**General Certificate of Education (A-level)
June 2012**

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 which 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.

June 2012   **ACCN4**

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.

CF: Correct figure only

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)	In GCE specifications which require students to produce written material in English, students 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: 9 marks**

> **01**   *Define the terms 'break-even point' and 'liquid funds'.*   *(2 marks)*

Break-even is the point at which no profit or loss is made **(1)** where total revenue equals total costs **(1).** Break-even is where total contribution = fixed costs **(1)**.   **Max 1 mark**

Liquid funds are accessible funds in cash form/cash and cash equivalents **(1).** They are liquid assets easily turned into cash/trade receivables, bank and cash **(1)**.   **Max 1 mark**

> **02**   *Do you agree with Justin or Seeta? Give reasons for your choice.*   *(7 marks)*

Judgement **(1)** based on any of the following relevant reasons:

Liquid funds needed to run business on day-to-day basis and shows whether the management managed the available funds properly:
* to pay suppliers for supplies of inventory
* to pay for wages and other production or running costs
* to pay for items such as purchases of non-current (fixed) assets, taxation, repayment of loans, dividends
* small limited companies have start-up costs. Funding is from the initial shareholders and the company may not be able to obtain external funding.
* problems will arise from having insufficient liquid funds
* liquid funds are necessary for the survival of the business.

1 mark for each reason plus 1 mark for each development point
          Max 6 marks

Break-even is an indication of whether the business is covering its total costs. Break-even is a management tool:
* are enough units being sold to cover costs?
* is contribution per unit enough to cover fixed costs or should variable costs be lowered or selling price raised?
* once break-even is passed profit is made, whereas below break-even a loss is made.
* sets targets which can motivate the workforce

1 mark for each reason plus 1 mark for each development point
          Max 6 marks

          Overall marks: 7 marks

Task 2   **Total for this task: 13 marks**

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03 Prepare an extract from the income statement (trading and profit and loss account) for the year ended 31 March 2012 to show the necessary adjustment to manufacturing profit to account for unrealised profit.   *(2 marks)*

Lily Jones
Extract from Income statement for year ended 31 March 2012

	£
Manufacturing profit	78 420
less: increase in provision for unrealised profit	(840) **(1)**
	77 580 **(1) CF**

2 marks

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04 Calculate the value of the inventory (stock) of finished goods held at 31 March 2012.
                                                                                      (3 marks)

Inventory at cost is £16 800 **(3)**

Workings
Inventory £12 600 x 1.2 = £15 120 **(1)**
Provision is £15 120 - £12 600 = £2 520
New provision is £2 520 + £840 = £3 360 **(1)* OF**
Inventory at cost is (£3 360 x 100/20) = £16 800 **(1)** OF**

3 marks

*mark is for adding £840 to **OF** for provision
** mark is for using **OF** for provision and using correct fraction

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05	*Prepare an extract from the balance sheet at 31 March 2012 to show how the inventory (stock) of finished goods is recorded.*	*(4 marks)*
	(includes 1 mark for quality of presentation)	

Lily Jones
Extract from Balance Sheet at 31 March 2012

	£	£
Current assets		
Inventory **W1**	20 160	**(1) OF**
Less unrealised profit	3 360	**(1) OF**
Inventory at cost	16 800	**(1) OF**

W1
£20 160 = (3 360 x 120/20) **or** (16 800 + 3 360)

Plus 1 mark for quality of presentation:
Current assets identified and correct heading used.

4 marks

06	*Explain to Lily why it is necessary to adjust for unrealised profit in the financial statements.*	*(4 marks)*

In accordance with the prudence concept/IAS2 **(1)**, inventories should be valued at the lower of cost and net realisable value **(1)**. Unrealised profit must be adjusted so inventory and profit are not overstated **(1)** and a true and fair view **(1)** is given of the value of inventory and profit.

According to the realisation concept **(1)** - profit has not yet been achieved **(1)** so cannot be included in the accounts **(1)**. This profit is not realised until the stock is sold at this price **(1)**.

Max 4 marks

Task 3   **Total for this task: 35 marks**

07	Calculate the standard selling price per steering wheel.	(6 marks)

	£	
Direct materials	26.67	**(1)**
Direct labour	91.00	**(1)**
Fixed overheads **W1**	<u>17.33</u>	**(2)**
	135.00	
x 1.40 **(1)**		
Selling Price	189.00	**(1) OF**

W1
45 000 x 13/3 = 195 000 hours
£780 000/195 000 = £4.00 **(1) OF** per hour.

