Version 3.0

General Certificate of Education
June 2010

Accounting ACCN4

Unit 4:   Further Aspects of Management
            Accounting

Final

Mark Scheme

Mark schemes are prepared by the Principal Examiner and considered, together ~~~ relevant questions, by a panel of subject teachers. This mark scheme include ~~~ amendments made at the standardisation meeting attended by all examiners and is the sch ~~~ which was used by them in this examination. The standardisation meeting ensures that th ~~~ 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.

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.

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

June 2010

MARK SCHEME

INSTRUCTIONS TO EXAMINERS

You should remember that your marking standards should reflect the levels of performance of 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.

Task 1   **Total for this task: 12 ma~~~**

Norma Nails Ltd is a manufacturing company which produces bottles of nail polish.

The company policy is to transfer the bottles of polish from the manufacturing account to the income statement (trading account) at cost plus 20%.

The following information is available for the inventory (stock) of finished goods:

	at 31 March 2009 £	at 31 March 2010 £
Inventory (stock) of finished goods (at transfer value)	12 000	18 000

REQUIRED

0 1 Calculate the provision for unrealised profit at 31 March 2009.

£12 000 x   20 (1)
                 120   = £2000 (1OF)

(£2400 would be 1 mark (ie £12 000 x 20%)

2 marks

0 2 Calculate the provision for unrealised profit at 31 March 2010.

£18 000 x   20 (1)
                120   = £3000 (1OF)

(£3600 would be 1 mark (ie £18 000 x 20%)

2 marks

0 3 Describe the treatment of the unrealised profit in the financial statements [income statement (trading and profit and loss account) and balance sheet], for year ended 31 March 2010. Include any relevant calculations.

In balance sheet in current assets (1)

	£
Inventory (Stock)	**18 000**
Less provision for unrealised profit	**(3 000)**
	15 000 (1OF) based on task 01 and 02

In income statement (profit and loss account) increase in provision of £1000 (1OF) reduces (manufacturing) profit (1OF).
Accept an answer where the impact of the candidate's comment will be a reduction in profit (1).
Reduce inventory by £3000 (1OF).

Max 4 marks

0 4 Explain why it is necessary to adjust for unrealised profit in the financial statements.

Prudence concept (1) states that should not anticipate profit ie account for profit until fully realised (1) so that profit and assets are not overstated (1).
Unrealised profit may not actually be achieved (1).
IAS2 (1) states that inventory (stock) is valued at the lower of cost or net realisable value (1).
Realisation concept (1).
True and fair view (1).
Accept "would mean profits are inaccurate/wrong" (1).
Accept "profits would be over-/understated" (1).   **4 marks**

Do not accept SSAP9.
Do not accept as the only response "stocks should be valued at cost".

Task 2   **Total for this task: 35**

One of the production machines of Joscha plc needs to be replaced.

A replacement machine will cost £146 000, which is payable on purchase.

The current machine produces 5000 units a year. The replacement machine is expected to produce 25% fewer units in year 1 than the current machine, due to installation time. Output for each subsequent year will increase by 20% on the previous year's level of production.

The current production cost per unit is:

	£
Materials (4 kilos at £1.25 per kilo)	5.00
Labour (5 hours at £8 per hour)	40.00
	45.00

The replacement machine is expected to be more efficient. Wastage will be reduced so that only 3.2 kilos of material will be needed per unit and labour hours will also be reduced by 20% per unit. There are no expected changes in the price paid per kilo of material or in the labour rate paid per hour.

REQUIRED

0 5 Calculate the expected total production cost for **each** of the years 1 to 3 assuming the replacement machine is purchased.

Year 1   **3750 (1) x £36.00 (W1) = £135 000 (1)**
Year 2   **4500 (1 OF*) x £36.00 = £162 000 (1OF)**
Year 3   **5400 (1 OF*) x £36.00 = £194 400 (1OF)**

W1
Production cost
Materials   3.2 x 1.25 =   4.00
Labour   8 x 4   = 32.00
                              £36.00 (1) CF

*Accept candidate's answer for units for Year 2 and Year 3 as long as the figures equate to a 20% increase on a previous year's incorrect figure.

