



**General Certificate of Education (A-level)
June 2013**

Accounting

ACCN4

(Specification 2120)

**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 any amendments made at the standardisation events which all examiners participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for standardisation each examiner analyses a number of students' scripts: alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, examiners encounter unusual answers that have not been raised 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 students' 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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MARK SCHEME

INSTRUCTIONS TO EXAMINERS

You should remember that your marking standards should reflect the levels of performance of students, 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 students 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 student'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 student'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, students may set out their accounts in either a vertical or horizontal format. Both methods are acceptable.

Own Figure Rule

In cases where students are required to make calculations, arithmetic errors can be made so that the final or intermediate stages are incorrect. To avoid a student being penalised repeatedly for an initial error, students 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 students make correct conclusions or inferences from their incorrect calculations.

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)	<p>In GCE specifications that require students to produce written material in English, students must:</p> <ul style="list-style-type: none"> • 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. <p>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.</p>

Task 1

Total for this task: 32 marks

01 Calculate the Overhead Absorption Rate (OAR) for each production department, stating the bases used and why. (16 marks)

	Basis	Cutting £	Assembly £	Canteen £	Maintenance £
Assembly department repairs *			101 250(1)		
Cutting department repairs		36 000 (1)			
Rent *	Floor area (1)	294 000	1 029 000	49 000	98 000 (1) for row
Staff costs	Number of employees (1)	250 000	750 000	50 000	150 000 (1) for row
Machine depreciation	Machine nbv (1)	345 000	920 000	23 000	92 000 (1) for row
		925 000	2 800 250	122 000	340 000
Maintenance **	50/40/10	170 000	136 000	34 000	-340 000 (1) OF for row
Canteen **	25/75	39 000	117 000	156 000	0 (1) OF for row
		1 134 000 (1) OF	3 053 250 (1) OF	0	0

* (1) for row

** (1) OF for row

OAR for Cutting department is £1 134 000/47 250 = £24 (1) OF per machine hour as machine intensive (1).

OAR for Assembly department is £3 053 250/44 250 = £69 (1) OF per labour hour as labour intensive (1).

16 marks

02 Calculate the budgeted selling price of each type of rug. (12 marks)

	Plain £	Patterned £
Materials	60.00 (1)	66.00 (1)
Labour	10.50 (1)	14.00 (1)
Cutting department £24 per hour	28.00 (1) OF	28.00 (1) OF
Assembly department £69 per hour	57.50 (1) OF	92.00 (1) OF
Full production cost	156.00	200.00
Selling price	218.40 (2) CF or (1) OF	280.00 (2) CF or (1) OF

12 marks

03 Explain **two** benefits to Peishan Ltd of using Activity Based Costing to calculate the selling price. (4 marks)

ABC avoids apportioning overheads using a basis which may not be relevant (1), eg machine hours for staff costs (1).

ABC is more objective/less arbitrary (1).

Batch sizes influence costs which is ignored by absorption costing (1), eg set-up costs are more expensive for small production runs (1).

ABC therefore may be seen as more accurate in setting costs (1) and so gives a more accurate selling price (1).

ABC looks at cause of cost (cost drivers) (1) rather than level of output (1) which aids decision making (1) and give more accurate selling price (1).

More accurate reflection of costs (1) leads to more accurate pricing strategy (1).

Where overheads are more complex in nature (1), ABC is more accurate when calculating selling price (1).

Max 4 marks

Task 2

Total for this task: 27 marks

04 Prepare a budgeted manufacturing account for Peishan Ltd for periods 1–3. (Separate figures for each period are **not** required). (12 marks)
(includes 1 mark for quality of presentation)

Budgeted Manufacturing Account for Peishan Ltd for periods 1-3

	£	
Opening inventory of raw materials W1	312 000	(1)
Purchases of raw materials W2	2 556 000	(4)
Closing inventory of raw materials W3	330 000	(1)
Cost of raw materials consumed must be labelled	2 538 000	(1) OF
Direct labour W4	498 750	(2)
Prime cost	3 036 750	(1) OF
Factory overheads	4 187 250	
Production cost	7 224 000	(1) OF

