

Version 1.0



**General Certificate of Education
January 2011**

Accounting ACCN4

**Unit 4: Further Aspects of
Management Accounting**

Final

Mark Scheme

Mark schemes are prepared by the Principal Examiner and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes amendments made at the standardisation meeting attended by all examiners and is the scheme which was used by them in this examination. The standardisation meeting ensures that the mark scheme covers the candidates' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for the standardisation meeting each examiner analyses a number of candidates' scripts: alternative answers not already covered by the mark scheme are discussed at the meeting and legislated for. If, after this meeting, examiners encounter unusual answers which have not been discussed at the meeting they are required to refer these to the Principal Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of candidates' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

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January 2011

MARK SCHEME

INSTRUCTIONS TO EXAMINERS

You should remember that your marking standards should reflect the levels of performance of candidates, mainly 17 years old, writing under examination conditions.

Positive Marking

You should be positive in your marking, giving credit for what is there rather than being too conscious of what is not. Do not deduct marks for irrelevant or incorrect answers as candidates penalise themselves in terms of the time they have spent.

Mark Range

You should use the whole mark range available in the mark scheme. Where the candidate's response to a question is such that the mark scheme permits full marks to be awarded, full marks **must** be given. A perfect answer is not required. Conversely, if the candidate's answer does not deserve credit, then no marks should be given.

Alternative Answers / Layout

The answers given in the mark scheme are not exhaustive and other answers may be valid. If this occurs, examiners should refer to their Team Leader for guidance. Similarly, candidates may set out their accounts in either a vertical or horizontal format. Both methods are acceptable.

Own Figure Rule

In cases where candidates are required to make calculations, arithmetic errors can be made so that the final or intermediate stages are incorrect. To avoid a candidate being penalised repeatedly for an initial error, candidates can be awarded marks where they have used the correct method with their own (incorrect) figures. Examiners are asked to annotate a script with **OF** where marks have been allocated on this basis. **OF** always makes the assumption that there are no extraneous items. Similarly, **OF** marks can be awarded where candidates make correct conclusions or inferences from their incorrect calculations.

NOTE FOR TEACHERS

Please note that this mark scheme contains very detailed information for the benefit of examiners, which is designed to guide them when deciding what are acceptable responses and what are not.

Inevitably some of this guidance for examiners recommends the acceptance of candidates' responses which are only valid in the context of this particular examination. Centres are advised that these responses should not necessarily be seen as good practice.

Assessment Objectives (AOs)

The Assessment Objectives are common to AS and A Level. The assessment units will assess the following Assessment Objectives in the context of the content and skills set out in Section 3 (Subject Content) of the specification.

AO1: Knowledge and Understanding	Demonstrate knowledge and understanding of accounting principles, concepts and techniques.
AO2: Application	Select and apply knowledge and understanding of accounting principles, concepts and techniques to familiar and unfamiliar situations.
AO3: Analysis and Evaluation	Order, interpret and analyse accounting information in an appropriate format. Evaluate accounting information, taking into consideration internal and external factors to make reasoned judgements, decisions and recommendations, and assess alternative courses of action using an appropriate form and style of writing.
Quality of Written Communication (QWC)	In GCE specifications which require candidates to produce written material in English, candidates must: ensure that text is legible and that spelling, punctuation and grammar are accurate so that meaning is clear • select and use a form and style of writing appropriate to purpose and to complex subject matter • organise information clearly and coherently, using specialist vocabulary when appropriate. In this specification, QWC will be assessed in all units. On each paper, two of the marks for prose answers will be allocated to 'quality of written communication', and two of the marks for numerical answers will be allocated to 'quality of presentation'. The sub questions concerned will be identified on the question papers.

Task 1**Total for this task: 21 marks****0 1**

Prepare the manufacturing account for Jade Chemicals plc for the year ended 31 December 2010. (13 marks)

Manufacturing account for Jade Chemicals plc for year ended 31 December 2010

	£	
Opening inventory (stock) of raw materials	47 000	
Purchases of raw materials	176 000	
Closing inventory (stock) of raw materials	<u>(42 000)</u>	
Cost of raw materials consumed	181 000	(1)
Manufacturing wages	<u>99 000</u>	
Prime cost	280 000	(10F)
Building insurance W1	40 500	(3)
Factory safety costs W2	41 000	(2)
Canteen costs W3	<u>2 400</u>	(2)
	363 900	
Opening inventory (stock) of work in progress	32 000	(1) for both
Closing inventory (stock) of work in progress	<u>37 000</u>	
Production cost of manufactured goods	<u>358 900</u>	(10F)

W1 Buildings insurance 49 000**(1)** + 5 000 **(1)** x 75% = 40 500 **(10F)**

W2 Factory safety costs 42 000 **(1)** – 1 000 **(1)** = 41 000

W3 Canteen costs 4 000 **(1)** x 60% = 2 400 **(1)**

11 marks**Quality of presentation – heading (1) and identification of prime cost (1)****Overall max 13 marks**

0	2
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Advise the management whether they should follow Nursultan's advice. Consider benefits and limitations of introducing more safety measures. (8 marks)

The proposed safety costs will more than double the annual cost (1). The management may not be keen as the increase in costs will reduce profits (1). However, costs could be cut elsewhere (1) at another factory.

