

**MARCH 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 March 2024 examinations. The paper covered all relevant topics of the syllabus and the questions were standard and comparable to other accountancy examining bodies.

Marks allocation to the questions followed the weighting in the syllabus. It was also found that 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 average with the reasonable number of passes. 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 was an indication that the candidates did prepare fairly well for the paper but did not take their time to really understand the actual requirements of the parts (b) of all the five questions.

NOTABLE STRENGTHS AND WEAKNESSES OF CANDIDATES

The strong performance of few candidates depended on the volume of knowledge and skill in approaching specific questions like batch costing, budgeting process, process costing and forecasting techniques. Many candidates exhibited good understanding of High or Low principles of separating fixed cost and variable costs from total costs but did not prepare on how real costs can be derived from the inflated total costs.

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) Atimbila Ltd manufactures a product that goes through various workshops. The following budgeted overheads for the year 2023, based on normal activity levels has been provided:

Workshop	Budgeted Overheads (GH¢)	Overhead absorption base
Forming	360,000	30,000 labour hours
Machining	860,000	50,000 machine hours
Welding	400,000	36,000 labour hours
Assembly	300,000	20,000 labour hours

Selling and administrative overheads are 25% of factory cost.

An order for 5,000 units of the product (Batch 3391) incurred the following costs on 31 August 2023:

Materials: GH¢62,140
 Labour: 1280 hours forming shop at GH¢10.50 per hour
 4520 hours Machining shop at GH¢11 per hour
 900 hours Welding shop at GH¢10.50 per hour
 1750 hours Assembly shop at GH¢9.60 per hour

An amount of GH¢1,050 was paid for the hire of a special X-ray equipment for testing the welds. The time booking in the machine shop was 6,430 machine hours. Selling price was GH¢150 per product.

Required:

Compute;

- i) The total cost of the batch. (10 marks)
 - ii) The unit cost per product. (1 mark)
 - iii) The profit per product. (1 mark)
- b) The following cost and production data relates to the operations of Mawuga Ltd over a two-year period.

	2022	2023
Production	50,000 units	54,000 units
Total costs	GH¢1,700,000	GH¢1,835,400

Between 2022 and 2023 there has been 5% cost inflation.

Required:

- i) Calculate the real fixed and variable costs. (6 marks)
- ii) Estimate what the total costs will be in 2024 if it is expected that there will be 4% cost inflation and output will be 56,000 units. (2 marks)

(Total: 20 marks)

QUESTION TWO

Komba Ltd is a manufacturing company that wants to allocate some funds for short and long term investments. To support this purpose, Komba Ltd is organising its annual budget preparation for the coming year. Some senior management of the company are wondering what the budgeting process is about and would be interested in having a better understanding of the annual budgeting process.

Required:

As the cost accountant of Komba Ltd:

- a) Explain **FIVE (5)** steps to be involved in the annual budgeting process. **(10 marks)**
- b) State **FIVE (5)** conditions for a successful implementation of a budgeting process. **(5 marks)**

- c) Explain **TWO (2)** short term investments available to Komba Ltd. **(5 marks)**

(Total: 20 marks)

QUESTION THREE

- a) Management accounting is the provision of financial and non-financial decision-making information to managers.

Required:

In reference to the above statement:

- i) Explain the decision-making levels within an organisation and state an *example each* of the kind of decision taken at the various levels. **(9 marks)**
- ii) Explain **TWO (2)** sources of management accounting information and state an *example each* of the information to be obtained. **(6 marks)**

- b) One form of specific order costing methods that seeks to attribute costs to jobs is known as job costing.

