



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

Accounting

ACCN4

(Specification 2120)

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

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 candidates' 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 candidates' 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 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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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 which 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: 16 marks

01 Calculate the expected full production cost per bracelet charm. (8 marks)

Expected production cost per charm

	£	
Materials (2 + 9)	11.00	(1)
Labour (8 + 2 + 28)	38.00	(1)
Overheads W1	10.00	(5)
Total	59.00	(1) OF

W1

Casting department	16 000 hours
Polishing department	6 000 hours
Finishing department	48 000 hours
Total	70 000 hours

$240\,000 \text{ (1)} / 70\,000 \text{ (1)} = £3.4286 \times (70\,000 \text{ (1)}) / 24\,000 \text{ (1)} = £10 \text{ (1) OF}$

Alternative approach:

	£	
Materials + labour (38 (1) + 11 (1)) x 24 000 (1) =	1 176 000	(1) OF
Overheads	240 000	(1)
	1 416 000	(1) OF
	÷ 24 000	(1)
=	59	(1) OF

8 marks

02 Calculate the expected selling price per bracelet charm which is needed to achieve the target profit of £150 000. (4 marks)

$\text{Selling price} = 150\,000 \text{ (1)} / 24\,000 \text{ (1)} = 6.25 + 59 \text{ (1) OF} = 65.25 \text{ (1) OF}$

Alternative answer

$\text{Selling price} = (240\,000 \text{ (1)} + 150\,000 \text{ (1)}) / 24\,000 + 49 \text{ (1) OF} \times = £65.25 \text{ (1) OF}$

4 marks

03 Explain **two** limitations of using absorption costing.

(4 marks)

Limitations include:

- calculations based on budgeted figures **(1)** which can be inaccurate **(1)**
- the choice of basis that is used to calculate the OAR can be arbitrary **(1)** may not be relevant for all the overheads **(1)**
- new technology has led to a reduction in the use of labour hours **(1)** as a valid basis for absorption costing, yet is still used **(1)**
- if inventory levels change **(1)** this can effect profit figures as under or over absorption can occur **(1)**
- not effective as a decision making tool **(1)** for example in make or buy decision **(1)**, or does not identify contribution **(1)** which can be used to calculate the break-even point **(1)**.

2 marks per limitation - Max 4 marks

Task 2

Total for this task: 34 marks

04 Prepare a labour budget for the year ended 31 October 2012. The budget should show the labour hours, the number of employees and the annual labour costs for each department. (13 marks)
(includes 1 mark for quality of presentation)

	Casting department	Polishing department	Finishing department
Number of employees W1	8 (2)	3 (2)	24 (2)
Hours	16 000 (1)	6 000 (1)	48 000 (1)
Labour cost	£192 000 (1)	£48 000 (1)	£672 000 (1)

13 marks

Includes 1 mark for quality of presentation

W1

Number of employees

Each employee is 40 x 50 = 2000

Casting department 16 000 hours/2000 **(1)** = 8 **(1) OF**

Polishing department 6000/2000 **(1)** = 3 **(1) OF**

Finishing department 48 000/2000 **(1)** = 24 **(1) OF**

05 Explain **two** reasons why this budget would be useful to the Finance Manager of Spirit Boosters. (4 marks)

Benefits of labour budget:

- co-ordinate **(1)** between production department and human resources department on the amount of staff needed **(1)**
- control of labour hours **(1)** and production, to control costs and stock levels needed for production **(1)**
- plan **(1)** the maximum level of production with the labour hours and employees required **(1)**
- control **(1)** the amount of cash paid for labour **(1)** (£76 000 per month)
- monitoring **(1)** the labour budget against actual labour costs **(1)** and take relevant action **(1)**.

2 marks per benefit - Max 4 marks

06 Calculate the labour sub-variances for the casting department. (6 marks)

Rate

23 750 (14 - 12) (1) = £47 500 (1) adverse (1)

Efficiency

12 (23 750 - 19 000) (1) = £57 000 (1) adverse (1)

6 marks

07 Calculate the change in the target profit for the year ended 31 October 2012 after adjusting for all the labour sub-variances. (3 marks)

	£
Original profit	150 000 (1)
sub-variances	(9 500) A 19 000 F (52 250) A 66 500 F (47 500) A OF (57 000) A OF (80 750) 1 OF
Adjusted profit	69 250 (1) OF

3 marks

08 Advise the Finance Manager on the usefulness of the labour sub-variances as a means of identifying how to improve profitability. (8 marks)

Variance analysis is useful as:

- the variances show whether the difference between budgeted costs and actual costs (1) increase or decrease the budgeted profit (1). For example, the casting department variances reduce profit (1) OF by £104 500 (47 500 + 57 000) (1) OF
- the variances will alert the Finance Manager to identify which areas need investigation (1)
- for example the casting department rate variance states that £2 more was paid per hour (1) and the efficiency variance for that department states that 4750 more hours were used on the production than expected (1) so the manager knows that in order to improve profit, he could find cheaper and more efficient workers (1), with the same skills (1) or to train the workforce to be more efficient to improve productivity (1). Alternatively to investigate whether the machinery was inefficient and adversely affected the efficiency of the workers (1)
- however the usefulness of the variances depends on whether the budget was set accurately and the targets were achievable (1) and also whether there have been events outside the Finance Manager's control which created the variance, for example an increase in minimum wage (1).

