JULY 2024 PROFESSIONAL EXAMINATIONS
MANAGEMENT ACCOUNTING (PAPER 2.2)
CHIEF EXAMINER'S REPORT, QUESTIONS AND MARKING SCHEME

GENERAL COMMENTS

This report is focused on the evaluation of the Management Accounting paper written in the July 2024 professional examination. The questions were skewed towards computations against theory but covered all the areas in the syllabus. The overall performance is below expectation.

STANDARD OF THE PAPER

The standard is fair in view of the level of assessment and competence required of candidates to undertake the tasks. An appropriate level of testing, in accordance with the Bloom's taxonomy, was deployed in the test items and all questions reflected the expected inherent difficulty of the level of qualification (application) and the requirement to attain professional competence.

Overall, the question quality and standard were good. Detailed supporting information was provided for each question. The five questions generally covered the syllabus but were not balanced between theory (17 marks) and practice (83 marks).

PERFORMANCE OF CANDIDATES

Performance of candidates was not as good as that of the previous diet. The poor performance was widespread. Three of the questions (2,4 and 5) were within the competence of an average candidate while two (1 and 3) required above average performance from candidates. The performance of candidates in questions 2 (cash budget and throughput accounting) and 4 (net present value and requirement for optimal material mix) were exceptional.

NOTABLE STRENGHTS AND WEAKNESSES

Strengths

Candidates performed quite well in the cash budget. Some of the candidates had difficulty preparing the creditors payment schedule and apportionment of the receivables brought down. The question on the variances were fairly attempted as well as the question on constraint. Candidates demonstrated excellent knowledge on NPV calculation as a capital budgeting technique. The theory questions were fairly answered.

Weaknesses

Candidates had challenge with the Performance management question (Question 1). Even though they demonstrated understanding of the appraisal technique (EVA), the question did not clearly define the capital employed to be used, the planned capital structure making the use of their current levels a bit challenging.

Question five under short term decision making, cost volume profit analysis and sensitivity analysis, posed a challenge to most candidates.

QUESTION ONE

a) You are the Management Accountant of the Alosman Ltd which manufactures an innovative range of products to provide support for injuries to various human joints in the body. The summary financial information for Alosman Ltd is as follows:

Income Statement for the year ended:

	2023 GH¢ million	2022 GH¢ million
Revenue	450	400
Profit before tax	117	96
Income tax expense	(35)	(29)
Profit for the period	**82**	**67**
Dividends	(27)	(23)
Retained earning	**55**	**44**

Statement of Financial Position as at:	**2023 GH¢ million**	**2022 GH¢ million**
Non-current assets	180	160
Current assets	215	180
	395	**340**
Financed by:		
Total equity	255	200
Long-term debt	140	140
	395	**340**

Additional information:

i) Capital employed at the end of 2021 amounted to GH¢320 million.
ii) Alosman Ltd had non-capitalised leases valued at GH¢16 million in each of the years 2021 to 2023 which were not subject to amortisation.
iii) The company's pre-tax cost of debt was estimated to be 10%.
iv) The company's cost of equity was estimated to be 16% in 2022 and 18% in 2023.
v) The market value of total equity is 20% higher than the book value in both 2022 and 2023.
vi) The rate of taxation is 30% in both 2022 and 2023.
vii) Economic depreciation amounted to GH¢30 million in 2022 and GH¢32 million in 2023 while the accounting depreciation for tax purposes amounted to GH¢40 million and GH¢45 million in 2022 and 2023 respectively.
viii) Interest payable amounted to GH¢6 million per year in both 2022 and 2023.
ix) Alosman Ltd uses market value of capital employed in all of its assessments.

Required:
Estimate the ***Economic Value Added (EVA)*** of the Alosman Ltd for both 2022 and 2023 and comment briefly on the performance of the company. **(14 marks)**

b) Konny Ltd was the market leader in the transportation industry with a share of 30% three years ago. The Managing Director of Konny Ltd stated at a recent meeting of the board of directors that: 'our loss of market share during the last three years might lead to the end of Konny Ltd as an organisation and therefore we must address this issue immediately'.