Required:

Enumerate **THREE (3)** factors that are necessary to ensure an effective and workable job costing system. **(5 marks)**

(Total: 20 marks)

QUESTION FOUR

a) Distinguish between *joint product* and *by-product*. (5 marks)

b) Odotobiri Ltd produces joint products (X, Y) from an identical manufacturing process. In December 2023, 11,000kg of materials were put into the production process. The total costs of processing (direct materials and conversion costs) were GH¢100,000. Output was 6,000 units of product X and 4,000 units of product Y and 1,000 units of a by-product Q. X has a sales value of GH¢24 per unit and Y has sales value of GH¢12 per unit. By-product Q has a sales value of GH¢1 per unit. The company has a policy to apportion joint costs based on sales value at a split-off point. 80% of the output of both X and Y was sold by the month end.

Required:

Extract the Process Account and an Income Statement. (10 marks)

c) Controlling through standards and standard costing is a creative technique for company managers to determine whether the organisation's resources are being used effectively. Standard costs are typically determined during budgetary control process because they employ predetermined standard cost for direct material, direct labour, and factory overhead.

Required:

Explain **FOUR (4)** uses of standard costing. (5 marks)

(Total: 20 marks)

QUESTION FIVE

- a) BB Importers Ltd has been importing electrical gadgets through the port of Takoradi over the past ten years. Management is aware that the business has been facing seasonal fluctuations but there is no scientific basis for the determination of such variations that can be used to predict future revenue. As a newly recruited Cost Accountant you have been provided with some past daily sales performance over a three-week period. Details of the sales performance are shown below:

Sales	Monday units	Tuesday units	Wednesday units	Thursday Units	Friday units
Week 1	780	830	890	850	850
Week 2	880	930	990	950	950
Week 3	980	1030	1090	1050	1050

Required:

Using daily moving average, calculate the daily variation for the company. (15 marks)

- b) The reasons for variances might be connected, and two or more variances may arise from the same cause. For example, a favorable variance and an adverse variance might have the same cause.

Required:

Explain the interrelationships between

- i) Material price and usage variances (2.5 marks)
ii) Labour rate and efficiency variances (2.5 marks)

(Total: 20 marks)

SUGGESTED SOLUTION

QUESTION ONE

a) **Workings**

Overhead absorption rates for departments:

$$\text{Forming} = \frac{\text{GH}\text{\textasciitilde}360,000}{30,000} = \text{GH}\text{\textasciitilde}12.00 \text{ OAR per labour hour}$$

$$\text{Machining} = \frac{\text{GH}\text{\textasciitilde}860,000}{50,000} = \text{GH}\text{\textasciitilde}17.20 \text{ OAR per machine hour}$$

$$\text{Welding} = \frac{\text{GH}\text{\textasciitilde}400,000}{36,000} = \text{GH}\text{\textasciitilde}11.11 \text{ OAR per labour hour}$$

$$\text{Assembly} = \frac{\text{GH}\text{\textasciitilde}300,000}{20,000} = \text{GH}\text{\textasciitilde}15.00 \text{ OAR per labour hour}$$

i)

Atimbila Ltd

Total cost of Batch 3391 produced on 31 August 2023

		GH¢
Direct materials		62,140.00
Direct labour	1280hours @GH¢10.5 per hour =13,440	
	4520hours @GH¢11.0 per hour = 49,720	
	900hours @GH¢10.5 per hour = 9,450	
	1750hours @GH¢9.6 per hour = <u>16,800</u>	89,410.00
Direct expense		<u>1,050.00</u>
Prime cost		152,600.00
Factory overheads	Forming 1280hours @ GH¢12.00 = 15,360	
	Machining 6430hours @ GH¢17.20 = 110,596	
	Welding 900hours @11.11 = 9,999	
	Assembly 1750hours @ 15.00 = <u>26,250</u>	<u>162,205.00</u>
Factory cost		314,805.00
Selling and Admin Overheads	25% of Factory cost (25% x 314,765)	<u>78,701.25</u>
Total cost		393,506.25

(Marks are evenly spread using ticks = 10 marks)

ii) Unit cost per product

$$= \frac{\text{total cost of batch}}{\text{number of units in batch}}$$

$$= \frac{\text{GH}\text{\textasciitilde} 393,506.25}{5,000 \text{ units}} = \text{GH}\text{\textasciitilde}78.70 \text{ per product}$$