W1

$15\,600 \times £20 = £312\,000$

W2

Plain $(6500 \times 3) \times 3 \text{ metres} \times £20 = £1\,170\,000$ **(1) OF**

(1)

Patterned $(7000 \times 3) \times (3.3 \text{ metres} \times £20) = £1\,386\,000$ **(1) OF**

(1)

W3

$16\,500 \times £20 = £330\,000$

W4

Plain $19\,500 \times (1.5 \times £7) = £204\,750$ **(1)**

Patterned $21\,000 \times (2 \times £7) = £294\,000$ **(1)**

Alternatively if calculated for a department rather than a product: £189 000 **(1)** (cutting);
£309 750 **(1)** (assembly).

11 marks

Quality of presentation

1 mark for the following headings:

- prime cost
- production cost/cost of manufacture/etc.

Max 12 marks

05 Prepare the production budget for each of the periods 1–3, assuming that sales accrue evenly throughout the period. (9 marks)
(includes 1 mark for quality of presentation)

Production Budget for periods 1-3

	Period 1	Period 2	Period 3
	Rugs	Rugs	Rugs
Sales *	12 000	14 000	13 000
Opening inventory	5 200 (1)	5 500	5 200
Closing inventory	5 500 (1)	5 200 (1)	5 500 (1)
Production	12 300 (1) OF	13 700 (1) OF	13 300 (1) OF

*(1) mark for row

Quality of presentation (1) mark must include columns for periods and clear labelling.

9 marks

06 Explain whether Gawain is correct that efficiency will increase by using a production budget to set production levels instead of using a fixed rate of production. (6 marks)

In this instance, the original method of fixing production at a fixed amount means that 13 500 x 3 = 40 500 **(1)** (or 1 mark for stating 13 500 per period) rugs would be produced. If the production budget is used, then 39 300 **(1) OF** rugs is produced. In period 1, 1 200 fewer rugs as per the budget **(1) OF** etc.

This will reduce production costs **(1) OF**, and will increase profit **(1) OF**. Inventory will not be over produced and storage costs will be saved **(1) OF** and labour costs will be reduced in some periods **(1) OF** as labour is employed as needed. However, where production is greater than 13 500 units, overtime may be needed **(1)**.

But a production budget is only useful if there is communication and co-ordination between departments **(1)**, eg so raw materials are ordered as needed **(1)**, eg Just-in-time stock control **(1)**. Stock level capped at 5 500 units and budget may be more flexible to consider this restriction **(1)**.

Gawain is therefore correct **(1)** to believe that using a production budget instead of a fixed one is more likely to improve efficiency **(1)** as there will be less wastage of labour and resources **(1)**.

Max 6 marks

Task 3

Total for this task: 14 marks

07 Calculate the sales price and sales volume sub-variances for each type of rug. (8 marks)

Plain rugs

Price AQ (AP-SP) = 17 000 (220 - 200) = £340 000 (1) fav (1)

Volume SP (AQ-SQ) = 200 (17 000 - 19 500) = £500 000 (1) adv (1)

Patterned rugs

Price AQ (AP-SP) = 24 000 (250 - 260) = £240 000 (1) adv (1)

Volume SP (AQ-SQ) = 260 (24 000 – 21 000) = £780 000 (1) fav (1)

8 marks

08 Explain what Gawain can learn from these sales variances. (6 marks)

Gawain can identify the effect on profit of the changes in price and volume (1). Overall effect is £380 000 (1) favourable increase in profit (1) **OF**.

- the total variance for plain rugs is £160 000 adverse (1) **OF**/incorrect pricing strategy (1)
- the total variance for patterned rugs is £540 000 favourable (1) **OF**/correct pricing strategy (1)

He can see that:

Less was sold of the plain rugs (1) due to an increase in sales price (of £20) (1), however the increase in price does not cover the reduction in sales volume (of 2500) so the net effect is a decrease in budgeted profit (1); customers may have been lost to competitors due to increased price (1).

