



General Certificate of Education

Accounting ACCN4

Unit 4 Further Aspects of Management Accounting

Mark Scheme

2010 examination - January series

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 any 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.

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Set and published by the Assessment and Qualifications Alliance.

January 2010

ACCN4

MARK SCHEME**INSTRUCTIONS TO EXAMINERS**

You should remember that your marking standards should reflect the levels of performance of Advanced Level candidates, mainly 18 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.

1

Total for this question: 21 marks

The production manager of Matt Daniels Ltd is considering the purchase of either machine Heath or machine Field.

The following information is available.

	Heath	Field
Purchase price	£169 000	£250 000
Annual production (units)	13 000	18 000
Expected life	8 years	12 years

Each unit of production has a selling price of £6 and costs £4 to manufacture.

Machine Field needs specialised maintenance at an annual cost of £3000.

Matt Daniels Ltd is experiencing cash flow problems.

- (a) Calculate the payback period for each machine.

Heath (6-4) x 13 000 = £26 000 (1) annual net cash flow

Field (6-4) x 18 000 = 36 000 (1) – 3000 (1) = £33 000 (1) annual net cash flow

Payback

Heath: 6 years and $13/26 \times 12$ months = 6 years (1) and 6 months (1)

Field: 7 years and $19/33 \times 12$ months = 7 years (1) and 6.9 months (1)

Accept answers in alternative styles, eg years and days, years and weeks.

8 marks

- (b) Advise the production manager of Matt Daniels Ltd which machine should be purchased. Justify your recommendation.

Machine Heath should be purchased (1) as it has a quicker payback period in that the machine covers its initial cost after 6 years and 6 months (1). However, the machine only lasts for another 1.5 years (1) after this date.

The total net cash flow for the machine Heath over its life is £26 000 x 8 = £208 000 (2), whereas the total net cash flow for machine Field is £33 000 x 12 = £396 000 (2). The net cash flow for Field is much more (1) and the machine is expected to last longer (1).

Machine Field is also expected to last longer after its payback (another 4.5 years) (1). However, this machine costs much more to purchase (1) and if finance has to be used then the annual net cash flows may be adversely affected by interest payments (1). The specialised maintenance costs may increase over the life of the machine and this must be considered within the costing (1).

Perhaps a better method of assessing the machines is to use the net present value method of capital investment appraisal (1).

Max 11 marks

Recommendation based on above comments and calculations in (a) (2 marks).

Overall max 13 marks

2**Total for this question: 16 marks**

Hall Ltd manufactures a single product.

The budgeted costs per unit were:

	£
Direct materials (£8 per kilo)	16
Direct labour (£15 per hour)	45

Production for February was expected to be 4000 units.

The actual costs for February were:

	£
Materials (5000 kilos)	60 000
Labour (9250 hours)	157 250

Actual production in February was 3700 units.

- (a) Calculate the material price and material usage sub-variances.

Material price

$$5\ 000\ (8 - 60\ 000/8\ 000)\ (1) = \text{£}20\ 000\ (1)\ \text{ADV}\ (1)$$

Material usage

$$8\ (5\ 000 - (2 \times 3\ 700))\ (1) = \text{£}19\ 200\ (1)\ \text{FAV}\ (1)$$

6 marks

- (b) Calculate the labour rate and labour efficiency sub-variances.

Labour rate

$$9250\ (15 - 157\ 250/9250)\ (1) = \text{£}18\ 500\ (1)\ \text{ADV}\ (1)$$

Labour efficiency

$$15\ (9\ 250 - (3 \times 3\ 700))\ (1) = \text{£}27\ 750\ (1)\ \text{FAV}\ (1)$$

6 marks

- (c) Prepare a statement reconciling the budgeted costs with the actual costs for February.

	£	
Budgeted total costs (61 x 3700) =	225 700	(1)
Material price – adv	20 000	
Material usage – fav	(19 200)	(1OF) for both material variances
Labour rate – adv	18 500	
Labour efficiency – fav	(27 750)	(1) for both labour variances
Actual total costs	<u>217 250</u>	(1)

4 marks

3**Total for this question: 18 marks**

Giorgi Gates Ltd manufactures wooden gates.

The direct labour cost per gate is 1½ hours at £7.20 per hour.

Budgeted production of gates for the year ending 31 March 2011 is to be as follows:

	1 April to 31 October	November	December	January	February	March
Gates per month	1000	800	200	200	800	1000

The following budgeted information is available for the year ending 31 March 2011.

	£
Stock (Inventories) at 1 April 2010	
Raw materials	12 500
Work in progress	16 000
Finished goods	23 000
Administration expenses	65 400
Factory overheads	151 900
Purchases of raw materials	360 000
Sales	924 000
Selling and distribution costs	62 000

Additional information

(1) At 31 March 2011, stock (inventories) is expected to be:

	£
Raw materials	17 400
Work in progress	18 000
Finished goods	39 000

(2) One quarter of the budgeted administration expenses are to be apportioned to the factory.

