JULY 2024 PROFESSIONAL EXAMINATIONS
INTRODUCTION TO MANAGEMENT ACCOUNTING (PAPER 1.4)
CHIEF EXAMINER'S REPORT, QUESTIONS AND MARKING SCHEME

STANDARD OF THE PAPER

The paper was administered in this July 2024 examinations. The paper covered all relevant topics of the syllabus and the questions were standard and comparable to other accountancy examining bodies.

The actual marks allocated to the questions in the paper were significantly in line with the syllabus. Marks allocated to questions were commensurate with the amount of work and time required. No 'too loaded' and 'too generous' questions were identified. In general, appropriate marks were fairly allocated to the time and load required from the candidates to answer each question.

PERFORMANCE OF THE CANDIDATES

The general performance of the candidates was below average with a reasonable number of passes. High performers were very few and spread across all centres. Likewise, low performers were also spread in all centres but certain centres registered more low performers than the others.

The following reasons accounted for the poor performance:

- Many candidates could not answer the part (b) of Question 1 with respect to the calculation of equivalent units using the degree of completion of each cost element and that of the cost per unit. It was therefore evident that good number of candidates did not adequately prepare for the question.
- A reasonable number of candidates found it difficult to compute material usage in quantities and purchases in question 2.
- Many candidates exhibited dominance in a) part of Question 3 on differences between Financial Accounting and Management Accounting and fairly average performance in other parts of Question 3.

NOTABLE STRENGTHS AND WEAKNESSES OF CANDIDATES

Strengths

Candidates demonstrated in depth knowledge and skill in approaching specific questions like budgeting, budgeting process, process costing and forecasting techniques.

Weaknesses

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.

QUESTION ONE

a) Ladin Plc and Osama Plc are in the same industry, selling the same type of products. The budgeted costs and profit figures for the year 2022 are as follows:

	Ladin Plc	Osama Plc
	GH¢'000	GH¢'000
Variable Cost	120,000	100,000
Fixed Cost	15,000	35,000
Profit	15,000	15,667

Required:
From the above data:
i) Calculate contribution to sales (c/s ratio). **(4 marks)**
ii) Calculate break-even point revenue. **(2 marks)**
iii) Calculate margin of safety for each of the two companies. **(2 marks)**
iv) State and assign reasons indicating the impact on profit for each company under conditions of:
- High demand for the product
- Low demand for the product **(4 marks)**

b) The following cost and production data relates to Komando Ltd:

	GH¢
Materials	17,902.5
Labour	13,382.0
Overheads	10,500.0
Total	**41,784.5**

Production was made up of 2,800 fully completed units and 400 partly completed units. The degree of completion of the 400 units were as follows:

Materials	75% complete
Labour	60% complete
Overheads	50% complete

Required:
Compute the;
i) Equivalent production units for each cost element. **(3 marks)**
ii) Value per equivalent production units. **(2 marks)**
iii) Cost per completed units. **(1.5 marks)**
iv) Value of WIP. **(1.5 marks)**

(Total: 20 marks)

QUESTION TWO

a) A budget is prepared within the framework of objectives (targets or goals) and policies that have been determined by senior management as part of its own planning activities. However, it is one thing to set up a budget and another to conform to it. The budgetary control system forces actions to conform to plan.

Required:

i) Describe the budgetary control process. **(6 marks)**

ii) State **FOUR (4)** functions of a budget. **(4 marks)**

b) Bonti Ltd manufactures three products: A, B and C. Data for preparation of the June budgets is as follows:

Product	Quantity	Price/unit
Sales		GH¢
A	1000	110
B	2000	115
C	1500	120

Materials used in the company's products are:

Material	X1	X2	X3
Unit cost	GH¢5	GH¢8	GH¢7

Budgeted quantities of material use per product is:

		X1	X2	X3
Product	A	3	3	1
	B	2	3	2
	C	4	-	2

Finished goods stock:	A	B	C
1 June	1100	1050	520
30 June	1200	1450	480

Raw material stock:	X1	X2	X3
1 June	22000	18000	14000
30 June	33400	26000	16000

Required:

Prepare budgets for the month of June for:

i) Sales in quantity and value, including total value **(2 marks)**

ii) Production quantities **(2 marks)**

iii) Material usage in quantities **(3 marks)**

iv) Material purchases in quantity and value, including total value **(3 marks)**

(Total: 20 marks)

QUESTION THREE

a) While there are key differences between Financial Accounting and Management Accounting, there are similarities too, some of which are quantifying the results of business activities and transactions, dealing with expenses, assets, liabilities, cashflow, determining and measuring cost and preparing reports based on some data.

