



Introduction to Cost and Management Accounting

NQF

Subject Examiner's Report

Unit Title: Introduction to Cost and Management Accounting
Unit Code: NQF ICMA
NQF Level: NQF
Session: December 2016

Question 1

- (a) Calculate the cost of an issue of 60 units of AB20 on a FIFO basis. **(7 marks)**
- (b) It has been suggested that the company should change its policy and issue stock in future on a LIFO basis. Calculate the cost of an issue of 60 units of AB20 on a LIFO basis. **(7 marks)**
- (c) Explain what effect the change in valuation method will have on the calculation of the value of stock remaining. **(2 marks)**
- (d) Explain what effect the change in valuation method will have on the calculation of cost of goods sold and therefore on the gross profit. **(4 marks)**
- (e) Explain why it is important that the company can calculate the value of stock accurately. **(3 marks)**
- (f) Recently it was discovered that there was no stock of component AB20 remaining and production was disrupted. According to the stock record card there should have been 30 units in stock. You have been asked to investigate the reasons for this. Identify the two people to whom you would address your query in respect of the missing stock. **(2 marks)**

Mark Scheme

(a)

Workings	15 April	30	@	5.00	150.00
	3 May	50	@	5.50	275.00
	27 May	50	@	5.80	290.00

(a) $30 @ 5.00 = 150.00$ (3)
 $30 @ 5.50 = \underline{165.00}$ (3)
315.00

(b) $50 @ 5.80 = 290.00$ (3)
 $10 @ 5.50 = \underline{55.00}$ (3)
345.00

- (c) Reduces value of closing stock (1) by 30.00 (1)
- (d) Increases cost of sales (1) by 30.00 (1)
Reduces gross profit (1) by 30.00 (1)
- (e) Stock is a very valuable asset (1)
Value affects calculation of profit (1)
- (f) Warehouse supervisor in case stock has been put into the wrong location (1)
Purchases manager to confirm quantity actually ordered is as recorded (1)
- (g) Purchasing manager to confirm goods ordered were to correct specification (1)
- (h) Accounts payable to investigate reason for late payment (1) and to correct the situation (1)

3. Comments on learners' performance

Some knowledge and understanding was evident, with some good work produced by students at the higher end of the distribution. Stronger students were able to apply the principles of valuation and, importantly, were able to extend their knowledge to include an appreciation of the importance of inventory in a wider context.

Examiner's tips

Understand the importance of the management of inventory and its effects on operational processes.

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

Attempted by a small number of students. Poor responses.

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)	Total Pay: (½)			375.00 (½)		

- (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	$35 \times £8.00 = 280.00$
Overtime hours Monday to Friday	$4 \times £10.00 = 40.00$
Overtime Saturday	$3 \times £10.00 = 30.00$
Your bonus target was	$42 \times 30 = 1,260$ units
Your bonus is therefore	$1310 - 1260 = 50$ units @ $£0.50 = £25.00$

Examiner's tips

Ensure that you are able to apply the principles of costing to employee wages.

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

Attempted by a small number of students. Some knowledge and comprehension, but generally weak.

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	
	1,620,000	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	1,620,000	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)

Examiner's tips

Ensure that you understand the concept of absorption costing and are able to account for overheads accordingly.

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

Attempted by a small number of students. Generally poor performance.

2. Mark scheme

- (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 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?

(1 mark per reasonable point, maximum 7)

Examiner's tips

Understand how to calculate absorption cost. Be able to explain the key principles of costing and how they apply in planning and decision making contexts.

