



General Certificate of Education

Accounting

ACCN4

Unit 4 Further Aspects of Management

Accounting

Mark Scheme

Specimen mark scheme for examinations in June 2010 onwards
This mark scheme uses the [new numbering system](#)

The specimen assessment materials are provided to give centres a reasonable idea of the general shape and character of the planned question papers and mark schemes in advance of the first operational examinations.

Further copies of this Mark Scheme are available to download from the AQA Website: www.aqa.org.uk

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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.

Task 1**Total for this task: 20 marks**

Handley Ltd manufacture golf club bags. The accountant has calculated the following sub-variances for the year ended 31 March 2007.

	£
Materials price variance	1400 adverse
Materials usage variance	2600 favourable
Labour rate variance	750 adverse
Labour efficiency variance	600 favourable

Budgeted profit for the year was £123 450.

REQUIRED

0 | 1 Calculate the actual profit for the year ended 31 March 2007.

	£		
Budgeted profit	123 450	(1)	
Materials price variance	(1 400)	(1)	correct treatment of
Material usage variance	2 600		each pair of variances
Labour rate variance	(750)		
Labour efficiency variance	600		
	<u>124 500</u>	(1)	

4 marks

0 | 2 Discuss possible reasons for **each** of the four sub-variances and identify **one** sub-Variance which you believe the managers of Handley Ltd should investigate. Give a reason for your choice.

Material price: adverse variance implies more paid for material (1) no discount as expected (1) changed to more expensive supplier (1) or purchased material of a superior quality (1).
max 2 marks

Material usage: favourable variance implies used fewer materials (1) perhaps due to superior quality material (1) or more skilled workforce (1) with no machine breakdowns or waste (1).
max 2 marks

Labour rate: adverse variance implies more paid for workforce (1) perhaps as more skilled (1) or as a result of trade union activity (1).
max 2 marks

Labour efficiency: favourable variance implies more productive (1) as perhaps more skilled (1), less machine breakdown (1) or superior quality material (1).

max 2 marks

Up to two marks for a justified identification clearly based on analysis and evaluation of the reasons given

Handley Ltd should investigate all the variances, as being the differences between budgeted expectations and actual results. (1)

However special attention should be given to the adverse variances (1) (materials price + labour rate) as they reduce profit (1) max 2 marks

Quality of written communication (QWC)

for using good English – spelling, punctuation, grammar.

0-2 marks

Overall max 12 marks

0 3 Discuss any possible actions which the managers of Handley Ltd could take to Investigate the sub-variance identified in Question 1(b).

Up to four marks for specific information about the actions given, including an analysis of the situation.

The adverse variances, namely the material price and the labour rate variances, reduced budgeted profit. They could:

- **investigate whether they could change supplier (1) or if their current supplier will give them a discount for bulk purchasing, trade or cash discounts (1), or whether they can use cheaper material of a lower quality (1)**
- **investigate whether they could employ cheaper, lower skilled labour (1) and train them without such large pay rises (1) or negotiate with cheaper part time staff (1).**

The favourable variances, namely the material usage and labour efficiency variances, improved budgeted profit. They could:

- **investigate whether better quality materials were used (1), perhaps from a new supplier (1), or whether the machinery was more efficient and so wasted less(1), perhaps it was recently purchased (1)**
- **investigate whether the workers had more skills and were more efficient (1), perhaps there are more skilled workers available in the market (1).**

These favourable variances may mean that the budgets have to be adjusted.

Overall max 4 marks

Task 2**Total for this task: 18 marks**

The directors of Beard Bakeries Ltd have decided to replace one of the blending machines. The following information relates to two possible replacement machines.

	Machine A	Machine B
Cost	£30 000	£80 000
Annual production	12 000 cakes	15 000 cakes
Cost per cake	£1.50	£1.00
Expected life of machine	2 years	3 years

Additional information

- (1) The cost of capital is 10%.
- (2) It is assumed that revenues and costs are paid at the end of each year.
- (3) Each cake is expected to sell for £3.00.
- (4) It is assumed that everything produced is sold.
- (5) The following is an extract from the net present values table for £1:

	10%
Year 1	0.909
Year 2	0.826
Year 3	0.751

REQUIRED

0 4 Calculate the expected total net cash flow for the life of **each** of the machines.

