NOVEMBER 2025 PROFESSIONAL EXAMINATIONS
MANAGEMENT ACCOUNTING (PAPER 2.2)
CHIEF EXAMINER'S REPORT, QUESTIONS AND MARKING SCHEME

EXAMINER'S GENERAL COMMENTS

The questions were fairly balanced in terms of spread over the syllabus and with respect to theory and practice. Specifically, areas examined included transfer pricing, budgeting and budgetary control, value chain analysis, Total Quality Management, variance analysis, public sector investment appraisal with expected value, and profit maximization.

STANDARD OF THE PAPER

Almost all the areas in the syllabus were covered and marks were fairly allocated based on the weightings. The questions were free from errors and all additional information needed were provided. The standard matched up with the level of the professional qualification since it offered opportunity for analysis and evaluation of business scenarios. Marks were fairly allocated for questions based on tasks involved.

PERFORMANCE OF CANDIDATES.

Performance of candidates was far below expectation in view of the level of difficulty of the paper. Questions one (a), four and five (a) were poorly attempted with most candidates scoring zero in question four and below ten in both one and five. The theory questions were quite straight forward and most candidates scored some good marks from them.

The poor performance was wide spread. Generally, the questions were within the competence of an average candidate.

NOTABLE STRENGHTS AND WEAKNESSES.

Most candidates performed averagely in the theory questions. Attempt at transfer pricing, Cost Benefit Analysis (probably because of the expected values) and efficiency ratio was poor. The budgeted income statement and financial position statement in question two, variances in question three and profit maximization in question five (a) were fairly attempted but candidates could not score enough marks to compensate for the poor performance in the other questions.

QUESTION ONE

Adjeley PLC (Adjeley) has been operating as a beverage manufacturer for several years in Ghana. Its products are widely distributed in Ghana and other West African countries. The recent trend by the government to encourage and enforce sustainable practices among companies has compelled Adjeley to switch from using plastics to using biodegradable materials only. Adjeley operates two divisions, that is Gagba and Muchuru. Gagba is responsible for producing bottles that it supplies to Muchuru, the bottling division of Adjeley. Gagba also sells the bottles it produces to external customers.

The following guidelines underpin the operations of all the divisions of Adjeley:

- Each division is at liberty to set transfer prices and also to choose its suppliers.
- Adjeley uses residual income (RI) for assessing the performance of its divisions.
- Adjeley's cost of capital had originally been pegged at 17.5% per annum. However, this is set to reduce by 25% because of favourable responses from stakeholders to the news of Adjeley switching from plastic to biodegradable bottles.

Key operating data relating to the operations of Gagba and Muchuru are as follows:

Gagba Division

Maximum capacity	150,000,000 bottles
External sales	110,000,000 bottles
External selling price	GH¢238 per set of 100 bottles
Variable cost	GH¢150 per set of 100 bottles
Fixed costs	GH¢73,440,000
Capital employed	GH¢217,600,000
Target residual income	GH¢12,240,000

Muchuru Division

The Muchuru Division has found two other companies willing to supply biodegradable bottles as follows:

i) Kotey PLC can supply a set of 100 bottles at GH¢190. However, Muchuru must make annual orders above 50,000,000 bottles.

ii) Niiquaye PLC can supply a set of 100 bottles at GH¢225 for any quantity ordered by Muchuru.

Required:

If Muchuru provisionally requests a quotation for 60,000,000 bottles from Gagba;

a) Determine the transfer price per a set of 100 bottles that Gagba should quote in order to meet its residual income target. **(10 marks)**

b) Justify whether Muchuru will accept the transfer price calculated in (i) above. **(2 marks)**

c) Calculate the two prices that Gagba would have to quote to Muchuru if it becomes the group's policy to quote transfer prices based on opportunity costs. **(4 marks)**

d) State **TWO** advantages each of ***return on investment*** and ***residual income*** as performance evaluation tools. **(4 marks)**

(Total: 20 marks)

QUESTION TWO

a) Teki LTD (Teki) is a business with the following list of assets and liabilities as at 31 December 2023:

	GH¢
Equipment at cost	178,000
Accumulated depreciation on equipment	62,000
Inventory	128,000
Trade receivables	70,000
Bank balance	2,000
Trade payables	64,000

