i) Selling price £120 less total variable costs £66 = **£54 contribution 0**
 Break even = £351,000/£54 = **6,500 units 2**
- (ii) Contribution/sales ratio = $54/120 \times 100\% = 45\%$ **1 OF**
- (iii) Margin of safety = $8,000 - 6,500 = 1,500/8,000 = 18.75\%$ **1 OF** (4 marks)
- (b) (i) Revised break even
 = $£351,000/40\% = £877,500$ turnover at break-even **2**
 divided by £120 per unit = 7,312 units (**accept 7,313 units 0**)
- (ii) Revised margin of safety = $(8,000 - 7,312) = 688/8,000 = 8.60\%$ **1 OF + 1 OF**
 or $(8,000 - 7,313) = 687/8,000 = 8.59\%$ (4 marks)

Syllabus Topic 2: CVP analysis 2.1 and 2.4 and 2.7

(c)

	Product Exe	Product Whye
	£ per unit	£ per unit
Selling price	40	90
Less: Variable cost	<u>(30)</u>	<u>(40)</u>
Contribution	<u>10 1</u>	<u>50 1</u>
Sales mix	3 units = 75% : 1 unit = 25%	
Weighted average contribution per unit	= $75\% \times £10 + 25\% \times £50 = £20$ per unit 2	
Sales units =	$\frac{\text{Fixed costs} + \text{Required profit}}{\text{WAVG contribution/unit}} = \frac{£936,000 + £520,000}{£20} = 72,800$ units 1	

- Required sales units: Exe: $75\% \times 72,800 = 54,600$ units **1 OF**
 Whye: $25\% \times 72,800 = 18,200$ units **1 OF** (8 marks)

- (d) The main limitations of CVP analysis lie in the following assumptions:
- Only a single product is deemed to be produced or, if multi-products are being made, the sales mix is deemed to be constant. However, businesses usually produce more than one product and changes in sales mix are often made in reaction to market conditions. **(2)**
- Production volume is deemed to be the only factor that affects costs. This ignores other factors, such as inflation and production efficiency, that may equally have an effect on costs. **(2)**

Question 1 continued

Total fixed costs are assumed to remain constant. This assumption is valid in the short-term, but fixed costs are likely to change in the long term and beyond certain ranges of output, resulting, for example, in stepped fixed costs. **(2)**

Selling price per unit is assumed to be constant. However, it is likely that the selling price would be reduced in order to achieve increased sales volume. **(2)**

Variable costs are assumed to be a linear function of output. This assumption may not be valid as changes in unit costs may, for example, result from economy of scale. **(2)**

Costs are deemed to be clearly divisible into fixed and variable elements through the use of techniques such as linear regression and the high-low method. However, in reality, the division of costs into the two distinct components may be quite difficult to achieve. **(2)**

Any TWO of the above

1 mark for limitation, 1 mark for development

Further examples:

Total cost is constant across the range of activity. (1)

Variable cost per unit is constant across the range of activity. (1)

Fixed costs do not change over the whole activity range (1)

(4 marks)

(Total 20 marks)

Question 2

Syllabus topic: Short term decision making 3.2 and 3.3

(a) (i) **Profit statement based on absorption costing**

	£	£
Sales (22,000 units x £26)		572,000 ^{1/2}
Less Production cost of sales		
Opening Stock (3,250 units x £22.20)	72,150	^{1/2}
Direct materials (25,000 units x £9.00)	225,000	^{1/2}
Direct labour (25,000 units x £4.00)	100,000	^{1/2}
Variable prod overheads (25,000 units x £1.60)	40,000	^{1/2}
Fixed production overheads absorbed (25,000 units x £7.60)	<u>190,000</u>	^{1/2}
	627,150	
Less Closing Stock (6,250 units x £22.20)	(138,750) 1OF	(488,400)
Gross Profit (before adjustment)		83,600
Add over absorption of fixed production overhead (1,000 units x £7.60)		<u>7,600</u> 1
Gross Profit (after adjustment)		91,200
Less Admin & Selling (2.40 x 24,000) 57,600 ^{1/2} (0.60 x 22,000) 13,200 ^{1/2}		(70,800)
Profit		<u>20,400</u>

Workings:

Budgeted production costs for Absorption costing were

9.00 + 4.00 + 1.60 + 7.60 = **£22.20** per unit

Closing Stock =

Opening stock 3,250 + Production 25,000 – Sales 22,000 = **6,250 units**

1

1

(8 marks)

