

**MAY 2020 PROFESSIONAL EXAMINATIONS  
INTRODUCTION TO MANAGEMENT ACCOUNTING (PAPER 1.4)  
CHIEF EXAMINER'S REPORT, QUESTIONS AND MARKING SCHEME**

**STANDARD OF THE PAPER**

The paper was a new course introduced just in last November 2019 examination, therefore only one reference and comparison could be made. The paper covered all relevant topics of the syllabus and the questions were standard and comparable to other accountancy examining bodies.

Mark allocation to the questions followed the weighting in the syllabus: the actual marks allocated to the questions in the paper were significantly in line with the syllabus as follows:

**Table 1: Actual mark allocation compared to that of the syllabus**

	Actual Allocation	Syllabus Allocation	Difference
Scope of management accounting	15	15	-
Cost Elements	12	14	(2)
Costing Techniques	33	25	8
Forecasting Techniques	15	15	-
Budgeting	20	20	-
Performance differences	5	11	(6)
Total marks	<u>100</u>	<u>100</u>	<u>0</u>

From Table 1 above, marks were allocated fairly and appropriately to the actual examination questions in line with that of the syllabus. This was evident with respect to the main and sub-questions. Difference of 8 marks in excess of the required could be found with respect to Costing Techniques and 6 marks short of the required in Performance Difference.

It was also found that marks allocated to questions were commensurate with the amount of work and time required.

**PERFORMANCE OF THE CANDIDATES**

The general performance was below average with the following reasons:

Many candidates could not answer Question Three a) i) very well and even significant number of candidates deviated the question by mentioning and explaining the qualities of information instead of features. With respect to Question Three a) ii), many candidates could not understand this question on the features of control systems; candidates did not do very well.

Similarly, reasonable number of candidates did not do well in Question Five a) on seasonal variation using quarterly moving average. They could not do calculation up to Average (Trend), Variation and Table of summary of variations. Most candidates did not prepare for this type of question because a similar question was examined last year November 2019 sitting, they should have done better. There was an indication that the candidates did not prepare adequately for the paper.

High performers were very few and spread across all centres; Low performers were also spread in all centres but certain centres registered more low performers than the others; There were no signs of copying at any examination centre.

### **NOTABLE STRENGTHS AND WEAKNESSES OF CANDIDATES**

Nature of the strong performance and areas:

The strong performance of few candidates depended on the volume of knowledge and skill in approaching specific questions like Marginal and Absorption costing, Inventory valuation methods of FIFO and Weighted Average, Standard Costing, and Budgeting. All of the strong performers exhibited accuracy, precision and better understanding of the concepts.

Weaknesses demonstrated by candidates in answering the questions:

Most candidates did not adequately understand the costing principles required to enable them successfully write exams. Many candidates did not take adequate time and effort to understand the requirements of the questions and therefore did not do well in some questions on decision areas and appropriate improvement techniques in the public sector in Question three.

## QUESTION ONE

Smooth Sailing Ltd makes and sells a single product called V-Ice. The following information relate to the costs, volumes and price for the third quarter just ended 30 September 2019:

	July	August	September
Production (units)	15,000	16,000	12,000
Sales (units)	10,000	15,000	18,000
Sales price per unit	GH¢35		
<b>Unit costs:</b>	<b>GH¢</b>		
Direct materials	14		
Direct labour	4		
Variable production overhead	2		
Variable sales overhead	2		
<b>Fixed costs for the month:</b>	<b>GH¢</b>		
Production overheads	40,000		
Administrative overheads	15,000		
Selling and distribution Overheads	25,000		

### Additional information:

Fixed production overheads are budgeted to be GH¢40,000 per month for a budgeted monthly production of 20,000 units. Production overheads are absorbed on a unit of production basis.

### Required:

- Using *marginal costing principles*, prepare a statement of profit or loss for the **THREE (3)** months to September 2019. **(10 marks)**
- Using *absorption costing principles*, prepare a statement of profit or loss for the **THREE (3)** months to September 2019. **(10 marks)**

**(Total: 20 marks)**

## QUESTION TWO

a) Budgeting has several objectives:

- i) Planning;
- ii) Control;
- iii) Performance evaluation;
- iv) Motivation.

**Required:**

Explain **TWO (2)** of the above objectives of budgeting and how the **TWO (2)** objectives explained could conflict with each other. **(4 marks)**

b) A company produces two products, A1 and A2 that are sold to retailers. The budgeted sales volumes for the products are as follows:

Product	Units
A1	32,000
A2	56,000

The inventory of finished goods is budgeted to increase by 1,000 units of A1 and decrease by 2,000 units of A2 by the end of the quarter.