If the employees feel safer in their working environment they may work more efficiently (1) and may be less likely to look for employment elsewhere (1). The employees may be worried that any extra costs will lead to the factory closure (1) and that they will all lose their jobs (1). Introducing further safety measures may enable the company to gain recognition for good practice (1).

The company would avoid any unnecessary legal claims for inadequate safety provisions (1) and will also avoid any negative publicity which could result (1). The company may have to pay training costs (1) to ensure staff are fully aware of new safety measures.

Benefits: **max 3 marks**

Limitations: **max 3 marks**

Advice: decision (1) backed up with a reasoned judgement (1)

max 8 marks

Task 2

Total for this task: 34 marks

0	3	Prepare the sales budget in sales units and sales value for periods 8-11, assuming that the new machine is purchased in period 10. (9 marks)
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Sales budget for next 4 periods

	Period 8	Period 9	Period 10	Period 11
Sales units	16 000 (1)	16 000	18 000 (1)	22 000 (1)
Sales revenue W1	£19 440 (2OF)	£19 440	W2 £21 870 (2OF)	W3 £26 730 (2OF)

Workings:

$$800 \times 20 = 16\,000$$

$$W1 (16\,000 \times 0.95 \times 1.2) = 18\,240$$

$$(16\,000 \times 0.05 \times 1.5) = 1\,200$$

$$\text{Therefore } 18\,240 \text{ (1OF)} + 1\,200 \text{ (1OF)} = 19\,440$$

$$W2 (18\,000 \times 0.95 \times 1.2) = 20\,520$$

$$(18\,000 \times 0.05 \times 1.5) = 1\,350$$

$$\text{Therefore } 20\,520 \text{ (1OF)} + 1\,350 \text{ (1OF)} = 21\,870$$

$$W3 (22\,000 \times 0.95 \times 1.2) = 25\,080$$

$$(22\,000 \times 0.05 \times 1.5) = 1\,650$$

$$\text{Therefore } 25\,080 \text{ (1OF)} + 1\,650 \text{ (1OF)} = 26\,730$$

9 marks

0 4 Prepare the production budget for each of the periods 8-11 based on the sales budget from **0 3**. (11 marks)

Production budget for the next 4 periods

	Period 8	Period 9	Period 10	Period 11
Sales	16 000	16 000	18 000	22 000 (10F) for row
Opening stock	1 280 (1)	1 280	1 440	1 760
Closing stock	<u>1 280</u> (1)	<u>1 440</u> (1)	<u>1 760</u> (1)	<u>1 760</u> (1)
Production	<u>16 000</u> (10F)	<u>16 160</u> (10F)	<u>18 320</u> (10F)	<u>22 000</u> (10F)
Shortfall		160 (1)		

11 marks

Alternative method:

Production budget for the next 4 periods

	Period 8	Period 9	Period 10	Period 11
Sales	16 000	16 000	18 000	22 000 (1) for row
Opening stock	1 280 (1)	1 280	1 440	1 760
Closing stock	<u>1 280</u> (1)	<u>1 440</u> (1)	<u>1 760</u> (1)	<u>1 760</u> (1)
Production	<u>16 000</u> (10F)	<u>16 160</u> (20F)	<u>18 320</u> (10F)	<u>22 000</u> (10F)

11 marks

0 5 Calculate the payback of the new machine in periods of production time if it is purchased at the start of period 10. (7 marks)

Period 10 $(18\,000 \times 0.95 \times 1.2) = 20\,520$ (1)

$(18\,000 \times 0.05 \times 1.5) = 1\,350$ (1)

$(18\,320 \times 0.85) = 15\,572$ (1)

Therefore $20\,520 + 1\,350 - 15\,572 = \text{£}6\,298$

Period 11 $(22\,000 \times 0.95 \times 1.2) = 25\,080$ (1)

$(22\,000 \times 0.05 \times 1.5) = 1\,650$ (1)

$(22\,000 \times 0.85) = 18\,700$ (1OF)

Therefore $25\,080 + 1\,650 - 18\,700 = \text{£}8\,030$

$\text{£}54\,478 - \text{£}6\,298 = \text{£}48\,180$

$\text{£}48\,180 / 8\,030 = 6$

Therefore the payback is 7 periods (1OF)

max 7 marks

0 6 Advise Amir whether he should purchase the new machine. (7 marks)

If Amir buys the machine the cost of purchase will be covered within a relatively short time of 7 periods, i.e. less than a year (1). The business has already covered its fixed costs as it has broken even (1). After this point any contribution made will be profit (1). There will be an improved cash flow (1).

However, will any of the staff be resistant to the training for the new machine (1)? Will any of the staff leave as their income has been reduced as overtime is no longer available (1)? Will demand be met without the overtime (1)? Can the increase in demand be guaranteed to continue or was it temporary (1)?

