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# Introduction to Cost and Management Accounting

## QCF

### Subject Examiner's Report

**Unit Title:** 6.2 Introduction to Cost and Management Accounting

**Unit Code:** ICMA

**Session:** December 2015

Question 1

(a) Place the following documents relating to a transaction between Linnell and its customer into the correct order:

- Invoice
- Remittance Advice
- Quotation
- Statement
- Purchase Order
- Enquiry
- Delivery Note

(7 marks)

(b) Produce a stock record card for the following products:

Item code: BJ12B  
 Description: Boys Jeans Age 12-13 Colour Blue  
 Location: D45  
 Reorder level: 150  
 Reorder quantity: 400  
 Manufacturer code: I17  
 Retail Price: £9.99  
 Discount code: A

Linnell stock value is calculated on a FIFO basis.

(8 marks)

(c) Enter these transactions on to the FIFO stock card and calculate:

- (i) The cost of each of the four stock issues
- (ii) The value of the closing stock

(4 marks)

(2 marks)

(d) On a recent routine stock count, the warehouse manager counted 225 units in the warehouse, but 275 were stated on the stock card. Identify four reasons why this might have happened.

(4 marks)

1. Comments on learners' performance

Most students demonstrated a better understanding of how to prepare a stock record than the sequence of documents in the transaction process. There was considerable scope for better application of knowledge in respect of requirement (a) and in the explanation needed as part of requirement (d).

2. Mark scheme

- ) Enquiry
- Quotation
- Purchase Order
- Delivery Note
- Invoice
- Statement
- Remittance Advice

(1 mark each – allow own figure if preceding item is correct)

(b) (c)

STOCK RECORD CARD									
Code: BJ12B					Location: D45				
Item: Boys Jeans Age 12-13 Colour Blue					Manufacturer code: I17				
Retail Price: £9.99					Reorder level: 150				
Discount code: A					Reorder quantity: 400				
Receipts			Issues				Balance		
Date	Qty	@	Total	Qty	@	Total	Qty	@	Total
1/11/15	200	4.00	800.00				200	4.00	800.00

3/11				150	4.00	600.00	50	4.00	200.00
7/11	400	4.25	1,700.00				50	4.00	200.00
							400	4.25	1,700.00
11/11				50	4.00	200.00			
				200	4.25	850.00	200	4.25	850.00
18/11				100	4.25	425.00	100	4.25	425.00
24/11	400	3.90	1,560.00				100	4.25	425.00
							400	3.90	1,560.00
28/11				100	4.25	425.00			
				50	3.90	195.00	350	3.90	1365.00

(1 mark for each of 8 elements in header)  
(1 mark for each of 4 total issues)  
(1 mark for closing stock quantity, 1 mark for total cost)

- (d) Stock counted incorrectly  
Items stolen  
Booked in on wrong code  
Not booked out correctly

(1 mark each – other answers possible, maximum 4 marks)

### 3. Recommendations

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None.

#### Examiner's tips

Any explanation should be developed to a sufficient depth. Consider how illustrative examples might be used as part of this development.

Question 2

- (a) Produce a suitable employee timesheet to record sufficient details to be able to calculate:  
 Hours worked morning and afternoon each day  
 Basic pay  
 Overtime payable  
 Bonus payable  
 Total wages  
 Total direct labour cost  
 Total indirect labour cost

(11 marks)

- (b) Using the employee timesheet prepared in part (a), enter Michael's hours worked and units produced and calculate Michael's pay for the week.

(6 marks)

- (c) Present the ledger postings required for:

- (i) Direct wage cost  
 (ii) Indirect wage cost

(3 marks)

- (d) On receipt of his pay packet Michael complains that he feels he should have been paid a bonus for the full 260 units by which his output exceeded the standard weekly target of 1,050. Write a short memo to Michael explaining how his pay has been calculated.

(5 marks)

1. Comments on learners' performance

There was reasonable evidence of an ability to prepare the timesheet. In the main, this was underpinned by an appropriate ability to calculate the relevant elements of cost.