Relevant information:

1) The current economic climate has contributed to a steady increase in sales over the years. Based on this trend, the following forecasts have been prepared for the year ending 31 December 2024:

i) The gross profit margin is expected to be 20% on sales

ii) Forecast monthly sales are as follows:
GH¢80,000 per month from January to June 2024.
GH¢90,000 per month from July to December 2024.
GH¢100,000 per month from January to June 2025.

iii) Teki follows a policy of maintaining month-end inventory levels sufficient to meet the projected sales demand for the subsequent two months.

iv) The credit terms extended to customers and received from suppliers are expected to remain at one month throughout the period.

2) A new equipment valued at GH¢40,000 is budgeted to be bought and paid for in June 2024 to cope with increased sales.

3) General expenses of GH¢10,000 are incurred monthly and paid for in the month in which they are incurred.

4) Depreciation charge for the year is to be GH¢24,000 and a monthly cash withdrawal of GH¢4,000 for personal use is to be made.

5) Bank balance is estimated to be an overdraft of GH¢38,000 after taking into consideration the above transactions.

Required:

Prepare:

i) The budgeted Statement of Profit or Loss Account for the year ending 31 December 2024. **(6 marks)**

ii) The budgeted Statement of Financial Position as at 31 December 2024. (**9 marks)**

b) Korkor LTD is a company engaged in the manufacturing of furniture in the Greater Accra Region of Ghana. The company has been struggling to survive due to low demand for its products. The company however wants to implement strategies to gain competitive advantage in the furniture industry within the region.

Required:

i) Explain how ***cost leadership strategy*** and ***differentiation strategy*** can be used to gain competitive advantage in the furniture industry. **(3 marks)**

ii) Discuss **TWO** primary activities involved in value chain analysis within the furniture industry. (**2 marks)**

(Total: 20 marks)

QUESTION THREE

a) Laryea LTD, a premium food manufacturer is reviewing its operations for a three-month period. The company operates a standard marginal costing system and manufactures one product, "komi", for which the following standard revenue and cost data per unit of product are available.

Selling price	GH¢12
Direct material A	2.5kg at GH¢1.70 per kg
Direct material B	1.5kg at GH¢1.20 per kg
Direct labour	27 minutes at a rate of GH¢6 per hour

Fixed production overheads for the three-month period were expected to be GH¢62,500.

Actual data for the three-month period were as follows:

Sales and production	48,000 units of komi were produced and sold for GH¢580,800
Direct material A	121,951kg were used at a total cost of GH¢200,000
Direct material B	67,200kg were used at a total cost of GH¢84,000
Direct labour	Employees worked for 18,900 hours, but 19,200 hours were paid at a cost of GH¢117,120
Fixed production overheads	GH¢64,000

Budgeted sales for the three-month period were 50,000 units of komi.

Required:

Calculate the following:

i) Sales volume contribution and sales price variances. (**2 marks)**

ii) Material price variances. **(2 marks)**

iii) Usage, mix and yield variances for ***each*** material. (**6 marks)**

b) The Ghana Tertiary Education Commission (GTEC) was established to ensure that tertiary educational institutions in Ghana maintain high-quality standards and relevance in teaching, learning and research programmes. Its main objective is to ensure efficient and effective administration of tertiary educational institutions and to promote consistent quality of service.

Required:
Using Edward Deming's Principles of Total Quality Management (TQM), explain **FOUR** ways the management of tertiary institutions in Ghana can apply these principles to achieve efficient and quality delivery of service. (**6 marks)**

c) The citizens of Kwae, a mining community in the Eastern Region of Ghana, have been suffering from the effects of mining activities over the years and now want the closure of all mining companies in the community. Notwithstanding the problems the mining activities have created for the community, the community has also benefited in many ways from the mining companies. Policy makers of Kwae often intervene to manage these externalities through regulations.

Required:

i) Explain the difference between ***positive externalities*** and ***negative externalities***. **(2 marks)**

ii) Positive and negative externalities are divided into production and consumption. State **TWO** examples ***each*** under ***positive production externalities*** and ***negative production externalities***. **(2 marks)**

(Total: 20 marks)

QUESTION FOUR

a) The Central Gonja District Assembly (CGDA) in 2024 as part of its mandate conducted a community needs assessment through technical analysis and a citizens' engagement process using durbars and town hall meetings. The main need identified from this process was for the people in the area to have a reliable source of water supply for various uses. Fortunately, the area is endowed with a gouge that collects a lot of water during the rainy season and is also in close proximity to the Black Volta from which water can be drawn.