Required:
i) Explain **FIVE (5)** differences between financial accounting and management accounting.
(10 marks)
ii) Distinguish between qualitative and quantitative management accounting information.
(5 marks)

b) Break-even analysis is a powerful tool that can help you plan and manage your business operations. It shows you how much sales volume you need to cover your fixed and variable costs, and how much profit you can make at different levels of sales. However, to be able to successfully apply break-even analysis, some assumptions must prevail.

Required:
State **FOUR (4)** assumptions that underlie break even analysis. **(5 marks)**

(Total: 20 marks)

QUESTION FOUR

a) Explain **TWO (2)** factors that cause under or over absorption of overhead. **(4 marks)**

b) Bamba Ltd is a manufacturer of a single product "the Bamba" for sale in the West African market. The manufacturing process has three production departments and two service departments. Details of the annual overheads are stated below:

Production departments	GH¢
A	56,000
B	50,000
C	38,000

The following information is gathered on the costs for providing services to the production departments.

Service departments	GH¢
X	16,500
Y	10,600
	27,100

The service department cost is apportioned using the following basis:

Departments	Production			Service	
	A	B	C	X	Y
X	20%	40%	30%	-	10%
Y	40%	20%	20%	20%	-

Required:
Compute the total overhead for each production department after apportioning the service departments' costs. **(10 marks)**

c) The type of standard set can influence the behaviour of employees trying to achieve those standards.

Required:
Explain how the underlisted standards can impact the behaviour of employees
i) Ideal standards **(2 marks)**
ii) Current standards **(2 marks)**
iii) Basic standards **(2 marks)**

(Total: 20 marks)

QUESTION FIVE

a) A company has recorded the following costs in the past five years:

Year	Production (units)	Total (GH¢)
1	5,800	40,300
2	7,700	47,100
3	8,200	48,700
4	6,100	40,600
5	6,500	44,500

Required:
Using the high/low method,
i) Calculate the variable cost/unit and the fixed cost
ii) State the total cost function based on the results in (i) above
iii) Estimate what the total cost will be next year when production is expected to be 7,500 units.
(9 marks)

b) Explain **FOUR (4)** components of time series. **(6 marks)**

c) The following details have been extracted from the standard cost card in respect of direct materials:
8 kg @ GH¢0.80/kg = GH¢6.40 per unit

Budgeted production in April 2024 was 850 units.

The following details relate to actual materials purchased and issued to production during April 2024 when actual production was 870 units:
Materials purchased   8,200 kg costing GH¢6,888
Materials issued to production   7,150 kg

Required:
Calculate the materials price and usage variances. **(5 marks)**

(Total: 20 marks)

SUGGESTED SOLUTION

QUESTION ONE

a)

i) **C/S ratio** $= \frac{contribution}{sales}$

Ladin Plc	Osama Plc
$= \frac{GH¢30,000}{GH¢150,000} = 0.2$ or 20%	$= \frac{GH¢50,667}{GH¢150,667} = 0.3363$ or 33.63%

(4 marks)

ii) Breakeven point in GH¢ $= \frac{Total\ Fixed\ Costs}{C\ S\ Ratio}$

Ladin Plc	Osama Plc
$= \frac{GH¢15,000}{0.20\ or\ 20\%} = GH¢75,000.00$	$= \frac{GH¢35,000}{0.3363\ or\ 33.63\%} = GH¢104,074.00$

(2 marks)

iii) Margin of Safety $= \frac{Current\ sales\ value - Breakeven\ sales\ value}{current\ sales\ value} * 100$

Ladin Plc	Osama Plc
$= \frac{GH¢150,000 - GH¢75,000}{GH¢150,000} = 50\%$	$= \frac{GH¢150,667 - GH¢104,074}{GH¢150,667} = 30.92\%$

(2 marks)

Workings:

	Ladin Plc	Osama Plc
Sales*	150,000	150,667
Less Variable cost	120,000	100,000
Contribution*	30,000	50,667
Less Fixed cost	15,000	35,000
Budgeted Profit	15,000	15,667

*derived figures needed to compute i)

iv) In periods of High demand for the product, Osama Plc is likely to earn a higher profit because it has a lower variable cost as compared with Ladin Plc.

(2 marks)

In periods of low demand for the product, Ladin Plc is likely to earn a higher profit because it has a wider margin of safety as compared to Osama Plc.