(1 mark)

iii) Profit per product

$$= \text{selling price per product} - \text{unit cost per product}$$

$$= \text{GH}\text{\textasciitilde}150.00 - \text{GH}\text{\textasciitilde}78.70 = \text{GH}\text{\textasciitilde}71.30$$

(1 mark)

b)

i) **Current year cost in real terms** = $\frac{\text{current year Actual Costs}}{\text{Inflation rate}+1} = \frac{\text{GHS1,835,400}}{1.05} =$

GH¢1,748,000

Deriving fixed/variable costs from the real cost and production differences

	Production units	Costs GH¢
2023	54,000	1,748,000.00
2022	50,000	1,700,000.00
Difference =	4,000	48,000.00

Real variable cost per unit = $\frac{\text{GH¢48,000}}{4000 \text{ units}} = \text{GH¢12 per unit}$

Real Fixed cost = $\text{GH¢1,748,000} - (54,000 \text{ units} * \text{GH¢12 per unit}) = \text{GH¢1,100,000}$

Actual cost (2023) = $(\text{GH¢1,100,000} \times 1.05) + (54,000 \times \text{GH¢12} \times 1.05) = \text{GH¢1,835,000}$
(6 marks)

ii) Cost estimate for 2024 when there is expected to be 4% cost inflation and 56,000 units of output

= $(\text{GH¢1,100,000} \times 1.05 \times 1.04) + (56,000 \times \text{GH¢12} \times 1.05 \times 1.04)$

= **GH¢1,935,024.00**

(2 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

The part (a) was a batch costing and as part of the workings to determine the total costs of the batch, unit cost per product and profit per product, overhead absorption rates for the departments were correctly computed by most of the candidates. Even though candidates' scores were above average, some of the candidates fumbled with the computations of the total cost of the batch, unit cost per product and profit per product. The b) part of the question was not straight-forward to most of the candidates given the answers they churned out. Most candidates struggled to compute the real fixed and variable costs although they applied the correct method in deriving the fixed/variable costs from the real cost and production differences. Most candidates used GH¢1,835,000 total costs instead of the current year cost in real terms which was GH¢1,748,000. Due to the foregoing the ii) part of the question was poorly answered. Overall, the scores of the candidates in this question were average given that most of them were only able to answer the first part of the question.

QUESTION TWO

a) Stages in the preparation of the annual budget:

- Identify the key factor- the principal budget factor is often described as the key factor that may constraint output. The sales budget is considered a key factor that may limit the organization's ability to achieve a greater output. As a result, the manufacturing organization must determine the amount of goods to be sold in each financial year in terms of unit and value. This would culminate in the preparation of the sales budget and other functional budgets.
- Prepare the functional budget - after the determination of the key factor which ought to be the sale unit and value, the next stage in the annual budgeting process is to prepare the functional budgets. The functional budgets must be prepared within the constraints set up by the key budget factor. In addition to the sales budget, the organization should prepare the production budget, material usage budget, material purchase budget and cost of goods sold budget within the ambit of the constraint.
- Submit functional budgets for approval - the functional budgets are usually coordinated by the budget committee which must make sure that they are both realistic and consistent with the objectives of the budget. The budget committee is a group of people responsible for the coordination of the annual budget and one of such duties is to review and approve the functional budgets submitted by the functional managers.
- Prepare the master budget - after the approval of the functional budgets by the budget committee, these budgets are summarized into one single financial estimate called, the master budget. The master budget is presented in the form of budgeted income statement; budgeted financial position and cash budget for the planned financial year.
- Review and approval by the Governing Board - the master budget and the supporting functional supply estimates should be submitted to the board of directors for approval. The board after it has approved of the master budget then the budget becomes an executive order that authorizes functional managers to spend according to the expenditure limit.
- Communicate the approved budget - after the approval of the master budget by the governing board, such decision by the board is then communicated to the functional managers responsible for implementation of the annual budget.