2. Mark scheme

(a) and (b)

Name: Michael Rowe (½)	Department: Production (½)						
Basic rate per hour: £8.00 (½)	Overtime rate per hour: £10.00 (½)						
Bonus target units per hour: 30 (½)	Bonus rate per unit: 0.50 (½)						
Week commencing: 16/11/2015 (½)	Mon	Tue	Wed	Thu	Fri	Sat	Sun
AM in (½)	08:30	08:30	08:30	08:30	07:00	09:00	(½)
AM out (½)	12:00	12:00	12:00	12:00	12:00	12:00	(½)
PM in (½)	13:00	12:30	13:00	13:00	13:00		(½)
PM out (½)	16:30	18:00	16:30	16:30	17:00		(½)
Hours @ basic rate	7	7	7	7	7		
Hours @ overtime rate		2			2	3	
Bonus target (½)	42 x 30 = 1,260						
Units produced (½)	1,310						
Bonus units (½)	50						

Total hours @ basic rate (½)	35 (½)	Basic Pay: (½)	280.00 (½)
Total hours @ overtime rate (½)	7 (½)	Overtime: (½)	70.00 (½)
Direct labour cost: (½)	336.00 (½)	Bonus: (½)	25.00 (½)
Indirect labour cost: (½)	39.00 (½)	<b>Total Pay:</b> (½)	<b>375.00 (½)</b>

(c) Dr Work in progress 336.00  
 Dr Production overhead control 39.00  
 Cr Wages control account 375.00

(1 mark each, own figure applies) (1)

(d) Memo

To: Michael Rowe  
 From: Payroll  
 Date: 1 December  
 Re: Wages calculation (2 marks for headings)

Your pay has been calculated as follows:

Hours Monday to Friday at basic rate 35 x £8.00 = 280.00  
 Overtime hours Monday to Friday 4 x £10.00 = 40.00  
 Overtime Saturday 3 x £10.00 = 30.00  
 Your bonus target was 42 x 30 = 1,260 units  
 Your bonus is therefore 1310 – 1260 = 50 units @ £0.50 = £25.00

### 3. Recommendations

None.

#### Examiner's tips

Prepare any response in a systematic manner. Ensure that workings to any solution are prepared and presented in full.

### Question 3

- (a) Identify a suitable basis of apportionment for each of the shared costs. **(6 marks)**  
 (b) Identify a suitable basis of re-apportionment for each of the two service departments. **(2 marks)**  
 (c) Calculate overhead absorption rates for both the moulding and assembly departments. **(12 marks)**  
 (d) Calculate under-absorption or over-absorption of overheads for each of the moulding and assembly departments. **(3 marks)**  
 (e) Explain how the figure calculated in part (d) will be treated in the accounts. **(2 marks)**

#### 1. Comments on learners' performance

Some students demonstrated an ability to develop the required calculations. There was considerable scope for an improved understanding of the underlying rationale for and process of apportionment and absorption.

#### 2. Mark scheme

- (a) Rent - floor area  
 Heat and light - floor area  
 Insurance - machinery value  
 Depreciation - machinery value  
 Machine power - machinery value  
 Supervision - number of supervisors  
 (1 mark each)

- (b) Stores - number of requisitions  
 Maintenance - maintenance hours  
 (1 mark each)

(c)

	£	Moulding	Assembly	Maintenance	Stores	
Rent	500,000	200,000	150,000	50,000	100,000	(1)
HL	10,000	4,000	3,000	1,000	2,000	(1)
Insurance	100,000	90,000	0	10,000	0	(1)
Depn	750,000	675,000	0	75,000	0	(1)
Machine power	80,000	72,000	0	8,000	0	(1)
SV	95,000	19,000	38,000	19,000	19,000	(1)
Allocated	85,000	48,000	17,000	11,000	9,000	
	<b>1,620,000</b>	1,108,000	208,000	174,000	130,000	
stores		52,000	52,000	26,000	(130,000)	(1)
maintenance		140,000	60,000	(200,000)		(1)
Total	<b>1,620,000</b>	1,300,000	320,000			
Machine hours		50,000				(1)
Labour hours			20,000			(1)
rate		26.00	16.00			(2)

- (d) One unit takes 2.5 machine hours and 1 labour hour therefore:

$$26.00 \times 2.5 = 65.00$$

$$21,000 \times (65.00 + 16.00) = 1,701,000 \text{ actual absorption (1)}$$

$$\text{Expenditure} = 1,730,000$$

This means overheads are under-absorbed (1) by £29,000 (1)

- (e) This will be charged to the profit and loss account (1) as an expense (1)

### 3. Recommendations

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None.

#### **Examiner's tips**

Ensure that all workings to any solution are presented in full. Develop any interpretation to an appropriate depth.