Machine A		Machine B	
Inflow (1.50 x 12 000) x 2	= £36 000 (2)	Inflow (2 x 15 000) x 3	= £90 000 (2)
Outflow	= <u>£30 000</u> (1)	Outflow	= <u>£80 000</u> (1)
Net cash flow	= <u>£6 000</u> (1)	Net cash flow	= <u>£10 000</u> (1) OF

8 marks

0 5 Calculate the net present value for **each** machine, using the expected annual net cash flows.

			Machine A	Machine B
Year 0	30 000/ 80 000	x 1	(30 000)	(80 000)
Year 1	18 000/ 30 000	x 0.909	16 362 (1)	27 270 (1)
Year 2	18 000/ 30 000	x 0.826	14 868 (1)	24 780 (1)
Year 3	- / 30 000	x 0.751	-	<u>22 530</u> (1)
		N.P.V (1)	<u>1 230</u> (1)OF	<u>(5 420)</u> (1)OF

8 marks

0 6 Identify which machine Beard Bakeries Ltd should purchase. Give a reason for your choice.

Machine A (1) as it has a positive net present value.(1)

2 marks

Task 3**Total for this task: 11 marks**

Rist Ltd manufactures two products, JHB1 and JJH2.

The following information is available.

	JHB1	JJH2
Selling price per unit	£50	£50
Labour hours per unit at £8 per hour	4 hours	2 hours
Materials per unit at £4 per metre	2 metres	4 metres
Expected demand	15 000 units	20 000 units

Unfortunately, due to a machine breakdown, there are only 80 000 labour hours available.

Annual fixed costs are expected to be £420 000.

REQUIRED

0 | 7 Prepare the optimum production plan that would maximise profits.

	JHB1	JJH2
Contribution per unit	50 – (32 + 8) = £10	50 – (16 + 16) = £18
Contribution per limiting factor	10/ 4 = £2.50 per hour (1)OF	18/2 = £9 per hour (1)OF

Max production of JJH2

Optimum production plan

	JHB1	JJH2
Units	10 000 (1)OF	20 000 (1)OF
Hours	40 000	40 000

4 marks

Any shortfall in the production of either product could be purchased from another supplier at a cost of:

Product JHB1	£45 each
Product JJH2	£40 each

0 | 8 Explain whether any shortfall should be purchased from this supplier.

Yes, the shortfall in stock should be bought in as they still give a positive contribution (2); product JHB1 gives £5 each and product JJH2 gives £10 each. 2 marks

0 9 Calculate the total profit if the optimum production plan is used and if any shortfall is purchased.

		£
JHB1	10 000 units at contribution of £10	100 000 (1)OF
JJH2	20 000 units at contribution of £18	360 000 (1)OF
Shortfall in production	5 000 units at contribution of £5	<u>25 000 (1)OF</u>
Total contribution		485 000
Fixed costs		<u>(420 000) (1)</u>
Profit		<u>65 000 (1)OF</u>

5 marks

Task 4

Total for this task: 41 marks

On 31 December 2006 the following balances were extracted from the books of account of Osborne Melbourne Ltd, a manufacturer of electrical hedge cutters.

		£
Direct factory wages		390 500
Factory canteen expenses		37 150
Factory machinery at cost		720 000
Machine maintenance		12 000
Machine set-up costs		40 000
Purchase of raw materials		188 360
Royalties		10 080
Stocks at 1 January 2006 - raw materials at cost		48 560
- work in progress at cost		28 420

Additional information

(1) Stocks at 31 December 2006 - raw materials at cost	50 120
- work in progress at cost	31 400

(2) The factory machinery is depreciated at 2% per annum, using the straight-line method.

(3) At 31 December 2006 the company owed wages to its factory workers of £9500.

(4) The factory canteen costs had been prepaid by £1150.

(5) During the year 30 000 hedge cutters had been produced.

REQUIRED

- 1 0** Prepare a manufacturing account for Osborne Melbourne Ltd for the year ended 31 December 2006.

Manufacturing account for Osborne Melbourne Ltd for year ended 31 December 2007

	£
Opening stock of raw materials	48 560 (1)both
Purchases of raw materials	188 360 stocks
Closing stock of raw materials	<u>(50 120)</u>
Cost of raw materials	186 800
Direct factory wages	400 000 (2)
Royalties	<u>10 080 (1)</u>
Prime cost	596 880
Machine maintenance	12 000
Machine set-up costs	40 000
Factory canteen expenses	36 000 (2)
Factory depreciation	<u>14 400 (2)</u>
	699 280
Opening work in progress	28 420 (1) both
Closing work in progress	<u>(31 400) stocks</u>
Manufacture cost	<u>696 300 (1)OF</u>

9 marks

Quality of presentation (QWC)

For the manufacturing account clearly laid out and using a correct heading 1 mark

Overall max 10 marks

- 1 1** Calculate the manufacturing cost per hedge cutter.

$$\frac{696\,300}{30\,000 (1)} = \text{£}23.21(1)\text{OF}$$

2 marks

Osborne Melbourne Ltd has two production departments: Machining and Assembly. It also has two service departments: Maintenance and the Canteen.