(2 marks)

b)

i) **& ii)**

Cost Element	Equivalent Units in WIP	+ Fully Complete Units	= Total effective production	Total costs GH¢	Cost per unit GH¢
Material	400 *75% = 300	2800	3100	17,902.5	5.775
Labour	400 *60% = 240	2800	3040	13,382.0	4.402
Overheads	400 * 50% = 200	2800	3000	10,500.0	3.500
Total				**41,784.5**	**13.677**

			3 marks		2 marks

Value of completed production = 2800 units x GH¢13.677 per unit
                                                  = **GH¢ 38,295.60**

(1.5 marks)

Value of WIP   = Total costs - Value of completed production
                              = GH¢41,784.5 – GH¢38,295.6
                              = **GH¢3,488.9**

(1.5 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS
The question was in two parts. The part a) expected candidates to do analyses using CVP. It was straight-forward and the average-prepared candidates were able to calculate the contribution to sales margin, breakeven point revenue and the margin of safety. Many candidates however could not proffer explanation of the impact on profit for each company under conditions of high and low demand for the products. Overall, a handful of candidates exhibited no understanding of the assumptions underlying CVP analysis and as such could not tackle the questions as expected.

The performance of the candidates in the b) part was quite average even though the question was pretty straightforward. Some were able to apply the degree of completion (i.e. rates) to determine the equivalent units and the value of the equivalent units. Beyond the latter many fumbled with the cost per unit and for that matter were not able to determine the value of completed production and the value of work in progress.

QUESTION TWO

a)

i) Budgetary control is described as the establishment of department budgets relating the responsibilities of executives to the requirement of the policy, and the continuous comparisons of actual with budgeted results, either to secure by individual actions the objectives of that policy or to provide a firm basis for its revision. In simple terms, budgetary control could be described as "compelling events to conform to plan".

Budgetary control system ensures that what is actually being done is in the fulfillment of the plan laid down in order to achieve the objective of the business unit.

(2 marks)

Essentially the budgetary control process consists of two distinct elements:

- **Planning:** This involves the setting of the various budgets for the appropriate future period. Management at the various levels in an organization should be involved in the budgetary planning stage for its own area of responsibility.

- **Control:** This involves the comparison of the plan in the form of the budget with the actual results achieved for the appropriate period. Any significant divergences should be reported to the appropriate management so that the necessary action can be taken.

(4 marks)

ii) **Functions of a budget**

- **Planning: -** the preparation of a budget is the preparation of plan to achieve the objectives of the business. The preparation of a budget therefore enables or even compels management to determine the objectives and steps to achieve them.
- **Communication of responsibilities or duties: -** the budget shows to the individuals the responsibilities and duties in the budget period.
- **Co-ordination of activities: -** in the preparation of the budget, the activities of all the departments of the business are brought together to contribute to the overall achievement of the objectives of the business enterprise.
- **Control: -** writing down the plans in the form of budget brings about the means of control; it lays down the standard against which actual performance will be compared.
- **Motivation: -** this is closely associated with the control function. The manager will be motivated to achieve his budget, if he is regularly praised on his success in achieving the budget target.
- **Authorization:-** the budget authorizes the expenditure of items contained in it only, this prevents waste and fraud.

(Any 4 points @ 1 mark each = 4 marks)

b)

i) Sales quantity and value budget

	Products			
	A	**B**	**C**	**Total**
Sales quantities	1,000	2,000	1,500	
Selling prices (GH¢)	110	115	120	
Sales value (GH¢)	110,000	230,000	180,000	520,000

(Marks are evenly spread using ticks = 2 marks)

ii) Production quantities budget

	Products		
	A	**B**	**C**
Sales quantities	1,000	2,000	1,500
Add: Closing stock	1,200	1,450	480
	2,200	3,450	1,980
Deduct opening stock	1,100	1,050	520
Units to be produced	1,100	2,400	1,460

(Marks are evenly spread using ticks = 2 marks)

iii) Material usage budget (quantities):

Production Quantities	Materials					
	X1		**X2**		**X3**	
	Units per product	**Total GH¢**	**Units per product**	**Total GH¢**	**Units per product**	**Total GH¢**
A: 1,100	3	3300	3	3300	1	1100
B: 2,400	2	4800	3	7200	2	4800
C: 1,460	4	5840	-	-	2	2920
		13,940		**10,500**		**8,820**

(Marks are evenly spread using ticks = 3 marks)

iv) Material purchases budget (quantities and value):