- (a) Prepare a quarterly direct labour budget for the year ending 31 March 2011.

Labour budget

	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar
Units	3000 (1)	3000 (1)	2000 (1)	2000 (1)
Hours	4500 (1OF)	4500 (1OF)	3000 (1OF)	3000 (1OF)

8 marks

- (b) Prepare the budgeted manufacturing account for the year ending 31 March 2011, showing clearly the prime cost.

Budgeted Manufacturing Account for Giorgi Gates for the year ending 31 March

	£	
Opening stock (inventories) of raw materials	12 500	(1) for both stocks
Purchases of raw materials	360 000	(1)
Closing stock (inventories) of raw materials	<u>(17 400)</u>	
Cost of raw materials	355 100	
Direct labour (15 000 x £7.20)	<u>108 000</u>	(1)
Prime cost	463 100	(1OF)
Administration (1/4)	16 350	(1)
Factory overheads	<u>151 900</u>	*(1)
	631 350	*
Opening work in progress	16 000	(1) for both stocks
Closing work in progress	<u>(18 000)</u>	
Budgeted production cost of manufacture	<u>629 350</u>	(1OF)

8 marks

QWC: Heading and identifying prime cost (2 marks)
Overall max 10 marks

4

Total for this question: 35 marks

Pot Proud Ltd manufactures ornamental garden pots in three different sizes: 20 cm, 40cm and 60cm diameters.

The financial director believes that profit is not being maximised. The company is operating at full capacity by manufacturing 12 000 pots of each size. He believes that they are overstocked at the year end as production exceeds demand.

The following information is available for the year ending 31 March 2011.

	Pot sizes		
	20cm	40cm	60cm
Demand for pots (in units)	8000	2000	10 000
Direct labour time per pot	30 minutes	45 minutes	60 minutes
Direct materials per pot	2 metres	4 metres	6 metres

Additional information

- (1) The selling price is to be set at marginal cost plus 50% mark-up.
- (2) Raw materials cost £5 per metre.
- (3) Direct labour is paid at £8 per hour. There are 13 500 direct labour hours available.

- (a) Calculate the optimum production that would maximise profits.

	20cm		40cm		60cm	
	£		£		£	
Selling price	21	(1OF)	39	(1OF)	57	(1OF)
Direct labour	4		6		8	
Direct materials	10	(1)	20	(1)	30	(1)
Contribution	7		13		19	
Contribution per labour hour	14	(1OF)	17.33	(1OF)	19	(1OF)

	Demand	Hours	Units produced
60cm	10 000	10 000	10 000 (2 or 1 OF*)
40cm	2 000	1 500	2 000 (2 or 1 OF*)
20cm	8 000	2 000	4 000 (2 or 1 OF*)

OF* = if incorrect number of units calculated but order is based on contribution per labour hour.

15 marks

The financial director is considering changing the method of calculating the selling price to being based on Activity Based Costing (ABC).

- (b) Currently, overheads are not considered when setting the selling price. Explain the difference between ABC and marginal costing. Make a recommendation to the financial director on whether he should change the method of calculating the selling price.

Marginal costing calculates direct cost per unit (1), ignoring fixed overheads (1). It does not ensure full cost recovery (1). The mark-up percentage for the selling price will be higher than ABC or absorption costing (1). It is useful for decision making as it calculates the contribution per unit (1) and break even (1). Max 3 marks

In ABC the costs are seen as created by cost drivers (1), ie what causes changes in the overheads, eg production set-ups (1). ABC is believed to be more accurate than absorption costing which has a more arbitrary approach (1). ABC ensures full cost recovery as it includes overheads (1) so the mark-up percentage will be smaller than that for marginal costing (1). Max 3 marks

Recommendation based on above comments (2 marks)
Overall max 8 marks

During April 2009, forty 60cm pots had been returned by customers because they were cracked. It was discovered that there was a fault in the casting process. The total cost of the repairs would be financed by a bank loan of £70 000 at 8% interest per annum.

A competitor is willing to supply Pot Proud Ltd with the pots at a cost of £9600 per 200 pots.

The factory is not able to work at full capacity without the repairs to the casting process and as a result 35% of the workforce would have to be made redundant.

- (c) Discuss whether the casting process should be repaired or whether the pots should be purchased from the competitor. Include a financial analysis of each option and any other relevant information which should be considered.

Points covered may include:

The annual interest will be £5600 (1) which will reduce profitability (1).

The other company is charging a cost of £48 per pot which will reduce contribution (1) to £9 per pot (£57 - £48) (1).

However, contribution is still positive (1).

There may also be concerns as to the quality (1) and reliability (1) of the other supplier, plus as a competitor it may increase its market share (1).

There might be an adverse effect on the company's reputation if significant redundancies were made (1). The cost of these redundancies may be considerable (1).

There may be a reduction in morale for the remaining staff (1), as well as lost skills (1).

8 marks

Recommendation based on above comments (2 marks for recommendation)
Max 10 marks

QWC- for using good English, spelling, punctuation and grammar (2 marks)
Overall max 12 marks