(5 points @ 2 marks each = 10 marks)

b) Conditions for a successful implementation of a budgeting process

- **Set Clear Goals and Priorities:** A successful budgeting strategy begins with setting clear and achievable financial goals. Determine where you want your business to be in the short and long term. Whether it's increasing revenue, expanding to new markets, or launching a new product, your budget should align with these objectives. Prioritize your goals to allocate resources appropriately, ensuring each expenditure supports your growth trajectory.

- **Create a Comprehensive Budget:** Developing a comprehensive budget is the cornerstone of effective financial management. Start by analyzing historical financial data to understand your revenue streams and expenses. Categorize expenses into fixed (rent, utilities) and variable (marketing, inventory) costs. Consider creating a master budget that includes operating, capital, and cash budgets. A master budget provides a holistic view of your financial position and guides your spending decisions across all aspects of your business.
- **Embrace Zero-Based Budgeting:** Zero-based budgeting (ZBB) is a proactive approach where you allocate funds based on the needs of each budgeting period rather than relying on previous budgets. With ZBB, every expense must be justified from scratch, promoting resource efficiency and cost optimization. This method encourages regular review and scrutiny of expenses, helping you identify areas where you can cut costs or reallocate funds to more strategic initiatives.
- **Monitor and Adjust Regularly:** Creating a budget is the first step; consistently monitoring and adjusting it is crucial for success. Set up regular intervals to review your actual financial performance against the budgeted figures. If you find discrepancies, dig deeper to understand the reasons behind them. Were your assumptions accurate? Did unexpected expenses arise? Adjust your budget to reflect these insights and align your financial strategy with reality.
- **Foster a Culture of Accountability:** Budgeting is a team effort. Involve key stakeholders and departments in the budgeting process to gather insights and build a sense of ownership. Encourage department heads to manage their budgets, providing them with tools to track spending and stay within their allocated amounts. Regularly communicate financial updates to your team, showcasing progress towards goals and addressing challenges. An accountable culture ensures that everyone is aligned with the budget's objectives and actively contributes to the company's financial health.

A successful budgeting strategy isn't just about numbers; it's a roadmap to sustainable business growth. By setting clear goals, creating a comprehensive budget, embracing innovative budgeting techniques like zero-based budgeting, monitoring and adjusting regularly, and fostering a culture of accountability, you'll manage your finances effectively and position your business for long-term success. Remember, a well-implemented budget isn't a constraint; it's a tool that empowers you to make strategic decisions that fuel your business's growth journey.

(5 points @ 1 mark each = 5 marks)

c) **Short term investments:**

- **Savings accounts and interest earnings deposits—banks might allow a business to place short-term cash in a savings account.** In the same way, banks do not allow companies to use a savings account as a normal current account with frequent

deposits and withdrawals for the purpose of investment this is so because this will disrupt the cashflow projections of the bank for further investment purposes.

- **Money market investment**—it is also possible for companies or individuals to purchase treasury bills and certificates of deposit. Treasury bills are short term debt instruments issued by the government. They are usually issued by the government for a fixed period of time, say three months or 91 days or possibly six months and redeemed at the end of the period/maturity. They are a risk-free instrument since the central government has credibility and capacity to redeem its short-term obligations when due. CDs are issued by banks and a certificate of investment issued to the holder of the investment – as a right to ownership of a deposit of cash with the bank plus interest redeemable at a fixed future date.
- **Long term investment traded as short-term securities** - bonds traded in the bond markets often have a higher return than short term investments, because there is a greater risk for the investor. Bondholders can sell their investment in the secondary bond market if they need to convert the investment back to cash. However, risk is pervasive in the market, bond proceeds can fall if bond yields in the market rise. Bond proceeds can also fall if the credit rating of issuer falls.