As a result, the Assembly has decided to conduct feasibility study for the construction of a multipurpose dam. The decision to proceed or not to proceed with the project depends on the results obtained from this study.

Relevant financial information relating to the project are as follows:

1) The initial construction cost of the multipurpose dam is estimated at GH₵8,300,000.

2) The annual net benefits of this project is dependent on the amount of rainfall in a year:
   - GH₵2,340,000 of benefits and GH₵1,980,000 of costs in a year with light rainfall;

- GH¢4,460,000 of benefits and GH¢3,880,000 of costs in a year with moderate rainfall; and
- GH¢5,040,000 of benefits and GH¢4,000,000 of costs in a year with heavy rainfall.

3) Records obtained from the Ghana Meteorological Agency revealed the following probabilities of rain: 86% of light rainfall, 12% of moderate rainfall and 2% of heavy rainfall.

4) It is assumed that the annual costs and benefits measured in Ghana cedis, begin to accrue at the end of the first year.

5) The social discount rate (SDR) for projects of this nature is set at five percent (5%) per annum.

6) The project will last for an indefinite period of time.

Required:

Using the meteorological records as a basis for prediction:

i) Determine on the basis of cost benefit analysis (CBA) whether this project should be undertaken. (**6 marks)**

ii) Calculate the rate at which the project will break even. (**6 marks)**

iii) State the phases of project management cycle. (**3 marks)**

b) Aryee LTD produces three (3) products "kwakwe", "aluguntugui" and "Kenan". The standard hours for the production of the products are 25 minutes for kwakwe, 35 minutes for aluguntugui and 40 minutes for kenan.

The budget for May 2025 was 50,000 units of kwakwe, 28,000 units of aluguntugui and 41,000 units of kenan.

During the month, 32,000 labour hours were worked and 35,000 units of kwakwe, 20,000 units of aluguntugui and 15,000 units of kenan were produced.

Required:

Compute and interpret the labour efficiency ratio for each of the products. **(5 marks)**

(Total: 20 marks)

QUESTION FIVE

a) Adama LTD (Adama) makes and sells a product "kpekple" which is facing stiff competition and wants to replace it with a new product. The research department of Adama has therefore developed a product called "asaanaa" which has been tested and approved by the Food and Drugs Authority.

Kpekple

Due to limited capacity, Adama can only produce maximum units of 220,000 for either of the products at a time.

Sales of Kpekple are expected to be 125,000 units in quarter 1 and forecasted to increase by 8% in quarter 2 and fall by 12% per quarter for last two quarters.

Kpekple has a selling price of GH¢20 per unit and has total variable cost of GH¢1,000,000 in quarter 1.

The variable cost per unit in quarter 1 to quarter 3 are expected to be constant but would increase by 6% in quarter 4.

Fixed cost of making kpekple will be GH¢1,200,000 per quarter and it is not expected to increase for the rest of the year.

Asaanaa

The research department predicted the sales of asaanaa using growth rate-based forecasting methods. ***This is given as Forecasted sales growth = Previous periods sales x quarterly growth rate percentage.***

Forecasted sales (units) for quarter 1 and quarter 2 are as follows:

	Quarter 1	**Quarter 2**
Forecasted sales (units)	150,000	172,000

The selling price of asaanaa will be GH¢25 per unit. While the selling price can be predicted with certainty, variable cost per unit will be either GH¢14 or GH¢9 per unit with the lower cost having probability of 40%.

The fixed cost will increase by GH¢350,000 per quarter should asaanaa replace kpekple.

Required:

i) Explain **TWO** methods that can be employed for sales forecasting. **(4 marks)**

ii) Calculate the projected annual profit for each of the products and recommend which product should be produced. **(10 marks)**

b) Sales forecasts can be affected by a multitude of internal (controllable) and external (uncontrollable) factors that can significantly impact the revenue projection of a business.