## Question 4

- (a) Calculate the standard full absorption cost of one set of wheels. **(4 marks)**
- (b) Calculate the actual full absorption cost of one set of wheels for the month of November 2015. **(5 marks)**
- (c) Calculate the revised standard cost per set of wheels if the new machinery is purchased. **(4 marks)**
- (d) Calculate the selling price of one set of wheels if the new machinery is purchased and the company wishes to achieve a 25% profit margin. **(2 marks)**
- (e) Recommend whether the new machinery should be purchased. Give reasons for your answer. **(10 marks)**

### 1. Comments on learners' performance

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Good responses reflected an ability to record the relevant transactions and to develop a recommendation based thereon. Weaker responses were either unable to apply the required computations and, in particular, lacked the depth of understanding that was needed.

### 2. Mark scheme

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- (a)  $20 \times 6.50 = 130.00$  (1)  
 $1.2 \times 16.00 = 19.20$  (1)  
 $6,300 / 420 = 15.00$  (1)  
Total = 164.20 (1) mark for including all three (OF applies)
- (b)  $65,600$  (1) +  $11,000$  (1) +  $7,000$  (1) =  $83,600$   
 $83,600 / 500$  (1) =  $167.20$  (1) mark for including all three (OF applies)
- (c)  $19 \times 6.50 = 123.50$  (1)  
 $1 \times 16.00 = 16.00$  (1)  
 $9000 / 500 = 18.00$  (1)  
Total =  $157.50$  (1) mark for including all three (OF applies)
- (d)  $157.50 \times 100 / 75$  (2) =  $210.00$
- (e) Report to: Management  
From: Candidate  
Date: 1 December  
Subject: Proposed investment (2 marks for layout)

The company is contemplating investing in new machinery to improve the efficiency of the process of manufacturing alloy wheels. (1 mark for intro)

If the investment goes ahead it will reduce both material and labour cost of the wheels but there will be an increase in fixed costs.

If the company can maintain a level of output of 500 units per month this will reduce the total cost of a set of wheels from 163.20 to 157.50 and is therefore a good idea.

As wheels will be produced in batches of 100 it will mean that if this level of sales is not sustained it will be necessary to produce only 400 wheels some months which would mean that overheads per unit would increase by 25% which would increase the unit cost by £4.50 to £162.00

As this is still less than the present cost of £164.20 there would appear to be little risk involved so on financial grounds the purchase should go ahead.

However there are other non-financial factors to be considered:

- is it likely that competition for sale of wheels will increase?
- are sufficient raw materials available for the increased level of activity?
- do the wheels fit only older cars or do they fit newer cars?
- is this a currently fashionable item and will it remain so?
- are there likely to be changes in the law applicable to this product?
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(1 mark per reasonable point, maximum 7)



### 3. Recommendations

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None.

#### Examiner's tips

Ensure that an understanding of the role and meaning of a technique is developed together with an ability to apply the required calculations.

## Question 5

- (a) Calculate the contribution per unit for each product. **(3 marks)**
- (b) Calculate the contribution earned per kilogram of material used for each product. **(3 marks)**
- (c) Calculate the contribution earned per labour hour for each product. **(3 marks)**
- (d) The company is able to produce a maximum of 12,000 units in total per month. Identify how many units of each product should be produced in order to achieve the greatest amount of profit. **(3 marks)**
- (e) Due to supplier problems it is anticipated that only 6,000 kilograms of material will be available for the month of December 2015. Identify how many units of each product should be made in order to make optimum use of the material available. **(3 marks)**
- (f) Identify how many units of each product should be made in order to make optimum use of the labour hours available. **(3 marks)**
- (g) Explain the effect that the various shortages of resources will have on profitability. Identify any steps you feel the company could take in future to minimise the loss of profits caused by these kinds of problems. **(7 marks)**

### 1. Comments on learners' performance

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The limited number of responses reflected a poor understanding of marginal costing and the importance of contribution. This undermined an ability to engage with much of the requirement.

### 2. Mark scheme

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(a)

	<b>A</b>	<b>B</b>	<b>C</b>
Selling price per unit	30.00	37.00	20.00
Material cost	8.00	16.00	6.40
Labour cost	9.60	7.20	4.80
Unit contribution	12.40 (1)	13.80 (1)	8.80 (1)

(b)

Kilograms per unit	0.5	1.0	0.4
Contribution per kilogram	24.80 (1)	13.80 (1)	22.00 (1)

(c)

Hours per unit	0.8	0.6	0.4
Contribution per hour	15.50 (1)	23.00 (1)	22.00 (1)

(d)

Max B (1) = 3,000 units  
Then A (1) = 5,000 units  
Then C = 4,000 units (1)