If candidate has given correct answers but shown no workings, award full marks.

                                                                          7 marks

It is assumed that all units produced are sold.

The selling price is currently £55. The financial director of Joscha plc believes that the selling price will have to be decreased by 20% in year 3 for the company to remain competitive.

The cost of capital is 15%.

The following is an extract from the net present value table for £1.

	15%
Year 1	0.870
Year 2	0.756
Year 3	0.658
Year 4	0.572

All revenues are received and all costs are paid at the end of each year.

REQUIRED

0 6 Calculate the net present value of the replacement machine.

Net Present Value

Year	Net cash flow £		DF	Present value £	
0	(146 000)		1.000	(146 000.00)	(1)
1	71 250	W1	0.870	61 987.50	(1OF)
2	85 500		0.756	64 638.00	(1OF)
3	43 200		0.658	28 425.60	(1OF)
			N.P.V (1)*	9051.10	(1OF)

* NPV should be heading for the whole table or given with the final result

W1 net cash flow

Year 1 (3750 x 55) = 206 250 (1OF) − 135 000 = £71 250 (1OF)
Year 2 (4500 x 55) = 247 500 (1OF) − 162 000 = £85 500 (1OF)
Year 3 (5400 x 44 (1)) = 237 600 (1OF) − 194 400 = £43 200 (1OF)

OF for sales revenue is for candidates using their own figure units (from task 05).
In year 3 the sales revenue own figure could be based on own units and own selling price.

OF for net cash flows is awarded for using own costs from task 05.

OF results must be checked for arithmetical accuracy.

OF for net present value cannot be awarded if there is an alien (usually data for year 4).

Alternative approach for workings

Year 1   3750 (£55-36)   = £71 250 (2 OF)
Year 2   4500 (£55-36)   = £85 500 (2 OF)
Year 3   5400 (£44(1) – 36)   = £43 200 (2 OF)

If candidate uses this approach but omits revenue/costs, award 1 mark for own figures for each cash inflows/outflows. In other words if revenues only maximum 4 (assuming £44 included), if costs only maximum 3.

13 marks

Quality of presentation (QWC)
For the net present value calculation clearly laid out as a table with column headings for net cash flow (but accept cash flow) and present value (but accept net present value; discounted cash flow). Accept abbreviations for column headings.   **1 mark**

Overall 14 marks

Unfortunately, it has been discovered that the replacement machine will produce chemical waste. The production manager believes that he will be able to dispose of the waste into the local river at no cost.

REQUIRED

0 7 Assess whether the replacement machine should be purchased. Consider both financial and non-financial factors.

Financial considerations:
- **machine has reduced production costs (1)**
  machine has increased output (1)
  potentially could lead to more sales and more profit (1)
- **the net present value calculation gives a positive result (1)**
  which is supportive of purchase (1)
  but is based on estimates (1) of future cash flows
  and cost of capital which may be inaccurate (1)
- **NPV should not be used in isolation – should use other techniques (1)**
  example payback (1)
  payback is 1 year 320 days or equivalent (1)OF (do not accept rounding down – ie 319 days; accept one or two decimal places)
  how quickly the money is recouped has a bearing on risk (1)
- **what is the source of the funding for the purchase price? (1)**
  is the money available? (1)
  has the money borrowed been secured on assets? (1)
- **extra costs, e.g. legal costs (1)**
  could be involved in protecting their reputation against the activities of action/green/environmentalists (1)
  which will reduce profits (1)
- **shareholders may sell their shares once they discover the waste disposal methods (1)**
  which may reduce the share price (1).

Maximum 1 mark for mention of stakeholders/environmental groups/etc
There are no marks for descriptions of particular investment appraisal techniques.

<u>Max 6 marks</u>

Non-financial considerations:
- **there may be extensive action against the company by environmental groups (1)**
  which may be reported in the media and affect the reputation of the company (1)
- **this may give competitors the competitive edge (1)**
- **the company is acting against laws aimed at protecting the environment (1)**
- **negative effect on wildlife (1)**
- **could cause health problems (1)**
- **effect on workforce of new machine/training implications maximum (1).**

<u>max 4 marks</u>

Judgement based on evaluation above
Candidate must clearly state their decision – judgement could be made at any point in the answer.