£4 x 13/3 = £17.33 **(1) OF**   **6 marks**

Alternative approach

	£	
Direct materials	1 200 150	**(1)**
Direct labour	4 095 000	**(1)**
Fixed overheads	<u>780 000</u>	**(1)**
	6 075 150	
x 1.40 **(1)**		
Selling Price	8 505 210/45 000**(1)*** = 189 00	**(1) OF**

*mark is for dividing by 45 000

                                                                                            6 marks
Alternative approach

($\frac{13}{3}$ **(1)** + 1.27 **(1)**) x 21 +<u>780 000 **(1)**</u> =   4 295
                                     45 000 **(1)**

x1.4 **(1)**   =   189 **(1) OF**

08	*Calculate the direct labour rate variance.*	*(2 marks)*

275 000 (21 - 6 600 000/275 000) = £825 000 **(1)** adverse **(1)**.   **2 marks**

09	*Calculate the direct labour efficiency variance.*	*(2 marks)*

21 (275 000 - (13/3 x 54 000)) = £861 000 **(1)** adverse **(1)**.   **2 marks**

10	*Calculate the payback period (in years and months) of the purchase of the robots.* *(11 marks)*

Year	Inflow	Outflow	Net cash flow
0		8 000 000	(8 000 000) **(1)**
1	175 x 54 000 = 9 450 000 **(1)**	80 000 + 780 000 + (120 x 54 000) + 876 000 = 8 216 000 **(1)**	1 234 000
2	175 x 54 000 = 9 450 000 **(1)**	80 000 + 780 000 + (120 x 54 000) = 7 340 000 **(1)**	2 110 000
3	175 x 54 000 = 9 450 000 **(1)**	130 000 + 780 000 + (120 x 54 000) = 7 390 000 **(1)**	2 060 000
4	192 x 54 000 = 10 368 000 **(1)**	130 000 + 926 000 + (120 x 54 000) =: 7 536 000 **(1)**	2 832 000

Payback is 3 years and (2 596/2 832 x 12) = 3 years **(1) OF** and 11 months **(1) OF**

11 marks

Alternatively

Year		Net cash flow
0		(8 000 000) **(1)**
1	(175-120) x 54 000 = 2 970 000 **(1)** – (80,000 + 780 000 + 876 000) **(1)**	1 234 000
2	(175-120) x 54 000 = 2 970 000 **(1)** – (80 000 + 780 000) **(1)**	2 110 000
3	(175-120) x 54 000 = 2 970 000 **(1)** – (130 000 + 780 000) **(1)**	2 060 000
4	(192-120) x 54 000 = 3 888 000 **(1)** – (130 000 + 926 000) **(1)**	2 832 000

Payback is 3 years and (2 596/2 832 x 12) = 3 years **(1) OF** and 11 months **(1) OF**

11 marks

> ***11*** *Write a report to the directors of R H Wheels Ltd recommending whether the purchase of robots should go ahead. Make reference to both financial and non-financial considerations in your recommendation.* *(14 marks)*
> *(includes 2 marks for quality of written communication)*

Possible answers include:

- payback happens early in the operational life of 10 years **(1)**. Net cash flow after 3 years and 11 months can be used for other purposes **(1)**, such as reinvestment into the business **(1)**. Cash flow for rest of life $6\frac{1}{12}$ **(1) OF** x 2 832 000 = 17 228 000 **(1) OF**
- cost of redundancy is high **(1)**. This will negatively affect the cash flow in the short term **(1)** but more seriously will affect morale in the business **(1)** as the remaining staff may not feel secure in their work place **(1)**. Skills may be lost **(1)** and remaining staff may look elsewhere for employment **(1)** thereby reducing productivity **(1)**
- negative effect on the business reputation **(1)** which may affect sales **(1)**
- if the robots break down will the whole production shut down while they are being repaired **(1)** and so a loss in output? **(1)**
- should consider other methods of investment **(1)**
- are figures reliable as they are based on estimates? **(1)**
- how is the investment to be financed? **(1)**
- need to consider current cash flow situation **(1)**
- cost saving may improve profits which will be attractive to new shareholders **(1)**
- potential training commitments **(1)**
- payback does not consider the value of money **(1)** or cash flows after payback period **(1)**

No marks awarded for assumptions on speed, quality, levels of defective products arising from using robots instead of workforce

Max 10 marks

Recommendation: Clear recommendation **(1)** with justification (**1**).

Max 2 marks

Quality of written communication (QWC) awarded for well-structured prose responses and accurate spelling punctuation and grammar:
- for **2 marks**: The student must have no more than 2 spelling, punctuation or grammar errors. Correct report format
- for **1 mark**: The student will have more than 2 or more spelling, punctuation or grammar errors, but the meaning is clear. Acceptable report format
- for **0 marks**: The response is limited and/or difficult to understand
- a repeated spelling, punctuation or grammar error only counts as one mistake.