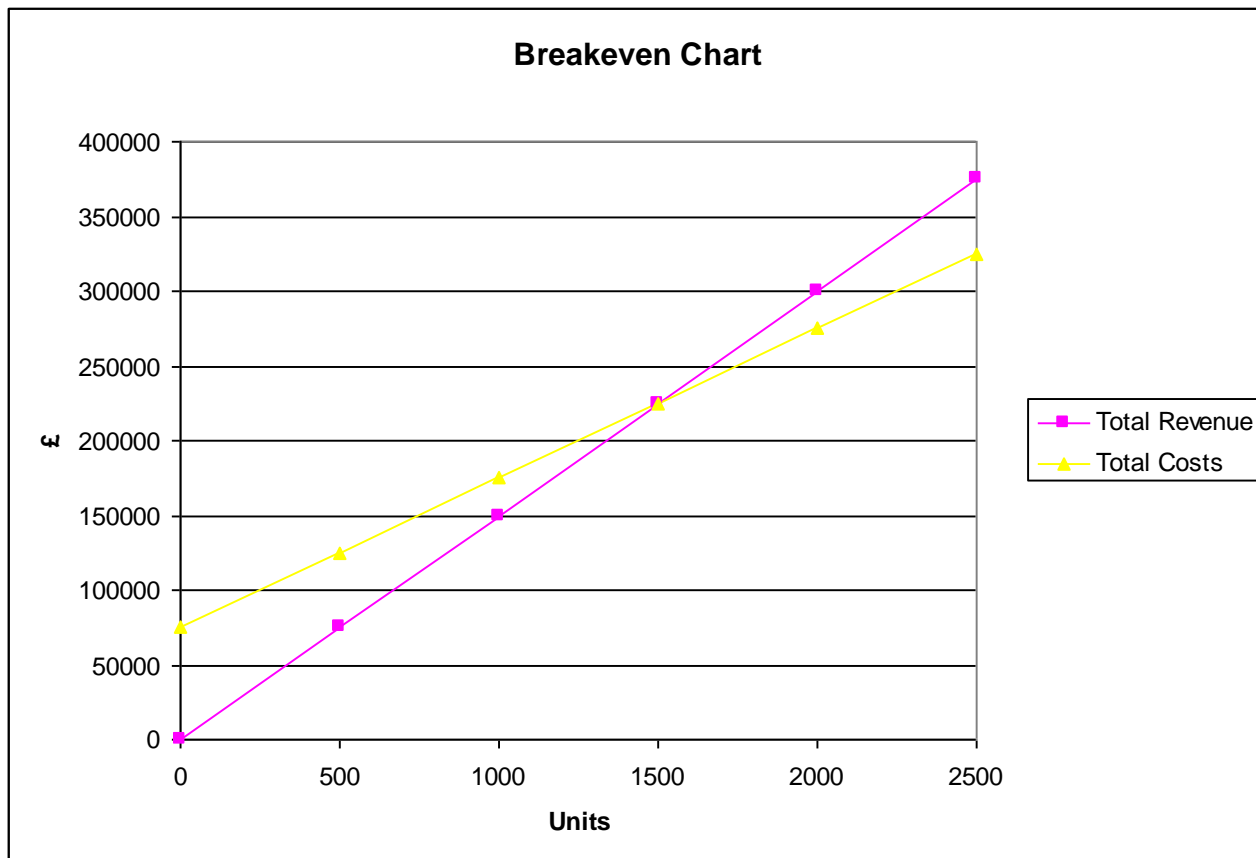
Question 5

- (a) Draw a breakeven chart for the new bicycle showing clearly the following items:
- (i) Total costs (2 marks)
 - (ii) Total revenues (2 marks)
 - (iii) The breakeven point (2 marks)
 - (iv) The margin of safety (2 marks)
- (b) Use the breakeven chart to identify the approximate profit or loss if only 2,200 sales of the new bicycle are achieved. (5 marks)
- (c) Prepare a short report to management explaining, on the basis of the above analysis, whether you feel the new product is viable. State any other factors which you feel should be taken into account. (12 marks)

1. Comments on learners' performance

Attempted by a very small number of students. Generally poor.

2. Mark scheme



Marks:

- 2 for total cost line
- 2 for sales revenue line
- 2 for breakeven point
- 2 for MOS

(b)

- 1 for 2200 units on x axis
- 1 for 330000 on y axis (approx)
- 1 for 295000 on y axis (approx)
- 1 for 'profit'

1 for 35000 (approx)

(c)

To: Management (½)

From: Candidate (½)

Date: (½)

Subject: New product (½)

2 marks for each reasonable point such as:

Projected sales exceed breakeven point

MOS is $1000 / 2500 = 40\%$

How confident in projections?

Effect on existing product sales

Availability of skilled labour

Availability of materials

Can logistics cope with extra throughput?

(max 10 marks)

Examiner's tips

Consider the key aspects of the breakeven analysis technique. Consider the qualitative factors that might apply in a decision making context.

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

Attempted by a small number of students. Some reasonable performance by some candidates, but generally poor.

2. Mark scheme

- (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)

Examiner's tips

Ensure that you understand the key distinctions between capital and revenue expenditure.

Question 7

- (a) Explain what is meant by each of the following terms and explain how each is calculated:
- (i) Standard labour cost (3 marks)
 - (ii) Fixed overhead expenditure variance (2 marks)
 - (iii) Material usage variance (3 marks)
 - (iv) Full absorption cost per unit (2 marks)

- (b) Thompson's Foundry makes high quality kitchen equipment.
The standard cost of a cast iron saucepan which it manufactures comprises the following:

Materials	3 kilos @ 2.50 per kilo
Labour	0.4 hours @ £12.00 per hour
Fixed overheads	0.4 hours @ £27.00 per hour

For the month of May 2016 the budgeted output was 12,000 units and actual results were as follows:

Units produced:	12,500
Material used:	38,000 kilos at a total cost of £91,200
Labour:	5,200 hours at a total cost of £59,800
Fixed overhead expenditure was	£132,000

Calculate the following:

- (i) Standard material cost for actual production (1 mark)
 - (ii) Total labour cost variance (3 marks)
 - (iii) Material usage variance (3 marks)
 - (iv) Fixed overhead expenditure variance (3 marks)
- (c) Explain how each of the items in part (b) (i) to (iv) will be treated in the accounts. (5 marks)

1. Comments on learners' performance

Attempted by a small number of students. Poor performance.