(Any 2points @ 2.5 marks each = 5marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

This was also a standard question that was appropriate for the level. The question was in three parts. It was tackled by almost every candidate. In the a) part that required candidates to explain steps involved in the annual budgeting process, most candidates gave the right answers and scored high marks. In the b) part some candidates were able to state conditions necessary for the successful implementation of the budget process with some also showing poor knowledge of same. On the other hand, the c) part was poorly handled by most of candidates even though it was quite simple and straight-forward. The candidates were expected to explain short-term investments available to a manufacturing firm. Few candidates understood the question and answered it appropriately. Generally, the candidates scored higher marks in this question than any other question in this diet.

QUESTION THREE

a)

i) Decision-making process takes place at the various managerial levels within an organization, and these may include the strategic, tactical, and operational level:

- **Strategic level** - this type of decision takes place at the board and the senior management levels within the organization. For example, senior managers may take a decision regarding the closure of an unprofitable strategic business unit (SBU). No amount of maneuvering by the affected functional manager would prevent such a decision.
- **Tactical level** - this type of decision takes place at the functional levels within the organization. For instance, the production manager may have a plan to produce 1000 units of output during the production period. This decision is the sole responsibility of the production manager however, any deviation from production targets can be probed by senior management without usurping the powers of the production manager.
- **Operational level** - this type of decision takes place at the supervisor or foremen level within the organization. For example, sales supervisors in a product organization may take a decision to suspend credit to a customer based on the customer's failure to meet deadlines for meeting credit obligations. This decision is a customer service decision which can be made only by those providing direct services to the customer.

(3 points @ 3 marks each = 9 marks)

ii) Sources of management accounting information:

Internal sources - here management accounting information is obtained within the organization. Internal management accounting information can be accessed via accounting records, production schedules and human resource records. Accounting records provide information on the existing costs and their behavior. Production schedules provide information on the products that are being manufactured with respect to their technical details, quality, and delivery, routine, and batching. Human Resource records will make information available on the status of labour. The trend in the labour market, types of skills required and training needs.

External sources - here management accounting information is obtained outside the organization. External management accounting information can be assessed through Government policy documents, industry bulletin, competitor pricing, the internet, and other regulatory agencies. Government policy on labour would relate to minimum wage, permissible maximum hours an employee can work for a day. The industry bulletin would release information regarding the performance of firms in the industry and opportunities available. Competitor information in the industry will be in respect of pricing, product quality, product differentiation, cost leadership and market space. The internet is abounding with information

regarding the customer, product, pricing, and market space. Regulatory agencies will be interested in firms' disclosure for tax purposes.

(2 points @ 3 marks each = 6 marks)

b) Factors necessary for an effective job costing system:

- A sound system of production control;
- Comprehensive works documentation;
- An appropriate time booking system;
- A well organised basis to the costing system with clearly defined cost centers, good labour analysis, appropriate overhead absorption rates and a relevant materials issue pricing system.

(Any 3 points @ 1.33 marks = 5 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

The question was in two (2) parts. The part a) i) expected candidates to explain the decision-making levels within an organisation and state examples of the kind of decisions taken at the various levels. The scores of most candidates were above average.

Then again, the a) ii) part required candidates to explain the sources of management accounting information. This question was well answered with many getting high scores.

On the c) part, many candidates failed to clearly articulate the factors that are necessary to ensure effective and workable job costing system. They could not produce answers that demonstrate their understanding of job costing system. Largely, the candidates scored above average marks in this question.

QUESTION FOUR

a) Joint product versus by-product:

Joint product- these are two or more products generated simultaneously from a single manufacturing process.

By-product- given the same manufacturing process used to produce joint products, any further output, that emerges relatively minor in quantity or saleable value, is a by-product.