(e)

Max A (1) = 5,000 x 0.5 = 2,500 kilos  
Then C (1) = 6,000 x 0.4 = 2,400 kilos  
Then B = 1,100 kilos / 1.0 = 1,100 units (1)

(f)

Max B (1) = 3,000 x 0.6 = 1,800 hours  
Then C (1) = 6,000 x 0.4 = 2,400 hours  
Then A = 800 hours / 0.8 = 1,000 units (1)

(g) Report to: Management  
From: Candidate

Date: 1 December

Subject: Proposed investment (2 marks for layout)

The objective of this report is to advise on ways to maximise profit in a situation where a key resource is in short supply (1 mark for intro)

If there were no constraints on production or resources the company would be able to generate a total contribution of £156,200.

As only 12,000 units in total can be produced this reduces the maximum contribution to £138,600.

To mitigate this the company could look to expand the size of the facility or possibly introduce shift work or even 24 hour operation.

If only 6,000 kilograms of material is available the most that can be earned is £129,980. To mitigate this the company could look for substitute materials or change the products specifications to use less.

If only 5,000 hours of labour is available the maximum profit is only £106,600. To improve the situation the company could introduce training schemes and apprenticeships to train more workers. Alternatively it could offer higher wages to tempt staff to leave competing businesses and work for this company instead.

Finally it could consider relocating to an area where more workers are available.

(1 mark for each valid point up to a maximum of 4)

### 3. Recommendations

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None.

#### Examiner's tips

Ensure that an appropriate understanding of the importance of contribution is developed.

## Question 6

**(a)** Identify whether each of the following items is capital expenditure or revenue expenditure:

- (i) Redecoration of the company boardroom **(1 mark)**
- (ii) A new delivery van **(1 mark)**
- (iii) Raw materials to make biscuits **(1 mark)**
- (iv) Repairs to packaging machinery **(1 mark)**
- (v) Installation costs for new production equipment **(1 mark)**
- (vi) A replacement heater for the factory **(1 mark)**

**(b)** Explain the factors that determine whether an item is capital or revenue expenditure. **(10 marks)**

**(c)** The company bank balance at 30 November 2014 was £21,568. During the year ended 30 November 2015 the company made a net profit of £569,702 and the bank balance at 30 November 2015 was £36,277.

- (i) Explain why the change in the bank balance is not the same as the net profit. **(3 marks)**
- (ii) Identify three transactions that would cause the bank balance to reduce without affecting the net profit. **(3 marks)**
- (iii) Identify three transactions that would affect the profit without causing any change to the bank balance. **(3 marks)**

### 1. Comments on learners' performance

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Stronger responses reflected an understanding of the distinction between capital and revenue expenditure. There was also some evidence of an understanding of the factors that determine capital and revenue expenditure.

### 2. Mark scheme

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- (a)
- i. Redecoration of the company boardroom. Revenue
  - ii. A new delivery van. Capital
  - iii. Raw materials to make biscuits. Revenue
  - iv. Repairs to packaging machinery. Revenue
  - v. Installation costs for new production equipment. Capital
  - vi. A replacement heater for the factory. Capital
- (1 mark each)
- (b) Capital items are:
- kept and used for more than one accounting period
  - of significant value
  - give rise to an asset on the statement of financial position
  - subject to depreciation
  - include all costs of making an item ready for use
  - include improvements to existing assets as well as new assets
- Revenue expenditure
- no asset is acquired
  - no lasting value
  - used up in same accounting period
  - can be small or large
  - mostly day to day costs
- (1 mark per valid point, maximum 10)
- (c)
- i. Profit is calculated on the accruals basis (1) where transactions are recognised in the period to which they apply (1) rather than in the period when payment is made.(1)
  - ii. Payment to a trade creditor  
Drawings by a sole trader,  
Purchase of a non-current asset **(1 mark each)**

- iii. Credit sale
- Credit purchase
- Depreciation

(1 mark each)

(other answers possible)

### 3. Recommendations

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None.

#### Examiner's tips

Develop an understanding of the features of capital and revenue expenditure. Use illustration, if required, to augment any discussion.