<u>0-2 marks</u>
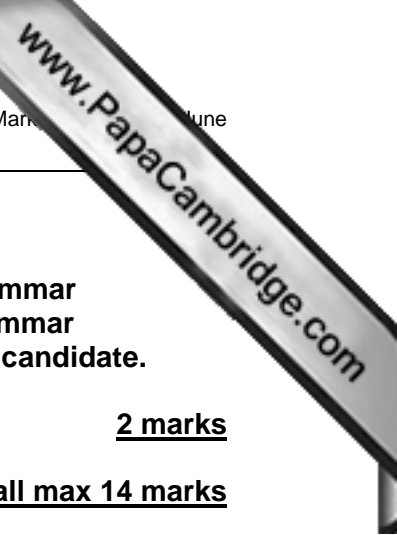
Quality of written communication (QWC)
For using good English - spelling, punctuation and grammar.
2 marks: where candidate has 3 or less errors in spelling, punctuation or grammar
1 mark: where candidate has 4 or more errors in spelling, punctuation or grammar
0 marks: where it is difficult to understand the comments being made by the candidate.

2 marks

Overall max 14 marks

Task 3   **Total for this task: 21 ma**

Azhara Ltd produces a range of products.

There are 2 production departments, assembly and finishing, and 1 service department, maintenance.

The following budgeted information is available for the departments for the year ending 31 October 2010.

	Assembly	Finishing	Maintenance
Overheads	£120 000	£340 000	£80 000
Direct labour hours	36 000	62 000	-
Direct machine hours	48 000	51 000	-

The maintenance department overheads are apportioned to the production departments on the basis of 60% to the assembly department and 40% to the finishing department.

REQUIRED

0 8 Calculate the overhead absorption rate for each production department. State the bases used and give a reason for each choice.

	Assembly £		Finishing £		Maintenance £
Overheads	120 000		340 000		80 000
Apportionment	48 000	(1)	32 000	(1)	(80 000)
	168 000		372 000		-

Assembly	$\dfrac{168\ 000}{48\ 000}$ (1OF) (1)	= £3.50 (1OF)	per machine hour (1) as machine / capital intensive (1)

Finishing	$\dfrac{372\ 000}{62\ 000}$ (1OF) (1)	= £6.00 (1OF)	per labour hour (1) as labour intensive (1)

Where candidate works out all 4 absorption rates, award maximum 3 for assembly + maximum 3 for finishing – this applies where candidate does not then make a clear decision.

12 marks

The unit selling price of product Z is calculated at full cost plus 25%. Each unit has direct costs of £32 and requires 2 machine hours and 1.5 labour hours.

REQUIRED

| 0 | 9 | Calculate the selling price of one unit of product Z.

	£
Direct costs	**32.00** **(1)**
Assembly overheads (2 x £3.50)	**7.00** **(1OF)**
Finishing overheads (1.5 x £6.00)	**9.00** **(1OF)**
	48.00 **(1OF)** **(no aliens)**

Selling price therefore is £48.00 x 1.25 = £60.00 (1OF)
Award total cost mark (£48.00(1OF)) whether shown or implied in the selling price calculation.   **5 marks**

It has been suggested to the financial director that he should base the selling price on the cost obtained through using Activity Based Costing (ABC).

REQUIRED

| 1 | 0 | Explain **two** benefits of using ABC compared with using the current method to calculate the selling price.

Benefits of ABC are:

- **produces more accurate cost information as the cost driver which causes the cost is used to allocate the cost on a more objective basis (1)**
- **does not require arbitrary apportionment of overheads (1)**
  rather than based just arbitrarily on either labour hours or machine hours (1)
- **more accurate costs can lead to more accurate establishment of selling price (1)**
- **this enables management to have a greater understanding of why costs are incurred (1) and how they are influenced by changes in production (1)**
- **whereas absorption costing is useful where there is a narrow range of products (1)**

                                                                  Max 4 marks
- **do not accept reference to IAS2**
- **do not accept reference to marginal costing**
- **no marks for ABC is useful for management without further development.**

Task 4   **Total for this task: 22**

Brightene Homes Ltd builds bungalows.