(ii) **Profit statement based on marginal costing**

	£	£
Sales (22,000 units x £26 per unit)		572,000
Variable Production cost of sales		
Opening Stock (3,250 units x £14.60 per unit)	47,450	^{1/2}
Direct materials (25,000 units x £9.00)	225,000	
Direct labour (25,000 units x £4.00)	100,000	
Variable production overheads (25,000 units x £1.60)	<u>40,000</u>	^{1/2}
	412,450	
Less Closing Stock (6,250 units x £14.60)	<u>(91,250)</u>	1 OF
	321,200	
Other Variable costs		
Selling and Admin (22,000 units x £0.60)	<u>13,200</u>	1
Total variable cost of sales		(334,400)
Contribution 1 mark for the label		237,600
Less Fixed Costs		
Production	182,400 1	
Admin	<u>57,600</u> 1	(240,000)
Net Loss		(2,400)

Workings:

Budgeted cost per unit = 9.00 + 4.00 + 1.60 = **£14.60**

Fixed production costs = 24,000 x 7.60 = **£182,400**

Fixed admin costs 24,000 x 2.40 = **£57,600**

(6 marks)

(b) (i) **Reconciliation between the two profit figures**

	£
Absorption costing profit	20,400
Less Fixed overheads in stock increase (6,250 – 3,250) = 3,000* x £7.60	(22,800) 2
Marginal costing loss	<u>(2,400)</u>

Alternatively (2,400) + 47,500 – 24,700 = 20,400

OR 20,400 + 24,700 – 47,500 = (2,400)

Question 2 continued

- (ii) The difference in profit is due to the different bases for the valuation of stock under the two methods AND the change in the number of units held in stock. **2**

Using absorption costing some fixed production overhead is carried forward in the value of the closing stock, whereas in the marginal costing method it is treated as a period cost. **2**

(6 marks)

(Total 20 marks)

Question 3

Syllabus Topic 7: Long-term decision-making 7.3, 7.4, 7.7 & 7.15

(a) (i) **Payback period**

	Project Aye	Project Bee
Annual depreciation (£000)	$= \frac{£600 - 80}{4 \text{ years}} = \mathbf{£130 \text{ 1}}$	$\frac{£720 - 96}{4 \text{ years}} = \mathbf{£156 \text{ 1}}$
Annual net cash inflow (£000)	= Annual accounting profit + Annual depreciation	
Year 1	50 + 130 = 180	60 + 156 = 216
Year 2	125 + 130 = 255	150 + 156 = 306
Year 3	90 + 130 = 220	108 + 156 = 264
Year 4	30 + 130 + 80 = 240 \text{ 1 **}	36 + 156 + 96 = 288 \text{ 1 **}

Award the 2 marks for 240 and 288 in either part a(i) OR part a(ii)

Year	Project Aye		Project Bee	
	Cash flows £000	Cumulative cash flows £000	Cash flows £000	Cumulative cash flows £000
0	(600)	(600)	(720)	(720)
1	180	(420)	216	(504)
2	255	(165)	306	(198)
3	220	55	264	

Payback for Project Aye = 2 + (165 ÷ 220) = **2 years 9 months** or 2.75 years **1½**

Payback for Project Bee = 2 + (198 ÷ 264) = **2 years 9 months** or 2.75 years **1½**
(7 marks)

(ii) **Net present value (discounted at 15%)**

Year	Project Aye			Project Bee		
	Cash flow £000	Factor	Present value £000	Cash flow £000	Factor	Present value £000
0	(600)	1.000	(600.00) ½	(720)	1.000	(720.00) ½
1	180	0.870	156.60 ½	216	0.870	187.92 ½
2	255	0.756	192.78 ½	306	0.756	231.34 ½
3	220	0.658	144.76 ½	264	0.658	173.71 ½
4	240	0.572	137.28 ½	288	0.572	164.74 ½
			<u>31.42</u>			<u>37.71</u>

All marks OF

(5 marks)

(iii) **Internal rate of return (discounted at 20%)**

Year	Project Aye			Project Bee		
	Cash flow £000	Factor	Present value £000	Cash flow £000	Factor	Present value £000
0	(600)	1.000	(600.00)	(720)	1.000	(720.00)
1	180	0.833	149.94	216	0.833	179.93
2	255	0.694	176.97	306	0.694	212.36
3	220	0.579	127.38	264	0.579	152.86
4	240	0.482	115.68	288	0.482	138.82
			<u>(30.03) \text{ 1}</u>			<u>(36.03) \text{ 1}</u>

IRR for Project Aye = 15% + {5% × [31.42 ÷ (31.42 + 30.03)]} = **17.56% \text{ 2}**

IRR for Project Bee = 15% + {5% + [37.71 + (37.71 + 36.03)]} = **17.56% \text{ 2}**

All marks OF

(6 marks)

(b) The payback periods for both projects are identical. The IRR are the same.