Required:

Explain **TWO *internal*** and **TWO *external*** factors that affect sales projection. **(6 marks)**

(20 marks)

SUGGESTED SOLUTION

QUESTION ONE

a) **If Muchuru provisionally requests a quotation of 60,000,000 bottles from Gagba for the coming year:**
Computation of transfer price per set of 100 bottles that Gagba should quote in order to meet its residual income target:

Total profit required by Gagba	**GH¢**
13.125% of capital employed (GH¢217,600,000 x 13.125%)	28,560,000
Targeted residual income	12,240,000
Required profit	40,800,000
Add: fixed costs	73,440,000
Required contribution	114,240,000
Less: External contribution (90,000,000bottles/100) x GH¢88	(79,200,000)
Contribution needed for internal sales	35,040,000

Additional contribution per set of 100 bottles = $\frac{\text{Gh¢}35{,}040{,}000}{60{,}000{,}000\ bottles/100} = \text{GH¢}58.4$

Transfer price:	**GH¢**
Variable cost	150
Add: additional contribution	58.40
	208.4

(10 marks evenly spread with ticks)

b) Muchuru is not likely to accept the transfer price quoted by Gagba since they can get a better price by buying from Kotey PLC.

(2 marks)

c) **Selling to Muchuru on opportunity cost basis:**
40,000,000 bottles at GH¢150 per set of 100 bottles variable cost.
20,000,000 bottles at GH¢238 per set of 100 bottles external selling price.

(4 marks)

d) **Advantages of residual income**

- **Promotes goal congruence**: It encourages managers to make investment decisions that are beneficial to the company as a whole because positive residual income indicates that a project is generating value above the cost of capital.
- **Encourages value creation**: By measuring economic profit, residual income incentivizes managers to focus on profitability and efficient resource allocation, leading to decisions that genuinely increase shareholder wealth.
- **Aligns with shareholder interests**: It provides a clearer picture of true economic profit by deducting the cost of capital, ensuring that performance evaluation reflects the return on investment that shareholders expect.

- **Provides a long-term focus**: Unlike metrics that can be manipulated for short-term gains, residual income encourages decisions that create sustainable value over the long run by incorporating the cost of capital.

Advantages of return on investment

- **Facilitates Performance Comparison:** ROI provides a standardised metric that allows for "apples-to-apples" comparison of the profitability and efficiency of diverse, and even dissimilar, investments, projects, or business divisions. This helps management identify and prioritize the most profitable opportunities.
- **Supports Informed Decision-Making and Resource Allocation:** By quantifying the financial return, ROI data provides a solid foundation for management to make strategic decisions, allocate resources effectively, and focus capital toward high-return initiatives.
- **Focus on Profitability:** ROI ties net income directly to the assets or capital used to generate that income, providing a clear and comprehensive view of the investment's impact on the overall profitability of the business.
- **Goal Congruence:** When managers' performance is evaluated using ROI, it encourages them to make decisions that enhance both their division's performance and the overall profitability of the company, promoting alignment with organizational goals.

(2 relevant points under each tool for 4 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

Sub-question (a) required candidates to apply the concept of idle capacity and opportunity cost in competitive transfer pricing. Candidates were unable to work back to determine the contribution needed after the 900,000 sets has been sold at the open market price to achieve the target residual income. The 600,000 sets required by the receiving division can only be supplied from the idle capacity of 400,000 sets and 200,000 sets drawn from normal sale resulting in opportunity cost. Candidates however demonstrated knowledge of the imputed cost of capital.

The responses to sub-question (b) indicated that candidates understand that in competitive transfer pricing where the receiving division can obtain it cheaper from outside it would be better for the company to allow that. So even though the computation of the transfer price in (a) was wrong most of the candidates got the (b) and (c) right.

For sub-question, most candidates were able to state the advantages of ROI and RI and obtained the full marks.