Materials B3 and B4 are used in the production of both products. The quantities required of each material to produce one unit of the finished product and the purchase prices are shown in the table below:

	B3	B4
A1	8kg	4kg
A2	4kg	3kg
Purchase price per kg	GH¢1.25	GH¢1.80
Budgeted opening inventory	30,000kg	20,000kg

The company plans to hold inventory of raw materials, at the end of the quarter, of 5% of the quarter's material usage budget.

**Required:**

Prepare the following budgets for the quarter:

- i) The production budget (in units) **(2 marks)**
- ii) The material usage budget (in kg) **(4 marks)**
- iii) The material purchases budget (in kg and GH¢) **(6 marks)**

c) Explain the term **"Principal Budget Factor"** as used in budgeting control and give **TWO (2)** examples from a financial institution. **(4 marks)**

**(Total: 20 marks)**

### QUESTION THREE

- a) Management Accounting provides information for planning, control and decision making. It has been argued that Public Sector entities can even benefit more from Management Accounting than profit making entities.

**Required:**

- i) Identify **FOUR (4)** decision areas of the Public Sector where Management Accounting can be applied. **(6 marks)**  
ii) Suggest an appropriate technique that can be used to improve decision making in such areas. **(9 marks)**
- b) State **FIVE (5)** assumptions underlying cost-volume-profit analysis in managerial accounting. **(5 marks)**

**(Total: 20 marks)**

### QUESTION FOUR

- a) Grains Dealers Ltd is in the business of buying farm produce in bulk from out-growers for onward sale to manufacturers. In view of the huge volumes of receipt and sale transactions, the company is unable to use the specific pricing method for valuing inventories. The company needs advice on the impact on profit of using the FIFO or Weighted Average methods of inventory valuation. The following data has been extracted for the month of October 2019 for use:

Inventory balance as at 01/10/19 was 800 units at GH¢4 per unit.

Transactions during the month to 31/10/19:

Date	Purchases		Sales	
	Quantity	Price (GH¢)	Quantity	Price GH¢)
05/10/2019	1,200	5.00		
10/10/2019			1,500	8
12/10/2019	1,500	6.00		
15/10/2019	1,800	7.25		
18/10/2019			3,400	10
25/10/2019	2,400	8.00		
28/10/2019			2,000	14

**Additional information:**

A physical inventory count on 31 October 2019 revealed a shortage of 200 units.

**Required:**

- i) Prepare the inventory ledger showing the value of costs of inventory sold, and the closing inventory on the basis of the perpetual inventory valuation system under:
- FIFO Method **(6 marks)**
  - Weighted Average Method **(6 marks)**
- ii) Compute the profit for the month for each method in columnar form. **(3 marks)**

- b) Explain the following as used in standard costing and variance analysis
- i) Ideal standard;
  - ii) Attainable standard;

**(5 marks)**

**(Total: 20 marks)**

### QUESTION FIVE

- a) The monthly sales of Danamo Company Limited have been given as follows:

	<b>Monthly sales</b>	<b>Moving total</b>
	<b>GH¢000</b>	<b>GH¢000</b>
April	150	
May	140	450
June	160	480
July	180	540
August	200	570
September	190	610
October	220	640
November	230	700
December	250	

**Required:**

- i) Using three month moving average, calculate the trend. **(3 marks)**
  - ii) Using the line of best fit, estimate the sales of January, February and March of the following year. **(12 marks)**
- b) State and explain **FIVE (5)** sources of information that may be considered in setting standard prices for materials in Management Accounting. **(5 marks)**

**(Total: 20 marks)**

## SOLUTION TO QUESTIONS

### QUESTION ONE

#### Smooth Sailing Ltd

- a) Marginal Costing Statement of profit or loss for the three months to 30 September 2019

Month	July		August		September	
	GH¢'000	GH¢'000	GH¢'000	GH¢'000	GH¢'000	GH¢'000
Sales		350		525		630
<b>Variable cost of goods sold:</b>						
Production costs:						
Opening inventory	-		100		120	
Production	300		320		240	
Closing inventory	(100)		(120)		-	
	200		300		360	
<b>Non-production costs:</b>						
Selling & Distribution	20	(220)	30	(330)	36	396
Contribution		<b>130</b>		<b>195</b>		<b>234</b>
<b>Fixed costs:</b>						
Production	40		40		40	
Administration	15		15		15	
Selling & Distribution	25	80	25	80	25	80
<b>Net profit</b>		<b>50</b>		<b>115</b>		<b>154</b>