	X1	X2	X3	
Material usage budget	13,940	10,500	8,820	
Add closing stock	33,400	26,000	16,000	
	47,340	36,500	24,820	
Less: Opening stock	22,000	18,000	14,000	
Purchase in quantities	25,340	18,500	10,820	
Price per unit (GH¢)	5	8	7	**Total**
Value of purchases (GH¢)	**126,700**	**148,000**	**75,740**	**350,440**

(Marks are evenly spread using ticks = 3 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

This was also a standard question that was appropriate for the level. The question was in two parts. It was attempted by almost every candidate. In the a) part that required candidates to describe the budgetary control process, most candidates gave the right answers and scored high marks. The same question required candidates to state the functions of a budget and, most candidates gave the right answers and scored high marks. The b) part on the preparation of budget was challenging to some candidates as they could not prepare the material usage and material purchases budgets after preparing the sales and production budgets. It was probably because of the number of products and materials involved, as many were familiar with one product or one material in preparing such budgets. Overall, some candidates understood the question and answered it appropriately; however, some showed poor knowledge of budgeting.

QUESTION THREE

a)

i) Management versus financial accounting:

- **Standard for reporting:** financial accounting uses accounting standards for financial reporting whereas management accounting uses no definitive standards for financial reporting.
- **Users of information:** financial accounting is used to provide financial information for use by persons external to the organization whereas, management accounting is used to provide financial information for persons within the organization.
- **Historical versus current cost:** financial accounting uses historical financial information for reporting whereas management accounting uses current or future cost for reporting.
- **Long-term versus short-term:** financial accounting provides financial information to aid long term decision-making whereas management accounting provides financial information for short term decision-making.
- **Basis of accounting:** financial accounting provides financial information to fulfill the stewardship function whereas management accounting provides financial information to fulfill the managerial function (ie, planning, organizing).

(5 points @ 2 marks each = 10 marks)

ii) Qualitative versus quantitative information:

- **Qualitative information-** When you make business decisions as a manager, you consider qualitative factors like company reputations, brand strength and employee morale, as well as quantifiable data such as sales figures, profitability and return on investment. Both qualitative analysis and quantitative methods can be used to make decisions. The decision that most often results in the desired outcomes uses one method to check whether the predictions of the other method are reasonable. Qualitative factors may include matters that affect the organization's social and legal license to operate or matters that affect the availability, quality, and affordability of the capital the organization uses, matters affecting reputation and credibility such as regulatory infringements, pollution, unemployment, and negative economic effects.

- **Quantitative information-** a business decision involving the use of data is a quantitative decision for example, if a manager wants to analyse how positively customers view one of the company's product the manager might interview a cross-section of the customers and ask for feedback. This qualitative information is hard to express as numbers, instead, the manager might analyse objective data such as how many customers buy the company's product, how many customers make complaint, how many warranty claims and how many customers return their product? Quantitative factors include financial effects and non-financial measures, for instance, percentage of production or sales volume, percentage of total capacity and percentage yield or efficiency factors.

(2.5 marks each = 5 marks)

b) Assumptions that underlie break even analysis.
- All costs can be separated into fixed and variable costs.
- Fixed costs remain constant over the relevant range of activity and variable cost per unit remains constant.
- Volume of activity is the only fact affecting costs and revenue.
- Costs and revenue functions are linear, selling price per unit remains unchanged.
- Production techniques and efficiency remain unchanged.
- Analysis relates to one standard product or there is a constant mix of products.
- No stock level changes.
- No uncertainties.

(Any 4 points @ 1.25 mark each = 5 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS
The a) part required candidates to explain the differences between financial accounting and management accounting. This question was well answered with many getting high scores. The next part of the question which was on distinguishing between qualitative and quantitative management accounting information was poorly handled by most candidates. The performance on this specific question was below average. The b) part was on the assumptions underlying break-even analysis. It was straight-forward and the average prepared candidates were able to state some of the assumptions underlying the analysis. A handful of candidates exhibited no understanding of the assumptions underlying break-even analysis.

QUESTION FOUR

a) Factors causing under or over absorption of overhead:
*   Differences in overhead absorption rate - actual overhead absorption rate is more or less than budgeted overhead absorption rate causing over or under absorbed overhead.
*   Differences in production - actual production is more or less than budgeted production causing over or under absorbed overhead.