Required:
Explain **FOUR (4)** performance indicators, other than decreasing market share, which might indicate that Konny Ltd might fail as a corporate entity. **(6 marks)**

(Total: 20 marks)

QUESTION TWO

a) Below is an extract from the Statement of Financial Position of Apan Ltd as at December, 2023:

	GH¢
Inventory	22,000
Receivables	103,600
Bank	42,000
	167,600
Creditors	(98,000)
	69,600

The following sales targets have been proposed for the first four months of 2024:

	January	February	March	April
Sales (GH¢)	110,000	132,000	140,000	135,000

Notes:

i) Payment arrangements with customers; 40% down payment, 35% the month following the month of sales and the balance paid in the second month after the sales. GH¢10,000 of the receivables relates to November 2023 sales.

ii) The monthly cost of sales represents 70% of each month's sales. Closing inventory at the end of each month are expected to be 60% of the month's cost of sales. Suppliers give 30 days credit.

iii) Monthly operating expenses will be 35% of sales out of which fixed non-cash expenses is GH¢10,000. These expenses are paid in the month in which they are incurred.

Required:
Prepare the monthly cash budget of Apan Ltd for the first quarter of 2024. **(14 marks)**

b) Throughput is a process of converting raw materials and purchased components into products sold to customers. In money terms, it is the extra money that is made for an organization from selling its products.

Required:
Explain **THREE (3)** assumptions of Throughput Accounting. **(6 marks)**

(Total: 20 marks)

QUESTION THREE

a) Budom Ltd has three production departments for the manufacturing of living room furniture namely; Cutting & Planing, Joinery and Finishing. The following data relates to the manufacture of a set of the furniture and available hours in a month.

Department	Number of tasks	Time required for task	Available hours
Cutting & Planing	12	200 minutes	520
Joinery	8	225 minutes	420
Finishing	15	180 minutes	720

Required:

i) Calculate the idle time for each department if 10 sets of furniture are planed for production.

ii) Determine the maximum sets of furniture that can be produced in a month to avoid undue delay at any of the departments.

(10 marks)

b) Nkosoo Ltd manufactures and sells a single product. The company operates a standard absorption costing system and absorbs overheads on the basis of direct labour hours. The following variances were reported in October 2023.

Reconciliation statement for October 2023		
	GH¢	**GH¢**
Budgeted gross profit		56,000
Sale volume profit variance		8,000 F
Sales price variance		16,000 A
Direct material price variance	7,300 A	
Direct material Usage variance		14,000 F
Direct labour rate variance		5,080 F
Direct labour efficiency variance		13,200 F
Variable overhead expenditure variance		0
Variable overhead efficiency variance		6,600 F
Fixed overhead expenditure variance	4,000 A	
Fixed overhead volume variance		10,000 F
Actual gross profit		**85,580**

The standard selling price and standard cost for one unit of the product are as follows:

		GH¢
Selling Price		250
Material:	5 kg	100
Labour:	4 hours	40
Variable overhead:	4 hours	20

The budgeted production and sales for the month of October is 1,400 units.

Some actual results for the period were as follows:

Direct material	7,300 kg
Direct labour	5,080 hours
Variable overheads	GH¢25,400
Fixed overheads	GH¢74,000

No material nor finished goods inventory are held.

Required:

Calculate the following:

i) Actual quantity sold **(3 marks)**
ii) Actual production **(3 marks)**
iii) Actual direct labour rate per hour **(2 marks)**
iv) Actual material price per unit **(2 marks)**

(Total: 20 marks)

QUESTION FOUR

a) The Accountant of Ohia Ltd has provided the following information on a project the Executive Management is considering for a new line of business.

Year	**1**	**2**	**3**	**4**	**5**
Revenue (GH¢)	250,000	220,000	300,000	350,000	400,000
Fixed operating cost (GH¢)	65,000	55,000	75,000	87,000	100,000

Notes:

i) The variable cost is 30% of revenue.
ii) Non cash fixed cost included in the fixed operating cost; GH¢30,000.
iii) The cost of the project will be GH¢500,000 with cash residual value of GH¢30,000 in year 5.
iv) Cost of capital is 15%.

Required:

Calculate the NPV and advise on the acceptability of the proposal. **(15 marks)**

b) Analysis of material usage variance into the mix and yield components is worthwhile if management have control of the proportion of each material used. Management will seek to find the optimum mix for the product and ensure that the process operates as near to this optimum as possible.