## Question 7

- (a) Calculate the budgeted fixed overhead expenditure for the month. **(2 marks)**
- (b) Calculate the following variances and for each variance, state whether it is favourable or adverse: **(7 marks)**
- (i) Material usage variance **(2 marks)**
  - (ii) Material price variance **(2 marks)**
  - (iii) Labour efficiency variance **(2 marks)**
  - (iv) Labour rate variance **(2 marks)**
  - (v) Fixed overhead expenditure variance **(2 marks)**
  - (vi) Fixed overhead volume variance **(2 marks)**
  - (vii) Fixed overhead capacity variance **(2 marks)**
  - (viii) Fixed overhead efficiency variance **(2 marks)**
- (c) Produce a statement reconciling the standard cost of production to the actual cost of production. **(7 marks)**

### 1. Comments on learners' performance

Of the students that responded to this requirement, there was limited evidence of understanding. Students were unable to calculate many of the relevant variances.

### 2. Mark scheme

(a)  $16,000 \text{ units} (1) \times \text{£}2.50 (1) = \text{£}40,000$

(b)

	Standard	Actual	Variance	
i	$0.5 \times 17,000 \times 17 = 144,500$	$9,350 \times 14 = 158,950$	14,450	(A)
ii	$9,350 \times 14 = 158,950$	149,600	9,350	(F)
iii	$0.2 \times 17,000 \times 14 = 47,600$	$3,230 \times 14 = 45,220$	2,380	(F)
iv	$3,230 \times 14 = 45,220$	48,450	3,230	(A)
v	40,000	45,000	5,000	(A)
vi	40,000	$3,400 \times 12.50 = 42,500$	2,500	(F)
vii	40,000	$3,230 \times 12.50 = 40,375$	375	(F)
viii	$3,230 \times 12.50 = 40,375$	$3,400 \times 12.50 = 42,500$	2,125	(F)

1 mark per variance, 1 mark for correct F/A

(c)

Standard cost of actual production is	£
$17,000 \times (8.50 + 2.80 + 2.50) =$	234,600 (1)
Plus material usage variance	14,450 (1)
Less material price variance	(9,350) (1)
Less labour efficiency variance	(2,380) (1)
Plus labour rate variance	3,230 (1)
Plus fixed overhead expenditure variance	5,000 (1)
Less fixed overhead volume variance	(2,500) (1)
= actual cost of actual production	243,050

### 3. Recommendations

None.

#### Examiner's tips

Ensure that an understanding of how to calculate and interpret variances is developed.

### Question 8

- (a) Prepare a budget for each of the three different sales volume levels showing clearly the profit or loss that will be achieved at each level. **(12 marks)**
- (b) (i) State the price at which you feel the product should be sold, giving reasons for your recommended price **(3 marks)**  
(ii) Identify situations when other the options might be preferable **(2 marks)**  
(iii) Explain why it is necessary to prepare a budget **(2 marks)**
- (c) Explain the meaning of the following terms:  
(i) Standard labour cost **(2 marks)**  
(ii) Unit contribution **(2 marks)**  
(iii) Fixed overhead **(2 marks)**

### 1. Comments on learners' performance

Responses reflected some ability to prepare the required budgets and to develop the relevant calculations. Better responses were able to explain the need for financial planning and the meaning of the relevant terms.

### 2. Mark scheme

Units	14000	20000	24000
Revenue	280000 (1)	360000 (1)	384000 (1)
Material cost	37800 (1)	54000 (1)	58320 (1)
Labour cost	84000 (1)	120000 (1)	144000 (1)
Fixed overheads	60000 (1)	80000 (1)	80000 (1)
Gross profit	98200	106000	101680

b)

Report to:	Management
From:	Candidate
Date:	1 December
Subject:	Selling price (2 marks for layout)

I have prepared budgets to identify the profit that will be earned at different levels of output and different selling prices.

My recommendation is that the price be set at £18 per unit as the maximum profit is earned at this price. If price is set higher than this the increased contribution per unit is more than offset by the greatly reduced volume and so overall profit is lower, even though there is a saving in fixed overheads at a lower volume of output.

If material or labour became scarce this might be an option to consider, however.

If the price is set lower the loss of unit contribution means that overall profit is lower, even though the fixed overheads are shared across a greater number of units.

If new competitors are looking to enter the market this might be a better option, however, to prevent newcomers gaining a foothold in the marketplace.

(1 mark per valid point to a maximum of 5)

- (c)
- The expected cost of labour if hours taken (1) and rate paid (1) are as per the budget.
  - The difference between the selling price (1) and the variable cost (1) of one unit of product.
  - Costs incurred which stay at the same level (1) and are not affected by the volume of output (1)

### 3. Recommendations

None.

#### Examiner's tips

Ensure that any explanation and interpretation is developed to a sufficient depth.