*(All marks evenly spread for 10 marks using ticks)*

- b) Absorption Costing Statement of profit or loss for the three months to 30 September 2019

Month	July		August		September	
	GH¢'000	GH¢'000	GH¢'000	GH¢'000	GH¢'000	GH¢'000
Sales		350		525		630
<b>Costs of goods sold:</b>						
Opening inventory	-		110		132	
Production	330		352		264	

Closing inventory	(110)	(220)	(132)	(330)	-	(396)
Gross profit		130		195		234
<b>Expenses:</b>						
Selling & Distribution:						
Variable	20		30		36	
Fixed	25		25		25	
Administration	15	(60)	15	(70)	15	(76)
		<b>70</b>		<b>125</b>		<b>158</b>
Over/(under) absorption		(10)		(8)		(16)
<b>Net profit</b>		<b>60</b>		<b>117</b>		<b>142</b>

### Workings (W):

#### W1. Computation of product cost per unit

	Marginal costing	absorption costing
	GH¢	GH¢
Direct material	14	14
Direct labour	4	4
Variable overheads	2	2
Fixed overheads (W2)	-	<u>2</u>
Total cost per unit	<u>20</u>	<u>22</u>

#### W2. Fixed production overheads absorption rate

$$O. A. R = \frac{\text{Budgeted Overheads}}{\text{Budgeted Volume}}$$

$$O. A. R = \frac{\text{GH¢}40,000}{20,000 \text{ units}} = \text{GH¢}2/\text{unit}$$

#### W3. Over/ (Under) Absorption

Month	July	August	September
	GH¢	GH¢	GH¢
Overheads absorbed	30,000	32,000	24,000
Overheads incurred	<u>40,000</u>	<u>40,000</u>	<u>40,000</u>
Over/(under) absorption	<b>(10,000)</b>	<b>(8,000)</b>	<b>(16,000)</b>

(All marks evenly spread for 10 marks using ticks)

(Total: 20 marks)

### EXAMINER'S COMMENT

The marks allocated to the question were appropriate with the amount of work and time required. The question was standard.



## QUESTION TWO

a)

- i) **Planning-** budgeting forces an organization's management to look ahead and set performance targets. This ensures that management anticipates any future problems and gives the organization direction. It also ensures that managers are aware of their own targets and responsibilities and how they relate to those of other managers within the organization.
- ii) **Control-** the budget acts as a control mechanism, with actual results being compared with budget. Appropriate actions can then be taken to correct any deviations from plan.
- iii) **Evaluation-** the budget also provides an internal benchmark against which performance can be evaluated. The performance measured may be that of a department or division or of an individual manager.
- iv) **Motivation-** budgeting sets targets to motivate management managers and optimize their performance. The budget is a useful device for influencing managers' behavior and motivating managers to perform in line with the organization's objectives. It provides a standard which managers may be motivated to achieve.

- The budget therefore serves a number of different purposes which may conflict with each other. For example, the planning and motivational roles may conflict, as demanding budgets that may not be achieved may be appropriate to motivate managers to achieve maximum performance but are unsuitable for planning purposes.
- There is also a conflict between the planning and performance evaluation roles. For planning purposes budgets are set in advance of the budget period based on an anticipated set of circumstances and/or external environment. If the circumstances that were anticipated at the time the budget was prepared have changed then there will be a planning and performance evaluation conflict.
- There may also be a conflict between the performance evaluation and motivation purpose as the budget can cause inefficiency and conflict between managers particularly if the budget is imposed from above, whereby it may act as a threat rather than as a challenge. Targets that are imposed on managers are unlikely to motivate the managers to achieve them.

**(2 points well explained @ 2 marks each = 4 marks)**

b)

i)

Product	A1	A2
Sale (units)	32,000	56,000
Increase/ (decrease) in inventory	1,000	(2,000)
Production budget (units)	33,000	54,000

**(2 marks)**

ii)

Material	B3			B4		
	A1	A2	TOTAL	A1	A2	TOTAL
Production budget (units)	33,000	54,000	87,000	33,000	54,000	87,000
Kg per unit	8	4		4	3	
Material usage (kg)	264,00	216,000	480,00	132,000	162,000	294,000

(4 marks)

iii)

Material	B3	B4
	Total	Total
Material usage (kg)	480,000	294,000
Less: opening inventory	(30,000)	(20,000)
Plus: closing inventory	24,000	14,700
Material purchases (kg)	474,000	288,700
Price per kg	GH¢1.25	GH¢1.80
Material purchase GH¢	GH¢592,500	GH¢519,660

(6 marks)

c) Principal Budget Factor is also known as the limiting factor or key factor. It is defined as the factor which a particular time, or over a period, will limit the activities of an undertaking. The limiting factor is usually the level of demand for the productive resources.