More was sold of the patterned rugs (1) due to a decrease in the sales price (of £10) (1) and more importantly, the decrease in sales price is covered by the increase in sales volume (of 3000) so the net effect is an increase in profit (1).

Gawain needs to review the budgeted sales volume which may have been set too high for the plain rugs (1) as well as reviewing the sales price for patterned rugs which may have been set too high (1).

Max 6 marks

Task 4

Total for this task: 17 marks

09 Calculate the payback period for the new machine. Assume that all production is sold and that cash flows accrue evenly throughout the year. (5 marks)

Year	Inflow	Outflow	Net flow
1	975 000 (1)	780 000 (1)	195 000 (1)
2	975 000	780 000	195 000
3	975 000	780 000	195 000
4	975 000	780 000	195 000

Inflow $(300 \times 13) \times 250 = \text{£}975\,000$

Outflows $(300 \times 13) \times 200 = \text{£}780\,000$

Alternatively: $(300 \times 13) \times (250 - 200) = \text{£}195\,000$ (3)

Payback is therefore 3 years and $15/195 \times 365 = 3$ years (1) and 28.08 days/4 weeks/0.92 months (1)/1 period (1) **OF** or 40 periods/1123.08 days/160 weeks/36.92 months (2).

5 marks

- 10** *Recommend to Rupert whether he should buy the new machine or buy the rugs in from China. Support your recommendation by considering both the financial and non-financial effects, from the viewpoint of the shareholders of Peishan Ltd.*
(12 marks)
(includes 2 marks for quality of written communication)

Possible answers include:

General comments:

Payback happens just over 3/4 through the operational life of 4 years **(1)** **OF**.
Net cash flow after 3 years and 4 weeks can be used for other purposes **(1)**, such as reinvestment into the business **(1)**.
Capital investment appraisal techniques may be inaccurate (NPV or payback) **(1)**.

- net cash inflow from buying in will be 3 900 (250 - 180) = £273 000 **(1)**
- extra 300 rugs: costs (165 + 15) x 300 = £54 000 **(1)**; revenue 250 x 300 = £75 000 **(1)**
net £21 000 **(1)**
- net cash inflow from manufacturing will be 3 900 (250 - 200) = £195 000 **(1)** x 4 = £780 000 - £600 000 = £180 000 **(1)**
- this makes financial sense as £78 000 **(1)** (£273 000 - £195 000) more net cash inflow is made from this option, however, the cost of maintenance is ignored **(1)** within the calculations for the net cash flow from manufacturing.

Negative effect on the business reputation which may affect sales:

- potential delay in shipping and delivery from China **(1)** and customers may not be willing to wait **(1)**. The standard of quality of the Chinese rugs is unknown **(1)**
- the Chinese arrangement may give the business greater flexibility than purchasing a new machine **(1)**, especially if the increased sales do not materialise **(1)**. However, the negative publicity **(1)** which could arise through the public knowledge of the pollution may adversely affect the sales of the rugs in the UK **(1)**. This may reduce the profitability and may result in pressure group activity against the company **(1)**
- source of finance of £600 000 **(1)** may have to be borrowed incurring interest **(1)**
- opportunity cost of this £600 000 is taken from resources **(1)**
- contribution per rug:
Buying in (250 - 180) = £70 **(1)** therefore £20 increase
Manufacturing (250 - 200) = £50 **(1)**.

max 6 marks

From shareholders' viewpoint

Interest on source of finance may reduce profits and therefore dividend **(1)**.
Market value of shares may be reduced due to bad publicity **(1)**.

max 2 marks

Recommendation **(1)** + justification **(1)**.

max 2 marks

2 marks for Quality of Written Communication:
2 marks for no more than 3 spelling, punctuation or grammar errors.
1 mark for no more than 4 spelling, punctuation or grammar errors.
0 marks where it is difficult to understand the prose response.

Max 2 marks

12 marks