QUESTION TWO

a) **Teki LTD**

i) **Budgeted Profit or Loss Account for the year ended 31 December 2024**

	GHS	GHS
Sales ((80000 X 6) + (90000 X 6))		1,020,000.00
Less cost of sales		
Opening inventory	128,000.00	
Add Purchases(64000*4) +(72000*6)+ (8000	848,000.00	
	976,000.00	
Less Closing inventory	160,000.00	
		816,000.00
Gross profit		204,000.00
Less expenses		
General expenses	120,000.00	
Depreciation	24,000.00	
		144,000.00
Net profit		60,000.00

(Marks are evenly spread using ticks = 6 marks)

ii) **Budgeted Statement of Financial Position as at 31 December 2024**

Non-Current Assets	GHS	GHS
Equipment (178000 + 40000)		218,000.00
Less Depreciation (62000 + 24000)		86,000.00
		132,000.00
Current Assets		
Inventory	160,000.00	
Trade receivables	90,000.00	
	250,000.00	
Current liabilities		
Trade creditors	80,000.00	
Bank balance	38,000.00	
	118,000.00	
Working capital		132,000.00
Net Assets		264,000.00
Capital		252,000.00
Net profit		60,000.00
		312,000.00
Less Drawings		48,000.00
		264,000.00

(Marks are evenly spread using ticks = 9 marks)

b)

i) A ***cost leadership strategy*** focuses on becoming the lowest-cost producer in an industry. It aims to reduce costs to increase profit margins through economies of scale, efficient operations and cost-cutting measures. Whereas ***differentiation strategy***, focuses on creating unique products or services that stands out from competitors. It aims to increase customer loyalty and willingness to pay a premium. This is often achieved through innovative product or service, strong brand identity and unique features.

(3 marks)

ii) **primary activities involved in value chain analysis**

- **Inbound logistics**. These are the activities concerned with receiving and handing purchased materials and components, and storing them until needed. This involves getting the right wood and other quality materials for all the product of the company. Storing the woods in a well-ventilated place and also protecting the wood and the other materials from the rain and the sun.
- **Operations**: These are the activities concerned with converting the purchased materials into an item the customers will buy. In a manufacturing company, operations might include machining, assembly, packing, and testing and equipment maintenance.
- **Outbound logistics**: These are activities concerned with the storage of finished goods before sale, and the distribution and delivery of goods (or services) to the customers.
- **Marketing and sales:**
- **Service**. These are all the activities that occur after the point of sale, such as installation, repairs and maintenance, and after -sales service.

(2 relevant points for 2 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

For sub question (a), some candidates wasted a lot of time to derive figures that could be obtained from the information provided. To compute the gross sales, require a simple tasks and since the gross profit percentage had been given the trading side of the statement is simple. Besides, there were only two items to be treated at the profit and loss section.

It is only the inventory, trade receivables and payables balances for the financial position statement that required some schedule. Even when the cash balance at the end of the period has been given candidates were preparing cash receipts and payments to arrive at the closing balance.

Candidates responded quite well to the (i) of sub-question (b), except that a few wrote about segmentation instead of product differentiation as required in the question.

Candidates answered sub-question (b)(ii) quite well. In view of the marks allocated it was enough for candidates to state the activities to qualify for the full score instead of discussing them.

QUESTION THREE

a) Laryea LTD

i)

Workings

Contribution per unit

Selling Price / Unit	12
Less Variable Cost:	
Direct Material A (2.5kg @ 1.7)	(4.25)
Direct Material B (1.5kg @ 1.2)	(1.80)
Labour (0.45hr @ 6.00)	(2.70)
Standard Contribution	3.25

Sales Volume Contribution Variance

AQ sold @ Standard contribution = 48,000 @ 3.25 =156,000
BQ @ Standard Contribution = 50,000 @ 3.25 = 162,500
SVCV 6,500 (A)

Sale Price Variance

AQ sold @ AP = 48,000 @ 12.1 = 580,800
AQ sold @ SP = 48,000 @ 12 = 576,000
SPV = 4,800 (F)

(2 marks)

ii)

Direct Material 'A' Price Variance

AQ @ AP = 121,951 @ 1.64 = 200,000
AQ @ SP = 121,951 @ 1.70 = 207,316.7
DMPV 7,316.7 (F)

Direct Material 'B' Price Variance

AQ @ AP = 67,200 @ 1.25 = 84,000
AQ @ SP = 67,200 @ 1.20 = 80,640
DMPV = 3,360 (A)

(2 marks)

iii)