Advice: Giving a final recommendation (1) with justification

6 marks

Quality of written communication: **plus 1 mark**

Task 3**Total for this task**

“The idea behind this method of costing is that it is the **cause** of a cost which is important, not whether it is fixed or variable.”

0 7 Identify the costing method described in the quotation. (1 mark)

Activity Based Costing **(1)**.

1 mark

0 8 Explain the advantages of a costing method that is focused on the cause of a cost. (5 marks)

- 1 It charges each product with its use of an activity **(1)**, so costs can be controlled **(1)**.
i.e. reduce the activity, reduce the cost leading to increased profits (1).
- 2 Avoids apportioning overheads using a basis that is not relevant **(1)**, eg using machine hours for administration costs **(1)**.
- 3 It considers that batch sizes affect costs **(1)** which is ignored in absorption costing as a small batch may have expensive set up costs **(1)**.
- 4 As costs are more objectively assessed, selling price is likely to be more accurate (1).

4 marks

For quality of written communication: **plus 1 mark**

Task 4**Total for this task: 29 marks****0 9**

Calculate the change between actual contribution **per unit** of Product B and budgeted contribution per unit, assuming that there has been no change in the selling price per unit. (6 marks)

Contribution per unit of Product B is

	£	
Selling price (229 500 / 2 700)	85.00	(1)
Direct materials (173 259 / 2 700)	64.17	(1)
Direct labour (56 700 / 2 700)	21.00	(1)
Actual negative contribution per unit	(0.17)	(10F)

Budgeted contribution $\text{£}10\,800 / 2\,700 = \text{£}4$ **(1)**Change in contribution is $4 - 0.17 = \text{£}4.17$ **(10F)** drop in contribution

Alternatively:

$$\begin{array}{r}
 229\,500 \text{ (1)} \\
 (173\,259) \text{ (1)} \\
 \hline
 \underline{(56\,700)} \text{ (1)} \\
 (459) \text{ divide } 2700 = (0.17) \text{ (10F)}
 \end{array}$$

$$\begin{array}{r}
 \underline{10\,000 + 459} = \text{£}41.7 \\
 2700
 \end{array}$$

6 marks

1 0 Define the term variance. (2 marks)

A variance is the difference between budgeted costs and revenues and actual costs and revenues **(2)**.

2 marks

1 1 Calculate the material price and material usage sub variances for Product B. (6 marks)

Material price AQ (AP – SP)	=	9 315 (18.6 – 18) (1)
	=	£5 589 (1 OF) ADV (1)
Material usage SP (AQ – SQ)	=	18 (9 315 – 9 450) (1)
	=	£2 430 (1 OF) FAV (1)

6 marks

1 2 Calculate the labour rate and labour efficiency sub variances for Product B. (6 marks)

Labour rate AH (AR-SR)	=	3 780 (15 – 12) (1)
	=	£11 340 (1 OF) ADV (1)
Labour efficiency SR (AH-SH)	=	12 (3 780 – 4 050) (1)
	=	£3 240 (1 OF) FAV (1)

6 marks

- 1 3** Explain whether Xui was correct to be concerned that profit will not be as good as in previous years due solely to an increase in labour costs. Advise him whether production of both products should continue. (9 marks)

Xui was correct to be concerned **(1)**.

1 mark

Product B has a large adverse labour rate variance due to an increase in the labour rate per hour which leads to a small improvement in labour efficiency **(1)**. The net effect of the labour variances is a reduction in profit of £8 100 **(1OF)**. There is also a favourable material usage with a smaller adverse material price variance. Although, again, the net effect of the material variances is another reduction in profit of £3 159 **(1OF)**. **(1)** However the net effect of all variances for Product B is a decrease in profit of £11 259 **(1)** to a negative contribution of £459 **(1)** (2700 x 17p). The contribution per unit has dropped significantly and is now negative **(1)**.

max 3 marks

Product A has an even larger adverse labour rate variance which suggests an increase in the labour rate per hour, but there is also an improvement in the labour efficiency **(1)**. The net effect of the labour variances is a significant reduction in profit of £17 100 **(1)**. The material usage variance is also favourable but the material price is a smaller adverse variance **(1)**. Here, however, the net effect of the material variances is an increase in profit of £3 090 **(1)**. However the net effect of all the variances for Product A is an adverse variance of £14 010 **(1)** which reduces profit **(1)** and contribution per unit has dropped from £5.50 to £0.31 **(1)**. The majority of the net adverse effect on profit is from the increase in labour rate **(1)**.

max 3 marks

Advice (0-2) marks

Xui should investigate ways of reducing adverse variances for both products in an attempt to increase contribution per unit and raise profit. If this cannot be done then Xui should stop production of product B which has a negative contribution per unit. If production on product B was stopped, Xui would need to consider the financial problems which would arise from having a workforce which might be made redundant or which might need retraining in order to be used on Product A. However, Xui should also consider non-financial effects of his decision - eg do his customers only buy Product A along with Product B etc, in which case Product B could be a loss leader.

max 2 marks