(2 marks)

Examples,

- skilled Labour,
- customer base,
- level of ICT,
- interest rate,
- deposit mobilization, etc.

(Any 2 points for 2 marks)

(Total: 20 marks)

### EXAMINER'S COMMENT

The question was standard and an average candidate should stand the chance to score well. With respect to question 2a), most students did explain the differences in the objectives of budgeting except a few whose English language skills were poor and could not express themselves well. Quite a number of them could not bring out clearly the conflicting aspect of the two objectives.

Question 2b) was straight forward and needed a little effort to score good marks. Marks allocation was fair. In a hurry, most students did not take into account the 'decrease and increase' requirements in inventory stated in the question and hence lost valuable marks.

Question 2c) was straight forward. Those who knew what a principal budget factor is were able to explain the term very clearly using appropriate synonyms.

### QUESTION THREE

- i) Decision areas in public sector where management accounting can be applied;
- Outsourcing of services; cleaning, ICT
  - Capital investment; construction of buildings, purchase of vehicles.
  - Budgeting
  - Evaluation of MMDAs
  - Procurement and utilization of supplies; stationary.

**(Any 4 points for 1.5 marks = 6 marks)**

- ii) Techniques;

- Use of relevant costing.
- Investment appraisal techniques, Value for money.
- Budgetary control
- Balanced score card
- EOQ, control levels.

**(9 marks)**

- b) Some of the critical assumptions underlying CVP Analysis include:

- All costs can be segregated into fixed and variable elements
- Fixed costs will remain constant while variable costs vary proportionately with the level of activity
- That all that is produced can be sold
- That the only factor affecting costs and revenues is volume of activity
- That technology, production methods and efficiency remain unchanged.
- There are no inventory level changes, or that inventories are valued at marginal cost
- There is no uncertainty.
- A single product or a constant product mix is produced and sold.

**(Any 5 points for 5 marks)**

**(Total: 20 marks)**

### EXAMINER'S COMMENT

The question was clear, straight forward and standard. Performance was generally average with a small percentage scoring 15 and above. Candidates were unable to identify decision areas and its appropriate improvement techniques in the public sector. Most candidates were unable to state the Cost-Volume-Profit analysis assumptions.

**QUESTION FOUR**

a) i)

**FIFO METHOD - INVENTORY LEDGER**

DATE	RECEIPTS		ISSUES		BALANCE	
	GH¢	GH¢	GH¢	GH¢	GH¢	GH¢
01/10/19					800	4.00 3,200
05/10/19	1,200	5.00	6,000		800	4.00 3,200
					1,200	5.00 6,000
10/10/19			800	4.00	3,200	
			700	5.00	3,500	500 5.00 2,500
12/10/19	1,500	6.00	9,000		500	5.00 2,500
					1,500	6.00 9,000
15/10/19	1,800	7.25	13,050		500	5.00 2,500
					1,500	6.00 9,000
					1,800	7.25 13,050
18/10/19			500	5.00	2,500	
			1,500	6.00	9,000	
			1,400	7.25	10,150	400 7.25 2,900
25/10/19	2,400	8.00	19,200		400	7.25 2,900
					2,400	8.00 19,200
28/10/19			400	7.25	2,900	
			1,600	8.00	12,800	800 8.00 6,400
31/10/19 Shortage			200	8.00	1,600	600 8.00 4,800
<b>Total</b>		47,250		45,650		4,800

(6 marks evenly spread using ticks)

**WEIGHTED AVERAGE METHOD- INVENTORY LEDGER**

DATE	RECEIPTS		ISSUES		BALANCE	
	GH¢	GH¢	GH¢	GH¢	GH¢	GH¢
01/10/19					800	4.00 3,200
05/10/19	1,200	5.00	6,000		2,000	4.60 9,200
10/10/19			1,500	4.60	6,900	500 4.60 2,300
12/10/19	1,500	6.00	9,000		2,000	5.65 11,300
15/10/19	1,800	7.25	13,050		3,800	6.41 24,350
18/10/19			3,400	6.41	21,794	400 6.41 2,556
25/10/19	2,400	8.00	19,200		2,800	7.77 21,756
28/10/19			2,000	7.77	15,540	800 7.77 6,216
31/10/19 Shortage			200	7.77	1,554	600 7.77 4,662
<b>Total</b>		47,250		45,788		4,662