2. Mark scheme

- a)** i) The amount of labour it should cost to make one item (1). The calculation is standard labour time (1) x standard labour rate (1).
ii) The difference between budgeted fixed overheads (1) and actual fixed overhead cost (1)
iii) The difference between the amount of material that should be used for a specific volume of output (1) and the actual amount of material used (1) multiplied by the standard cost per kilo (1)
iv) The cost of one unit comprising variable costs (1) and absorbed overheads (1)
- b)** i) $12,500 \times 3 \times 2.5 (1) = 93,750$
ii) $(12,500 \times 0.4 \times 12 (1) = 60,000) - 59,800 (1) = 200$ Favourable (1)
iii) $(12,500 \times 3 \times 2.5 (1) = 93,750) - (38,000 \times 2.5) (1) = 500$ Adverse (1)
iv) $(12,000 \times 0.4 \times 27 (1) = 129,600) - 132,000 (1) = 2,400$ Adverse (1)
- c)** i) Debited to WIP (1) as part of cost of production (1)
ii) Credited to profit and loss (1) as a revenue
iii) Charged to profit and loss (1) as an expense
iv) Charged to profit and loss (1) as an expense

Examiner's tips

Practice the key techniques that are needed to calculate variances.

Question 8

- (a) Explain the meaning of the following budgeting terms:
- (i) Marginal cost (2 marks)
 - (ii) Flexed budget (2 marks)
 - (iii) Fixed overhead absorption rate (2 marks)
 - (iv) Adverse material usage variance (2 marks)

Further information:

Garnet Ltd manufactures a garden ornament, the standard cost card for which is presented below:

Material	2 kilos @ £3.00 per kilogram
Labour	0.5 hours @ £10.00 per hour

Garnet Ltd is setting its budget for the coming year and is considering three different levels of output.

Level 1: At a selling price of £45 per unit the company believes it can sell 10,000 units and the fixed overheads will comprise the following:

Rent	£100,000
Supervision	£44,000
Depreciation	£60,000

Heat light and power is a semi-variable cost with a fixed element of £30,000 per year and a variable cost of £1.50 per unit.

Level 2: If the selling price is reduced by 5%, the company believes it will be possible to sell an additional 2,000 units with no increase in fixed costs.

Level 3: If the selling price is reduced by 10%, the company believes it can sell 15,000 units but this will require an additional supervisor who will cost £22,000 per annum and an additional machine costing £300,000 which will be depreciated over a ten-year period.

- (b) Prepare a budget for each of the three levels of output, showing clearly the total contribution and profit earned at each level. (9 marks)
- (c) The owners of Garnet Ltd have asked you to:
- (i) Identify the advantages and disadvantages of each level of output. (6 marks)
 - (ii) Recommend which level of output is the best course of action for Garnet Ltd. (2 marks)

1. Comments on learners' performance

Generally poor responses. Attempted by a small number of students.

2. Mark Scheme

- a) i) The additional variable cost (1) incurred to make one extra unit (1)
 ii) A budget in which variable costs (1) are adjusted in line with a different level of output (1)
 iii) The amount of fixed overheads consumed (1) in one hour or production (1)
 iv) The amount by which material usage exceeds (1) the standard amount for the quantity produced (1)

b)

Units	10,000		12,000		15,000	
Revenue	450,000	(1)	513,000	(1)	607,500	(1)
Material	60,000		72,000		90,000	
Labour	50,000		60,000		75,000	
Variable Heat, Light and Power	15,000		18,000		22,500	
Total Contribution	325,000	(1)	363,000	(1)	420,000	(1)

Rent	100,000		100,000		100,000	
Supervision	44,000		44,000		66,000	
Fixed Heat, Light and Power	30,000		30,000		30,000	
Depreciation	60,000		60,000		90,000	
Profit	91,000	(1)	129,000	(1)	134,000	(1)

c) Report to: Management (2 marks for headers)
From: Student
Re: Levels of output
Date: June 2016

This report is to advise on the best level of output for the forthcoming year. (1 mark for intro)

Of the three levels of output the most profit is earned at a price of £40.50 which will enable the greatest volume to be sold.

This is because fixed overheads are shared across a greater number of units which effectively makes each unit cheaper to make.

A further advantage of this price is that it will make it more difficult for competitors to enter the market.

A disadvantage is the company must invest in a new machine to make it possible and if the forecast level of sales is not achieved the cost of this machine will not be recovered.

An advantage of setting the price at £42.75 is that the profit earned will be almost as great as at the highest level of output but without the risk of having to invest in extra machinery.

A disadvantage of this approach is that other companies will find it easier to compete against a higher price and this is even more true if the price is kept at the current level of £45.00.

My recommendation is that if the company is confident that the level of sales of 15,000 units can be sustained the price should be set at £40.50 but if there is significant uncertainty the price should be set at £42.75.

(1 mark per valid point, maximum 5) (other answers possible)

Examiner's tips

Ensure that you understand the key principles and concepts that underpin the preparation of budgets.