2 marks

14 marks

Task 4   **Total for this task: 33 marks**

> **12** *Prepare a contribution statement showing the maximum profit achievable with the limited labour hours available.*   *(13 marks)*
> *(includes 1 mark for quality of presentation)*

Available labour hours = 50 x (10 x 5 x 4) x 13 = 130 000

Labour hours required
Patterned 1 x 100 000 = 100 000
Striped 0.75 x 80 000 = 60 000
Plain 0.5 x 60 000 = 30 000

Contribution per labour hour
Patterned 42 - 30 = 12/1 = £12
Striped 36 - 24 = 12/0.75 = £16
Plain 28 - 18 = £10/0.5 = £20

Type	Rolls (£)	Hours (£)
Plain	60 000	30 000
Striped	80 000	60 000
Patterned	40 000	40 000

Contribution statement

	£	£
Plain	60 000 **(1)** x 10 **(1)**	600 000 **(1) OF**
Striped	80 000 **(1)** x 12 **(1)**	960 000 **(1) OF**
Patterned	40 000 **(1)** x 12 **(1)**	480 000 **(1) OF**
Total contribution		2 040 000 **(1) OF**
Fixed overheads		(1 800 000) **(1)**
Maximum profit		240 000 **(1) OF**

<u>Alternative statement</u>

	£
Sales	6 240 000
Less: Variable cost	(4 200 000)
Contribution	2 040 000 **(10)** OF
Fixed overhead	(1 800 000) **(1)**
Profit	240 000 **(1)**

Plus 1 mark for quality of presentation:
Total profit and contribution need to be identified

                                                                                     13 marks

| **13** | Calculate the annual profit/loss if the part-time staff are employed. | (7 marks) |

Contribution approach

	Option 1 £
Plain (1 680 000 – 1 080 000)	600 000
Striped (2 880 000 – 1 920 000)	960 000
Patterned (40 000 x 12)	480 000 **(1)* OF**
(60 000 x (42 - 18)) [4 200 000 – (1 200 000 + 1 080 000)]	1 440 000 **(1)* OF**
Part time wages **W1**	(480 000) **(3) OF**
Fixed costs	(1 800 000) **(1)**
Profit	1 200 000 **(1) OF**

7 marks

W1
Part-time staff
For 60 000 rolls of patterned wall paper need 60 000 hours.
60 000 **(1) OF** x £8 **(1)** = £480 000 **(1) OF** cost

Alternative layout

	£
Sales	8 760 000 **(1) OF**
Less: Variable cost	(5 280 000) **(1)**
Part-time wages	(480 000) **(3)**
Fixed overhead	(1 800 000) **(1)**
Profit	120 000 **(1) OF**

7 marks

See following page for other acceptable layouts

Alternative layout

Sales price   42   **(1)**

Less   DM 18 **(1)** for DM & DL

            DL   8
            ___

Unit contribution   16   **(1)**

**Original
+contribution**

Extra paper	x 60 000	**(1) OF**
Extra total contribution	960 000	**(1) OF**
Limited profit/original	240 000	**(1) OF**
Total available profit	1 200 000	**(1) OF**

7 marks

**Alternative layout
Original + sales - Vc**

	£	
Patterned additional revenue (60 000 x (42 – 18))	1 440 000	**(2) OF**
Less part-time wages (60 000) x £8	480 000	**(3) OF**
	960 000	
Add limited profit/original	240 000	**(1) OF**
Total available profit	1 200 000	**(1) OF**

7 marks

**Alternative layout
Sales total approach**

	£	
Total sales	8 760 000	**(1) OF**
Variable costs	5 280 000	**(1)**
Part time wages	(480 000)	**(3)**
Fixed costs	(1 800 000)	**(1)**
Profit	1 200 000	**(1) OF**

14   *Calculate the annual profit/loss if the deficit stock is bought in.*   *(6 marks)*

Contribution

	Option 2
Plain	600 000
Striped	960 000
Patterned (40 000 x 12)	480 000 **(1)* OF**
Deficit stock **W2**	360 000 **(4)* OF****
Fixed costs	(1 800 000)
Profit	600 000 **(1) OF**

* If optimum production plan is different to model answer then allocate marks as own figures as long as consistent with question **13**.
** These marks must be for deficit stock

W2
Deficit stock 60 000 **(1) OF** x (42 **(1)** - 36 **(1)**) = £360 000 **(1) OF** only awarded for deficit stock

Alternative approach

Contribution and original profit

60 000 x (42 – 36 = 6) =	360 000	**(4) OF**
Limited profit +	240 000	**(1) OF**
Total available profit	600 000	**(1)OF**

Alternative approach

Original profit and sales and VC

Sales	8 760 000	**(1)**
VC+	(4 200 000)	**(1)**
Deficit	(2 160 000)	**(3)***
Fixed costs	(1 800 000)	
Total available profit	600 000	**(1) OF**

*[60 000 **(1)** x 36 **(1)** = 2 160 000 **(1) OF**]   **6 marks**

> **15** *Recommend which option Stuart should use to meet total demand. Give reasons for your choice.* *(7 marks)*

Possible answers include:

- option 1 achieves a higher profit **(1)** than option 2
- in option 2 the deficit stock bought in may not be of the same quality **(1)** as those made internally and the outside supplier may not be reliable **(1)** which may lead to a loss of customers/reputation **(1)**
- option 1 full-time workers may feel threatened **(1)** by the part-time workers, who may not be as skilled or efficient **(1)** as full-time workers, which also may lead to a reduction in the quality **(1)** of the product produced.

<u>**max 5 marks**</u>

Recommendation **(1)** + reason **(1)**

<u>**7 marks**</u>