(6 marks evenly spread using ticks)

**ii) Computation of profit for the month**

	FIFO GH¢	Weighted Average GH¢
Sales	74,000	74,000
Cost of sales:		
Opening inventory	3,200	3,200
Purchases	47,250	47,250
Closing inventory	<u>(4,800)</u>	<u>(4,662)</u>
	<u>45,650</u>	<u>45,788</u>
Gross profit	<u>28,350</u>	<u>28,212</u>

**(3 marks)**

b)

**i) Ideal standard**

This is a standard which make no allowance for inefficiencies such as losses, waste and machine downtime. This type of standard is achievable only under the most favourable conditions and can be used if managers wish to highlight and monitor the full cost of factors such as waste, etc. However, this type of standard will almost always result in adverse variances since a certain amount of waste, etc., is usually unavoidable.

**(2.5 marks)**

**ii) Attainable standard**

This is a standard set at levels which assume efficient levels of operation, but which include allowances for factors such as losses, waste and machine downtime. This type of standard does not have the negative motivational impact that can arise with an ideal standard because it makes some allowance for unavoidable inefficiencies. Adverse variances will reveal whether inefficiencies have exceeded this unavoidable amount.

**(2.5 marks)**

**(Total: 20 marks)**

**EXAMINER'S COMMENT**

The amount of work required by the question was commensurate with the allocated marks. There were no ambiguities or no errors in the question but required a clear presentation of the answer for the FIFO and Weighted Average Inventory account. When to use the selling price and cost price in the calculations was a challenge for most candidates and that adversely affected their performance. The performance was average since majority of the candidates scored between 8 to 13 marks out of 20. The topic was most familiar with the candidates and it accounted for their good performance. A few number of candidates presented wrong issued pricing/ weighted average and also their approximations were not exact. I expected them to present a pricing figure to at least and at most 2 decimal places.

With Question 4b), candidates were not prepared for this sub-question on types of standards.

## QUESTION FIVE

a) i)

MONTH	TREND
May	150
June	160
July	180
August	190
September	203
October	213
November	233

(3 marks)

ii)	X	y	xy	x <sup>2</sup>
	1	150	150	1
	2	160	320	4
	3	180	540	9
	4	190	760	16
	5	203	1015	25
	6	213	1278	36
	7	233	1631	49
$\Sigma$	<b>28</b>	<b>1329</b>	<b>5730</b>	<b>140</b>
<b>B=</b>	$\frac{N \sum xy - \sum x \sum y}{N \sum x^2 - (\sum x)^2}$		$\frac{7(5730) - (28)(1329)}{7(140) - (28)^2}$	
	13.5			
<b>A</b>	$\frac{\sum y}{N} - \frac{b \sum x}{n}$		$\frac{1329}{7} - \frac{13.5(28)}{7}$	

Line of best fit  $y = 130.69 + 13.5(b)$

Jan. 9  $130.69 + 13.5(9) = 257.36$

Feb. 10  $130.69 + 13.5(10) = 270.86$

March 11  $130.69 + 13.5(11) = 284.36$

(12 marks)

b) Sources of information that may be considered in setting standard prices for materials in management accounting include the following:

- Quotations and estimates received from potential suppliers;
- Trend information obtained from past data on material prices;
- Details of any bulk discounts which may be available;
- Information on any charges which will be made for packaging and carriage inwards;
- The quality of material to be used: this may affect the price to be paid;
- For internally manufactured components, the predetermined standard cost for the component will be used as the standard price.

(Any 5 points at 1 mark = 5 marks)

(Total: 20 marks)

## **EXAMINER'S COMMENT**

There were no ambiguities in the question. The performance was below average with some candidates not even attempting the question at all. Most candidates were not prepared especially for the quantitative section "a)" of the question. However, most candidates attempted the qualitative section "b)" but could not state clearly sources of information in setting standard prices.

## **CONCLUSION**

Recommendations for the observed weakness and advice to future candidates:

- Candidates should adequately prepare for the paper by ensuring that costing principles and methods are well understood.
- Candidates should ensure that they proficiently and capably know how costing principles and methods are applied.
- Candidates should take their time to understand the requirements of the questions before they start to answer them.
- Candidates should attempt first the questions that are relatively easier and straightforward to them.