The NPV for Project Bee is higher than Project Aye, therefore, Project Bee should be selected. \text{ 2}

(2 marks)

(Total 20 marks)

QUESTION 4

Syllabus topic 8.2, 8.3, 8.4 & 8.5

- (a) (i) Net profit to sales ratio

$$\text{Net profit ratio} = \frac{\text{Operating profit}}{\text{Sales}} \times 100\%$$

Company Gamma

$$\frac{296}{1,950} \times 100\% = 15.18\% \text{ 1of}$$

Company Delta

$$\frac{157}{975} \times 100\% = 16.10\% \text{ 1of}$$

$$\text{Operating profit : } \begin{array}{l} \text{Gamma (1950 - 1410 - 244) = 296} \quad \mathbf{1} \\ \text{Delta (975 - 718 - 100) = 157} \quad \mathbf{1} \end{array}$$

(4 marks)

- (ii)
- Current ratio**
- = Current Assets : Current liabilities

$$\text{Company Gamma } 710 : 370 = 1.92 : 1 \quad \mathbf{1}$$

$$\text{Company Delta } 305 : 175 = 1.74 : 1 \quad \mathbf{1}$$

(2 marks)

- (iii)
- Return on capital employed ratio**

$$\text{Return on capital employed ratio} = \frac{\text{Operating profit}}{\text{Capital employed}} \times 100\%$$

Company Gamma

$$\frac{296}{1,625} \times 100\% = 18.22\% \text{ 1of}$$

Company Delta

$$\frac{157}{750} \times 100\% = 20.93\% \text{ 1of}$$

$$\text{Capital employed} = \text{Fixed Assets} + \text{Current Assets} - \text{Current Liabilities}$$

$$\text{Gamma} = 1,285 + 710 - 370 = 1,625 \quad \mathbf{1}$$

$$\text{Delta} = 620 + 305 - 175 = 750 \quad \mathbf{1}$$

(4 marks)

- (iv)
- Residual income**
- = Operating profit – (Capital employed × Cost of capital)

Gamma

$$£296 - (£1,625 \times 12\%)$$

$$£296 - £195 = \mathbf{£101,000} \quad \mathbf{1}$$

Delta

$$£157 - (£750 \times 12\%)$$

$$£157 - £90 = \mathbf{£67,000} \quad \mathbf{1}$$

(4 marks)

- (b) Both companies have a similar profitability ratio. In terms of the current ratio
- Gamma**
- seems to be healthier in terms of liquidity, but we are unsure of the breakdown of each company's current assets and current liabilities.
- 2**

Delta has the greater return on capital employed (ROCE). **Gamma** is twice the size of Delta, however, the return on capital employed is a relative measure (i.e. expressed in percentage terms) so the result is not affected by the relative size of each company. **2**

Gamma has a higher residual income. However, the residual income (RI) is measured in monetary value terms so is less useful in comparing the performance when the companies differ in size. **2**

An investor would be interested in the return on capital per £ invested so Delta would be the better investment. 2

(max 6 marks)

(Total 20 marks)

QUESTION 5

Syllabus topic Standard costing and variances; 6.3, 6.5, 6.6 and 6.11

(a) Lose 1 mark for each incorrect or missing label (Adv or Fav)

Direct material variances:

(i)	Total material:	Standard price x standard usage £9 x 2.5 kg x 15,900	357,750
		Actual price x actual usage (41,250 kg x £8.70)	<u>358,875</u>
			1,125 Adv 2

(ii)	Price variance	Actual price x actual usage (41,250 kg x £8.70)	358,875
		Standard price x actual usage £9 x 41,250 kg)	<u>371,250</u>
			12,375 Fav 2

(iii)	Usage variance	Standard price x actual usage	371,250
		Standard price x standard usage £9 x 2.5 kg x 15,900	<u>357,750</u>
			13,500 Adv 2

Direct labour variances:

(iv)	Total labour	Standard rate x standard hours £13.50 x 4.5 x 15,900	965,925
		Actual rate x actual hours (69,900 x £13.95)	<u>975,105</u>
			9,180 Adv 2

(v)	Rate variance	Actual rate x actual hours (69,900 x £13.95)	975,105
		Standard rate x actual hours £13.50 x 69,900	<u>943,650</u>
			31,455 Adv 2

(vi)	Efficiency var	Standard rate x actual hours	943,650
		Standard rate x standard hours £13.50 x 4.5 x 15,900	<u>965,925</u>
			22,275 Fav 2

Fixed production overhead variances:

(vii)	Exp variance	Actual overhead	425,000
		Budgeted overhead (15,000 x 4.5 x £6)	<u>405,000</u>
			20,000 Adv 2

(viii)	Volume var	Budgeted overhead	405,000
		Actual units x standard rate (15,900 x 4.5 x £6)	<u>429,300</u>
			24,300 Fav 2

(16 marks)

(b) The reason(s) for the actual variances could be as follows:

Direct material – favourable price variance – due to a lower price (½) as a result of better discounts (½)

Direct material – adverse usage variance – poor quality material (½) resulting in more waste (½)

Direct labour – adverse rate variance – higher rate of pay needed (½) for a higher skilled worker (½)

Direct labour – favourable efficiency – more skilled (higher paid) labourer (½) works faster (½)

One mark for each

(4 marks)

(Total 20 marks)

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