(2 points @ 2 marks each = 4 marks)

b) Compute total overhead using simultaneous equation:
    Step 1: Definition of variables
    Let X represent department S1
    Let Y represent department S2

    Step 2: Form the simultaneous equation based on (X &Y)
    $X = 16,500 + 0.2y$.......(1)
    $Y = 10,600 + 0.10x$......(2)

    Step 3: Substitute equation (1) into equation (2)
    $X = 16,500 + 0.2 (10,600 + 0.10x)$
    $X = 16,500 + 2,120 + 0.02x$
    $X = 16,500 + 2,120 + 0.02x$
    $X – 0.02x = 18,620$
    $0.98x = 18,620$
    $X = 19,000$

    Step 4: Substitute X = 19,000 into equation (2)
    $Y = 10,600 + 0.10 (19,000)$
    $Y = 12,500$

    Overhead Allocation

Departments	A	B	C
Overhead b/d	56,000	50,000	38,000
S1 (19,000)	3,800	7,600	5,700
S2 (12,500)	5,000	2,500	2,500
Total	**64,800**	**60,100**	**46,200**

    Alternative Approach

Department	A	B	C	X	Y
Balance b/d	56,000	50,000	38,000	16,500	10,500
S1	3.300	6,600	4,950	(16,500)	1,650
S2	4,860	2,430	2,430	2,430	(12,150)

S1	486	972	729	(2,430)	243
S2	97.2	48.6	48.6	48.6	(243)
Total	**64,800***	**60,100***	**46,200***	**-**	**-**

(Marks are evenly spread using ticks = 10 marks)

c)

i) **Ideal standards** provide employees with an incentive to be more efficient even though it is highly unlikely that the standard will be achieved. On the other hand ideal standards are likely to have an unfavourable effect on employee motivation because the differences between standards and actual results will always be adverse. The employees may feel that the goals are unattainable and so they will not work so hard.

ii) **Current standards** will not motivate employees to do anything more than they are currently doing.

iii) **Basic standards** may have an unfavourable impact on the motivation of employees. Over time they will discover that they are easily able to achieve the standards. They may become bored and lose interest in what they are doing if they have nothing to aim for.

(2 marks each = 6 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS
The question was quite straight forward but some could not answer it properly. The performance of candidates was average. The answers of most candidates on the factors that cause under and over absorption of overhead were not quite convincing. The b) part was well handled by most candidates using various approaches, computations of the overhead for each production department after the apportioning of the service departments' costs. The last part of the question on explanation on how ideal, current and basic standards impact the behavior of employees, elicited average answers thereby resulting in average scores on that question.

QUESTION FIVE

a)

i)

	Production units	Total cost (GH¢)
March (high)	8,200	48,700
January (low)	5,800	40,300
Difference	**2,400**	**8,400**

Variable cost per unit = GH¢8,400/2400 units = GH¢3.5

Fixed cost (at high level) = GH¢ 48,700 - (8,200 units x GH¢3.5)

= **GH¢20,000**

(5 marks)

ii) Total cost function = GH¢20,000 + GH¢3.5x

(2 marks)

iii) Total cost when production is 7,500 units

Total cost = GH¢20,000 + GH¢3.5(7,500)

= GH¢20,000 + GH26,250

= GH¢46,250

(2 marks)

b) Components of time series

- **Trend:** it is the underlying long term movement over time in the values of data recorded. It could be upward, downward or static. It shows whether the results are improving or worsening.

- **Seasonal variation:** short term fluctuations in recorded values, due to different circumstances which prevail and affect results at different times of the year, days or week.

- **Random variations:** one-off changes due perhaps to unforeseen circumstances such as political change in government, war, the collapse of a company or technological change.

- **Cyclical variations:** are medium-term changes in results caused by circumstances which repeat in cycles

(4 points @ 1.5 marks each = 6 marks)

c)

i) **Materials price variance**

	GH¢
8,200 kg should cost GH¢0.80/kg	6,560
They did cost	6,888
Materials price variance	328 (A)

(2 marks)

ii) **Materials usage variance**

	kg	
870 units of output should use (×8kg)	6,960	
They did use	7,150	
Materials usage variance in kg	190	(A)
Standard price per kg of materials (GH¢)	0.8	
Materials usage variance (GH¢)	152	(A)

(3 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

The question was in three parts. Most candidates attempted and scored above average marks across the three parts of this question. The a) part of the question required the candidates to derive the total cost function using the high-low method. Most of the candidates were able to use the high-low method to derive the total cost function and as such were able to estimate total costs at various production units as expected. The b) part of the question was expecting candidates to explain the components of time series. The question was answered by most candidates, and many were able to provide the required answers. The computations on direct material price and usage variances in part c) were not troubling to many candidates.