Volume, Mix and Yield of Material A and B

Material Type	A	B	TOTAL
Standard Mix	2.5/4	1.5/4	4/4
AQAM	121,951	67,200	189,151
AQSM	118,219.38	70,931.63	189,151
SQSM @ Actual Production	120,000	72,000	192,000
Standard Price	1.7	1.2	
Mix	6,343.76 (A)	4,477.95 (F)	1,865.81 (A)
Yield	3027.05 (F)	1,282.04 (F)	4,309.09 (F)
Usage	3,316.7 (A)	5,760 (F)	2,443.28 (F)

(6 marks)

b) Applying Deming's Principles to achieve quality service delivery in the tertiary institutions in Ghana**.**

- **Create Constancy of Purpose**: Develop a long-term vision for quality education, focusing on innovation and relevance. Example: Establish a 5-year strategic plan with clear quality objectives and key performance indicators (KPIs).
- **Adopt the New Philosophy**: Emphasize student-centered learning, focusing on student needs and satisfaction. Example: Implement student feedback mechanisms and use the feedback to improve teaching and learning processes.
- **Cease Dependence on Inspection**: Build quality into academic programs and processes, rather than relying on inspections. Example: Develop robust quality assurance systems, including internal and external audits, to ensure program quality.
- **End the Practice of Awarding Business on Price Tag Alone**: Prioritize quality and relevance over cost in procurement and partnerships. Example: Establish clear procurement guidelines that prioritize quality, relevance, and value for money.
- **Improve Constantly and Forever**: Regularly assess and improve processes, academic programs, and services. Example: Establish a quality improvement team to identify areas for improvement and implement changes.
- **Institute Training on the Job**: Provide ongoing training and development opportunities for staff. Example: Offer regular workshops and training sessions on teaching and learning methodologies, research skills, and industry trends.
- **Institute Leadership**: Foster effective leadership that supports and empowers staff. Example: Provide leadership training and coaching for department heads and deans to enhance their leadership skills.
- **Drive out Fear**: Create an environment where staff feel comfortable sharing ideas and concerns. Example: Establish an open-door policy, encouraging staff to share feedback and suggestions without fear of reprisal.
- **Break down Barriers between Departments**: Encourage collaboration and communication between departments. Example: Establish interdisciplinary research teams or committees to promote collaboration and knowledge-sharing.
- **Eliminate Slogans and Targets**: Focus on meaningful quality improvement initiatives. Example: Replace slogans with concrete quality improvement projects, such as improving student engagement or enhancing research output.
- **Eliminate Numerical Quotas**: Prioritize quality over quantity in academic programs and services. Example: Focus on improving student learning outcomes rather than just increasing student numbers.
- **Remove Barriers to Pride of Workmanship**: Empower staff to take ownership of their work. Example: Provide autonomy and resources for staff to develop and implement innovative projects.
- **Institute a Vigorous Program of Education and Self-Improvement**: Support staff development and continuous learning. Example: Offer scholarships or funding for staff to pursue further education or professional development opportunities.
- **Put Everybody in the Company to Work**: Encourage all staff to contribute to quality improvement initiatives. Example: Establish a quality improvement suggestion scheme, encouraging all staff to contribute ideas for improvement.

(4 valid points @ 1.5 mark each = 6 marks)

c)

i) A *negative externality* is a negative consequence of an economic activity experienced by an unrelated third party while *positive externality* is a benefit from an economic activity experienced by an unrelated third party. **(2 marks)**

ii)

Examples of positive production externalities

- Infrastructure development: Building a subway station in a remote neighbourhood may benefit real estate agents who transact properties in the area. Real estate prices would likely increase due to better accessibility, and the agents would be able to earn higher commissions.
- R&D activities: A company that discovers a new technology as a result of research and development (R&D) activities creates benefits that help society as a whole**.**

Examples of negative production externalities

- Air pollution: A factory burns fossil fuels to produce goods. The people living in the nearby area and the workers of the factory suffer from the deteriorating air quality.
- Water pollution: Oil spillage destroying aquatic animals in the sea and affecting the people living in coastal areas.
- Noise pollution: People living near a large airport suffer from high noise levels.

(2 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

The calculation of variances was well attempted. Candidates were able to compute the sales variances as well as material price, usage, mixed and yield variances. Under the yield, most candidates used the input approach instead of the output which does not break the materials in the finished product into the individual components.