(5 marks)

b) Sales value

Product		GH¢
X	6,000 units x GH¢24	144,000
Y	4,000 units x GH¢12	<u>48,000</u>
		192,000

(1 mark)

Cost of by-product

Product		GH¢
X	$144,000 / 192,000 \times (100,000 - 1,000)$	74,250
Y	$48,000 / 192,000 \times (100,000 - 1,000)$	<u>24,750</u>
		99,000

(1 mark)

Process Account

Input cost	Kg	Cost (GH¢)
Direct material	11,000	100,000
	<u>11,000</u>	<u>100,000</u>
Output cost	Kg	Cost (GH¢)
Products:		
X	6,000	74,250
Y	4,000	24,750
Q	1,000	1,000
	<u>11,000</u>	<u>100,000</u>

(4 marks)

Income Statement

Revenue:	GH¢
X (80% x 6,000units x GH¢24)	115,200
Y (80% x 4,000units x GH¢12)	<u>38,400</u>
	153,600
Cost of sales:	
Production cost	99,000
Less Closing inventory 20% x 99,000	<u>19,800</u>
	(79,200)
Net profit	<u>74,400</u>

(4 marks)

c) **Uses of standard costing:**

- It helps in pricing a product
- Inventory valuation
- It helps to derive variances
- It guides in buying materials at reasonable prices and quality

(4 points @ 1.25 mark each = 5 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

The question was in three parts. The a) and b) parts were on process costing with the c) on standard costing. With the exception of the b) part which most candidates attempted and scored average marks the scores in a) and c) were above average. Only few candidates could not distinguish between joint product and by-product. However, some of the explanations given were not convincing as expected. Furthermore, the b) part was not straight-forward to many candidates and the average prepared candidates were not able to tackle this sub question well. Many candidates could not calculate the sales value, cost of by-product and adjust for the policy to apportion joint costs based on sales value at a split-off point; most candidates thus failed to generate the process account and the income statement. Besides, the answers provided by candidates on the c) part which was on the uses of standard costing were fair with many scoring high marks. On the whole candidates performed averagely to a fairly good standard question.

QUESTION FIVE

a)

Day	Sales	Moving total	Trend	Variation
1	780			
2	830			
3	890	4200	840	50
4	850	4300	860	-10
5	850	4400	880	-30
6	880	4500	900	-20
7	930	4600	920	10
8	990	4700	940	50
9	950	4800	960	-10
10	950	4900	980	-30
11	980	5000	1000	-20
12	1030	5100	1020	10
13	1090	5200	1040	50
14	1050			
15	1050			

(marks are evenly spread using ticks = 15 marks)

b) Interrelationship between variances

- **Material price and usage variances:** It may be decided to purchase cheaper materials for a job in order to obtain a favourable price variance. This may lead to higher materials wastage than expected and therefore, adverse usage variances occur. If the cheaper materials are more difficult to handle, there might be some adverse labour efficiency variance too. If a decision is made to purchase more expensive materials, which perhaps have a longer service life, the price variance will be adverse but the usage variance might be favourable. (2.5 marks)
- **Labour rate and efficiency variances:** If employees in a workforce are paid higher rates for experience and skill, using a highly skilled team should incur an adverse rate variance at the same time as a favourable efficiency variance. In contrast, a favourable rate variance might indicate a high proportion of inexperienced workers in the workforce, which could result in an adverse labour efficiency variance and possibly an adverse materials usage variance (due to high rates of rejects). (2.5 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

The first part of the question, a), was well handled by many candidates. Most candidates attempted the question, and many scored high marks. There was a good display of better understanding of forecasting techniques. The latter, over the last 6 sittings seems a difficult area and has seen poor candidates' performance, however the candidates scored high marks in this sitting.

Also, the b) part of the question was on the interrelationships between material price and usage variances, labour rate and efficiency variances. This question perhaps was not clear to the candidates and as such some could not provide the required answers even though examiners expected better answers from candidates. This perhaps attests to the fact that candidates have poor understanding of standard costing. General performance in this question was above average.

CONCLUSION

Recommendations for the observed weaknesses 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 relatively easier and straightforward to them.