Repuired:

Explain **TWO (2)** factors to consider when determining the optimal material mix for production. **(5 marks)**

(Total: 20 marks)

QUESTION FIVE

a) Antuoma Ltd manufactures auto spare parts. Currently, it is operating at 70% capacity. At this level, the following information is available:

Break-even sales	GH¢125 million
Margin of safety	GH¢25 million
Variable cost to sales ratio	80%

Antuoma Ltd is planning to increase capacity utilisation through the following measures:

- Selling price would be reduced by 5% which is expected to increase sales volume by 30%
- Increase in sales would require additional investment of GH¢40 million in distribution vehicles and working capital. The additional funds needed would be arranged through a long-term loan at a cost of 15% per annum. Depreciation on distribution vehicles would be GH¢5 million.
- As a result of increased production, economies of scale would reduce variable cost per unit by 10%

Required:

i) Prepare the profit statement under current and proposed scenarios. **(9 marks)**

ii) Compute break-even sales and margin of safety after the above measures. **(4 marks)**

b) The following information relates to Tuga Ltd for the year 2023:

	GH¢
Sales price per unit	1,600
Direct labour per unit	240
Variable cost (other than direct labour) per unit	960
Fixed cost (no labour cost included)	850,000

Volume of sales and production was 6,000 units which represent 80% of normal capacity. The management of the company is planning to increase wages of direct labour by 15% with effect from next financial year.

Required:

i) Calculate the number of units to be sold to maintain the current profit if the sales price remains at GH¢1,600 and the 15% wage increase takes effect. **(3 marks)**

ii) Management believes that an additional investment of GH¢760,000 in machinery (to be depreciated by 10% annually) will increase total capacity by 25%. Determine the selling price in order to earn a profit of GH¢2 million assuming that all units produced at increased capacity can be sold and that the wage increase takes effect. **(4 marks)**

(Total: 20 marks)

SUGGESTED SOLUTIONS

QUESTION ONE

a)

	2023	2022
Adjusted profit:	**GH¢ million**	**GH¢ million**
Profit after tax	82	67
Interest expense (6x.7)	4.2	4.2
Accounting Depreciation	45	40
Less: Economic Depreciation	32	30
NOPAT	**99.2**	**81.2**
Adjusted capital employed:		
Year beginning Capital Employed	380	320
Non-capitalised leases	16	16
Adjusted capital employed	**396**	**336**

$$\text{WACC} = \left(\text{Ke} \times \frac{MVe}{MVe+MVd}\right) + \text{Kd}\ (1\text{-t})\ \left(\frac{MVd}{MVe+MVd}\right)$$

$$2022 = \left(0.16 \times \frac{240}{380}\right) + 0.1\ (1-0.3)\ \left(\frac{140}{380}\right) = 12.68\%$$

$$2023 = \left(0.18 \times \frac{306}{446}\right) + 0.1\ (1-0.3)\ \left(\frac{140}{446}\right) = 14.55\%$$

EVA = NOPAT – (CE X WACC)

EVA (2022) = **81.2 – (336 X .1268) = GH¢38.60 million**

EVA (2023) = **99.2 – (396 X .1455) = GH¢41.58 million**

The EVA measures indicate that the Alosman Ltd has added significant value during each year under consideration and thereby achieved a satisfactory level of performance. The increase from 2022 to 2023 is 7.73%.

(14 marks)

b) **Some performance indicators that an organisation might fail are as follows:**

- **Poor cash flow:** Poor cash flow might render an organisation unable to pay its debts as and when they fall due for payment. This might mean, for example, that providers of finance might be able to invoke the terms of a loan covenant and commence legal action against an organisation which might eventually lead to its winding-up.

- **Lack of new production/service introduction:** Innovation can often be seen to be the difference between 'life and death' as new products and services provide continuity of income streams in an ever-changing business environment. A lack of new product/service introduction may arise from a shortage of funds available for re-investment. This can lead to organisations attempting to compete with their competitors with an out of date range of products and services, the consequences of which will invariably turn out to be disastrous.

- **General economic conditions:** Increasing interest cost can precipitate the demise of organisations. Highly geared organisations will suffer as demand falls and the weight of the interest burden increases. Organisations can find themselves in a vicious circle as increasing amounts of interest payable are paid from diminishing gross margins leading to falling profits/increasing losses and negative cash flows. This leads to the need for further loan finance and even higher interest burden, further diminution in margins and so on.

- **Lack of internal controls**: The absence of sound financial controls has proven costly to many organisations. In extreme circumstances it can lead to outright fraud (e.g. Enron and WorldCom).