Max 6 marks

1 mark for advice 1 mark for justification

Overall 8 Max

Task 3

Total for this task: 30 marks

09 Calculate the payback period of the new machine. (11 marks)

	Year 1	Year 2/3/4
	£	£
Revenue	1 760 000 (1)	1 760 000
Variable costs	1 216 000 (1)	1 216 000
Finance cost	260 000 (1)	260 000
Insurance	9 000 (1)	9 000
Maintenance	20 000 (1)	20 000
Retraining	32 000 (1)	
Redundancy	8 000 (1)	
Net cash flow	215 000 (1) OF	255 000 (1) OF

Workings

900 000 - 215 000 685 000
 685 000 - 255 000 430 000
 430 000 - 255 000 175 000
 175 000/255 000 3.69 years

Therefore payback is 3 years and 175 000/255 000 x 12/52/365
 3 years (1) and 8.24 months, 35.69 weeks, or 250.49 days (1).

11 marks

10 Calculate the net present value of the new machine. (7 marks)
(includes 1 mark for quality of presentation)

Year	Net Cash Flow	Discount Factor	Present Value	
	£		£	
0	(900 000)	1	(900 000)	(1)
1	215 000	0.870	187 050	(1) OF
2	255 000	0.756	192 780	(1) OF
3	255 000	0.658	167 790	(1) OF
4	255 000	0.572	145 860	(1) OF
		Net present value	(206 520)	(1) OF

Quality of presentation (1) for final figure identified as net present value.

11 Advise the Finance Manager on whether the new machine should be purchased.
Consider **only** financial factors. (12 marks)

Possible answers include:

- the new machine has a negative net present value **(1)** (206 530) **(1)** **OF**
- the payback is near the end of the machine's life **(1)**. There is only just over three months after payback **(1)** **OF**
- maintenance costs are also unlikely to remain at £10 000 per year and may increase as the machine gets older **(1)**
- cost of capital could have been incorrectly estimated **(1)** having a considerable impact on the results **(1)**
- labour costs are unlikely to remain static for 4 years as the workforce may demand an increase in pay **(1)**
- although the cash flow is positive **(1)** there is not enough to cover the initial cost of the investment after adjusting for discount factors **(1)**
- the redundancy may affect the morale of the rest of the workforce which affects their productivity and so reduces profit **(1)**
- some employees may be resistant to change and therefore not be as productive as expected which will reduce profit **(1)**.

Max 10 marks

Possible answers include:

The machine has a negative net present value and should therefore not be purchased **(1)** unless there is a realistic expectation that the machine may last longer than the expected four years **(1)** and so generate more cash flow so a positive net present value is achieved **(1)** (by looking at the figures this appears to be a further 2 years) **(1)**.

1 mark for advice 1 mark for justification
Overall 12 Max

Task 4

Total for this task: 10 marks

- 12** Discuss the possible implications for the business of continuing to use this second-hand machine. (10 marks)
(includes 2 marks for quality of written communication)

Possible answers include:

- possible legal action taken against the business **(1)** which could be costly **(1)**
- possible action by pressure groups **(1)** which can negatively affect sales **(1)**
- workforce may be reluctant to work for the business **(1)** despite extra pay and protective gear **(1)**
- ill health within workforce **(1)** may reduce production **(1)**
- bad reputation leading to a reduction in sales
- fumes may not cause damage **(1)** extra costs will reduce profitability unnecessarily **(1)**
- the short-term saving in buying a second hand machine may lead to long term extra costs and reduced profit **(1)**
- extra costs of £3 per **(1)** hour = *3 employees x £3 = £9 per hour **(1) OF**
- therefore £9 x 40 x 50 = £18 000 **(1) OF** extra costs which will reduce profit **(1) OF**
- continuing to use the second-hand machine avoids the cost of replacement **(1)** in the short term **(1)**.

(1) per point - Max (2) for development

Max 8 marks

includes 2 marks for quality of written communication

*This calculation is based on data from Task 2 not Task 4.

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.

Total 10 marks