The following information is available for the year ended 31 December 2006.

	Machining	Assembly	Maintenance	Canteen
Area (M2)	6 000	20 000	2 000	1 000
Machine net book value	£200 000	£400 000	-	-
Machine hours	30 000	60 000	-	-
Labour hours	40 000	12 000	-	-
Number of employees	160	300	100	50
Number of machine set-ups	12	8	-	-
Number of machines	6	8	-	-

The overheads of the service departments are allocated to the production departments on the following bases.

	Maintenance	Canteen
Machining	20%	60%
Assembly	80%	30%
Maintenance	-	10%

REQUIRED

- 1 | 2** Prepare a statement to show the total overheads allocated and apportioned to **each** of the two production departments. Identify the bases used.

Statement of overhead allocation and apportionment

Overhead	Bases	Machining	Assembly	Maintenance	Canteen
Maintenance	mach hours(1)	4 000	8 000	-	-*
Set-up costs	set ups (1)	24 000	16 000	-	-*
Canteen	no of empl(1)	9 000	18 000	6 000	3 000*
Depreciation	mach nbv(1)	<u>4 800</u>	<u>9 600</u>	<u>-</u>	<u>-*</u>
		41 800	51 600	6 000	3 000
Canteen		1 800	900	300	(3 000)*
Maintenance		<u>1 260</u>	<u>5 040</u>	<u>(6300)</u>	<u>-*</u>
		44 860 (1)OF	57 540(1)OF	-	-

*(1) each row
12 marks

Quality of presentation (QWC)

For the statement clearly laid out using columnar format

1 mark

Overall max 13 marks

-
- 1 3** Calculate the overhead absorption rates for **each** of the two production departments. Identify the bases used. Give a reason for each choice.

Machining $\frac{44\ 860\ (1)\ OF}{40\ 000\ (1)} = \text{£ } 1.12 \text{ per labour hour as labour intensive (1)}$

Assembly $\frac{57\ 540\ (1)\ OF}{60\ 000\ (1)} = \text{£ } 0.96 \text{ per machine hour as machine intensive (1)}$

6 marks

The financial director of Osborne Melbourne Ltd is considering changing the method of overhead allocation to activity based costing (ABC) instead of absorption costing.

REQUIRED

- 1 4** Discuss **two** possible reasons for changing the method of overhead allocation from absorption costing to activity based costing (ABC). In your discussion assess whether the financial director should change methods.

Up to four marks for specific information about the two methods.

Absorption costing uses absorption bases to charge overheads to products, however, in modern manufacturing overheads have grown in importance but direct labour costs may be small, therefore difficult to justify the use of either direct labour or direct materials as a basis for absorbing overheads (2).

Absorption costing is useful when producing only a narrow range of products (1) and when overhead costs account for a very small fraction of the total costs (1).

ABC uses cost drivers, which are activities that create overhead costs. There is a greater use of non-volume related support activities, such as setting up costs,(1) which vary not with the level of production but with the range and complexity of the products manufactured (1).

max 4 marks

Up to two marks for a justified assessment based on analysis and evaluation of the methods

Osborne Melbourne Ltd should reconsider the introduction of ABC as a costing method (1) because:

- The business does not have a range of products and only produces hedge cutters. (1)**
- Production overheads are not high in relation to direct costs, especially direct labour. (1)**

The introduction of ABC will not necessarily result in an increase in the organisation's overall profitability, so has limited use. (1)

max 2 marks

Overall max 6 marks

1 | 5 Explain the term 'cost drivers'.

Cost drivers create or "drive" an overhead (1). Without them it is assumed that the overhead would not happen (1). **max 1 mark**

1 | 6 Identify the cost drivers for **each** of the following overheads:
factory canteen expenses
factory machine maintenance
factory machine set-up costs.

Factory canteen expenses: the number of employees (1)

Factory machine maintenance: machine hours (1)

Factory machine set-up costs: the number of machines set-ups. (1)

3 marks