A team of workmen are assigned to each bungalow. This includes 2 carpenters working 5 days each at £20 per hour to complete the roof.

Each carpenter is paid for an 8 hour day.

The company has recently been offered the contract to build a new development of 12 bungalows.

REQUIRED

1 | 1   Prepare a labour budget calculating the expected total number of hours needed and the expected total cost of labour for the carpenters on the contract.

                                         12 bungalows (contract)

Hours
Carpenter Hours (2 x 5 x 8)   80 (1) x 12   960 (1OF)
Cost
Carpenter 80 x £20   1 600 (1) x 12   £19 200 (1OF)
                                  (960 (1) x 20)

                                                      4 marks
Award 2 marks to 960 and £19 200. If only 1 bungalow calculated, award 80 (1) and (1600 (1) or 960 (1)).

Quality of presentation (QWC)
For the labour budget clearly laid out and clearly identifying the hours and costs.   **1 mark**
                                                    Overall 5 marks

---

The total variable cost of building one bungalow is £42 000 and the fixed costs of the contract are £680 000. The company hopes to break even at 10 bungalows.

REQUIRED

1 | 2   Calculate the selling price of each bungalow in order to achieve a break-even point of 10 bungalows.

Break even is:

$$\frac{680\ 000\ (1)}{X - 42\ 000\ (1)} = 10 \text{ bungalows (1)}$$

Therefore selling price is £110 000 (1).   **4 marks**

OR (alternative approach):

$$\frac{680\ 000\ (1)}{10(1)} + 42\ 000\ (1)$$

Therefore selling price is £110 000 (1).

There are no OF ma~~~~ ~~~ ~~~~ answer

1 3 Calculate the expected total contribution and profit on the contract to build 12 bungal...

£110 000 - £42 000 = £68 000 x 12 = £816 000 (1OF)

Own figure is awarded where candidates have carried forward their own figure for the selling price from task 12.

Profit for the contract is:
£816 000 – £680 000 = £136 000 (1OF)   **2 marks**

The company accepted the contract to build 12 bungalows. At the end of the contract the following information is available:

	£
Carpenters (1040 hours)	18 720

REQUIRED

1 4 Calculate the labour rate and labour efficiency sub-variances for the carpenters.

Labour rate:
= 1040 (18 – 20)
= £2080 (1) Favourable (1)

Labour efficiency:
= 20 (1040 – 960)
= £1600 (1) Adverse (1)

Marks cannot be awarded where the candidate has only identified Favourable/Adverse without figures to support their decision.
Variances must have accurate figures before awarding the favourable/adverse marks.
Variances must include £ sign – if not shown lose maximum 1 mark.
4 marks

Do not allow brackets or plus or minus signs;
Allow Fav, Unfav, Adv, F, A
There are no OF marks for this question.

| 1 | 5 | Explain what information the variances provide for the management of Brightene Ho͏

All comments must be marked on the basis of the candidate's own results in task 14.

The favourable rate sub-variance for carpenters means that the company is paying less per hour than budgeted (1).
This may be due to an excess of available staff (1)
or cheaper labour or lower skilled labour (1) used which is cheaper.

The adverse efficiency sub-variance means that more hours are being used to fulfil the contract (1).
This may have occurred as the workmen are less expensive so they are less skilled and less efficient (1) using more hours than was budgeted for the carpenters. It may however be nothing to do with the skills of the workers and instead be due to poor quality of materials (1) or poor working conditions, (1) e.g. bad weather.
This may also have forced the workmen to complete their work outside less efficiently using more hours than budgeted as adverse weather conditions were not included in the budget (1).
Alternatively the budgets could have been set too low (1) and more time was needed to complete the job.

Max 6 marks

The favourable rate variance will increase profit and the adverse efficiency variance will decrease profit (1).
The total labour variance is £480 Favourable – which will increase profit (1).

Overall max 7 marks