Those who attempted sub-question (b) were able to relate the principles in TQM to the management of tertiary institutions which was highly commendable. Some good marks were scored.

Again, the concept of externalities arising from operations of entities and particularly that of a mining company was well explained and the examples given were quite relevant.

QUESTION FOUR

a)

i) Computation of the expected value of the annual net benefits:

Years	**Benefit GH¢'000**	**Cost GH¢'000**	**Net Benefit/Cost Gh¢'000**	**Probability**	**Expected value Gh¢'000**
Light rainfall	2,340	1,980	360	.86	309.60
Moderate rainfall	4,460	3,880	580	.12	69.60
Heavy rainfall	5,040	4,000	1,040	.02	20.80
					400.00
Present value of perpetuity (constant flow) = $\frac{Constant\ flow\ (C)}{discount\ rate\ (r)}$					
Present value of expected benefits of the multipurpose dam $= \frac{\text{Gh¢}400{,}000}{0.05} =$ $\text{GH¢}\mathbf{8,000,000}$					
Present Value of Expected Net Benefits = $Expected\ benefits - Initial\ construction\ cost$					
Present Value of Expected Net Benefits = $\text{GH¢}\mathbf{8,000,000} - \text{GH¢}8{,}300{,}000 = \text{GH¢}(300{,}000)$					

Decision:

The project is not worth undertaking since it has a negative net expected benefit of GH¢300,000.

(6 marks)

ii) Rate at which the project will breakeven = $\frac{Expected\ Benefit}{Break\ even\ discount\ rate} = Cost\ of\ project$

$$\frac{\text{GH¢}400{,}000}{Break\ even\ discount\ rate} = \text{GH¢}8{,}300{,}000$$

Break even discount rate = $\frac{\mathbf{GH¢}400{,}000}{\mathbf{GH¢}8{,}300{,}000} = 0.048$

The social discount rate at which the project will break even is 4.8 percent.
Thus, the discount rate would have to be no larger than 4.7% for the present value of expected net benefits for the dam to be positive.

(6 marks)

iii) **Stages of project management cycle:**

- Initiation
- Planning
- Execution
- Monitoring & Control
- Closure

(3 marks)

b) Aryee LTD

Labour Efficiency = $\frac{\text{Standard Hours}}{\text{Actual Hours}} \times 100\%$

Standard Hours = $\frac{25}{60} \times 35000 + \frac{35}{60} \times 20{,}000 + \frac{40}{60} \times 15{,}000$

Standard Hours = 14,583.33 + 11,666.67 + 10,000 = 36,250

Labour Efficiency = $\frac{36{,}250}{32{,}000} \times 100\% = 113.28\%$

Labour used 13.28% hours less than budgeted.

(5 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

Candidates demonstrated knowledge in the cost-benefit principle. What they failed to do right was the application of the probabilities to the outcomes to arrive at the expected values for benefits and costs. When that is used there will be a constant net benefit that will be converted to total present value by just capitalizing it because of the perpetuity of the life-span of the project. Candidates were struggling to compute the benefits and the costs as given in the question and looking for the discount factor for the cost of capital of 5%. Once no table was provided it could be inferred that candidates wasted a lot of time in computing the discount factor which was not necessarily needed.

Since the entire concept was misunderstood candidates could not do the sensitivity analysis to determine the rate that will make the project breakeven.

The phases of project management have been detailed out in the study manual yet most candidates could not respond well to the requirement.

For the computation of efficiency ratio for labour, the standard hours is needed to be compared with the actual hours. There was no need to compute efficiency ratio for each product. Most candidates even missed the point by using the budgeted hours. The ratio is the standard hours divided by actual hours and can be expressed in absolute terms or in percentages. Where the outcome is greater than 1 or more than 100% labour is more efficient.

QUESTION FIVE

a)

i) **Methods for Sales Forecasting:**

- **Historical data analysis:** Analysing past sales data to identify trends and patterns.
- **Market research:** Conducting market research to understand customer behavior and market trends.
- **Sales pipeline analysis:** Analysing the current sales pipeline to predict future sales based on the stage of each deal.
- **Expert opinions (Delphi Method):** Seeking input from sales experts and industry professionals.

(2 well explained points for 4 marks)

ii) **Kpekple**

	Quarter 1	**Quarter 2**	**Quarter 3**	**Quarter 4**	**Total**
SP(GH¢)	20	20	20	20	
VC/Unit (GH¢) (w1)	8	8	8	8.48	
Contribution/Unit	12	12	12	11.52	
Sales (Units) (w2)	125,000	135,000	118,800	104,544	483,344
Contribution (GH¢)	1,500,000	1,620,000	1,425,600	1,204,346.88	5,749,946.88
Less Fixed Cost 1,200,000 x 4					4,800,000
Profit					**949,946.88**

Asaanaa

	Quarter 1	**Quarter 2**	**Quarter 3**	**Quarter 4**	**Total**
SP (GH¢)	25	25	25	25	
VC/Unit (GH¢) (w3)	12	12	12	12	
Contribution/Unit	13	13	13	13	
Sales (Units) (w4)	150,000	172,000	197,226.67	220,000	739,226.67
Contribution (GH¢)	1,950,000	2,236,000	2,563,946	2,860,000	9,609,976
Less Fixed Cost (1,200,000 +350,000) x4					6,200,000
Profit					**3,409,976**

Recommendation: Adama should replace Kpekple with Asaanaa as Asaanaa is projected to be more profitable.

Workings

1) VC/Unit (Q1-Q3) = 1,000,000/125,000 = GH¢8 and Q4 = GH¢8x 1.06 = GH¢8.48

2) Q1 = 125,000 Q2 = 125,000 X 1.08 = 135,000 Q3 = 135,000 X 0.88 = 118,800 Q4 = 118800 X 0.88 = 104, 544

3) Expected variable cost per unit = (14 x 0.6) + (9 x 0.4) = GH¢12

4) 172,000 – 150,000/150,000 = 14.67%
Q3 = 172,000 X 1.1467 = 197,226.67 units
Q4 = Max Production = 220,000 units

(10 marks evenly spread using ticks)

b)

Internal

- **Historical sales data**: Analysing past sales performance provides a baseline for future predictions, revealing patterns and trends.
- **Current sales trends**: Tracking ongoing sales activity helps identify emerging patterns and potential deviations from historical trends.
- **Pricing strategy:** Changes in pricing can influence customer demand and affect sales forecasts.
- **Marketing and promotional activities:** Past and planned marketing campaigns can significantly impact sales volume.
- **Product changes:** Introducing new products or features, or modifying existing ones, will affect sales forecasts.

External

- **Economic indicators:** Economic growth, inflation, interest rates, and unemployment rates all influence consumer spending and demand.
- **Competition:** Actions taken by competitors, such as price changes or new product launches, can affect market share and sales.
- **Regulatory changes:** Government regulations, tax policies, and trade agreements can all impact sales.
- **Unforeseen events:** Unforeseen events like natural disasters can disrupt supply chains and impact sales.
- **Seasonality:** Certain products or services experience fluctuations in demand based on the time of year or specific seasons.

(2 factors for 3 marks under each = 6 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

Explaining two methods that can be employed in sales forecasting did not pose a challenge to candidates. The responses were fairly good and most candidates scored above average

In calculating the profit for "kpekple", candidates were able to forecast the revenue for the four quarters. Most of them however got the total variable cost wrong. Constant variable cost per unit for quarters one to three was interpreted as constant total variable cost. In the case of "Asaanaa" only a few were able to forecast for quarters three and four. The incremental fixed cost of GH¢350,000 was used instead of adding that to the GH¢1,200,000. Overall performance was poor.

The internal and external factors affecting sales forecast were well explained.

CONCLUSION AND RECOMMENDATIONS

While question two (a) on budgeting was probably less challenging, most candidates could not score full marks. Too much time was spent to derive figures that were obvious in the text. Attempt at question 3(a) on variances was good.

Candidates were able to respond to the theory questions quite well but struggled with the computational ones and those that require application. It can then be inferred that they lack the analytical ability to apply the concepts under those topics that were examined.

Facilitators and lecturers are encouraged to broaden the scope of their application areas when preparing candidates for the paper.

Candidates writing this paper should note that questions are set to cover all the areas specified in the syllabus and so should be guided accordingly.