- **Internal rivalry:** The extent of internal rivalry that exists within an organisation can prove to be of critical significance to an organisation as managerial effort is effectively channeled into increasing the amount of internal conflict that exists to the detriment of the organisation as a whole. Unfortunately, the adverse consequences of internal rivalry remain latent until it is too late to redress them.

- **Loss of key personnel:** In certain types of organisation the loss of key personnel can 'spell the beginning of the end' for an organisation. This is particularly the case when individuals possess knowledge which can be exploited by direct competitors, e.g. sales contacts, product specifications, product recipes, etc

- **Technological Causes:** With the advancement in technology, new modes of doing business has been introduced, which is better than the traditional ones. If an industry fails to employ the latest information and production technology, then the chance of failure of the firm may increase.

(Any 4 points @ 1.5 marks each = 6 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

The profit after tax was to be adjusted to get the Net Operating Profit After Tax (NOPAT), but it is not clear which of the finance cost was to be used. The question had interest payable and there was a cost of debt with the total debt. From the balance sheet extract, the asset side had non-current asset and current assets. This could be interpreted that the interest payable is a liability to be deducted to arrive at the net-current asset. Most candidates however used the interest payable amount. The adjustment for depreciation was well treated.

The capital employed is normally calculated using the opening equity, but the average is also acceptable. Though the opening equity for 2022 was given the adjustment for the market value for the 2022 and 2023 posed some challenge to candidates.

Candidates demonstrated the understanding of the formulae for the computation of the WACC, but it is always easier to work with the target capital structure. The question did not provide for the target ratio so the current, based on the balance sheet extract was used. It had to be adjusted with the market value and for different cost of equity for 2022 and 2023. The performance was average.

For the b) part of the question, most of the candidates stated the other factors that might indicate that the company might fail except that majority of them did not relate them to the industry that Konny Ltd operates in. Candidates scored some good marks.

QUESTION TWO

a)

Debtors collection schedule

	January	**February**	**March**	**April**
	GH¢	**GH¢**	**GH¢**	**GH¢**
Sales	110,000	132,000	140,000	135,000
November	**10,000**			
December	54,600	39,000		
January	44,000	38,500	27,500	
February		52,800	46,200	33,000
March			56,000	49,000
Total	**108,600**	**130,300**	**129,700**	

working:

December = 103,600-10,000= 93,600

if 93,600 is 60% then 100%= 156,000

⇨ January = 35%of 156,000 = 54,600

⇨ February = 25% of 156,000= 39,000

Creditors Payment Schedule

	January	**February**	**March**	**April**
	GH¢	**GH¢**	**GH¢**	**GH¢**
Cost of Sales	77,000	92,400	98,000	94,500
Add closing stock	46,200	55,440	58,800	56,700
	123,200	**147,840**	**156,800**	**151,200**
	22,000	46,200	55,440	58,800
Purchases	**101,200**	**101,640**	**101,360**	
Payments	**98,000**	**101,200**	**101,640**	

Schedule of expenses

	January	February	March	April
	GH¢	**GH¢**	**GH¢**	**GH¢**
Sales	110,000	132,000	140,000	
Expenses (35%)	38,500	46,200	49,000	
Non cash	(10,000)	(10,000)	(10,000)	
Cash	**28,500**	**36,200**	**39,000**	

Cash Budget

	January	February	March	April
	GH¢	**GH¢**	**GH¢**	**GH¢**
Receipt	108,600	130,300	129,700	
Payments;				
Purchases	98,000	101,200	101,640	
Expenses	28,500	36,200	39,000	
Total	126,500	137,400	140,640	
NCF	**(17,900)**	**(7,100)**	**(10,940)**	
Bal b/d	42,000	24,100	17,000	
Bal c/d	**24,100**	**17,000**	**6,060**	

(Marks are evenly spread using ticks = 14 marks)

b) Assumptions in throughput accounting.

- In throughput accounting, labour cost is assumed to be fixed whether it is paid on weekly or monthly basis.
- The only variable cost of production is material and components.
- Business makes profit and adds value only when goods are sold.
  Value added is sales minus variable cost of sales which is only materials

(3 points @ 2 marks each = 6 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

Cash budget is one of the areas candidates usually score good marks. The question did not require too many adjustments to prepare the debtors and creditors collection schedules. The only challenge for some of them was the apportionment of the opening receivable. The responses to the question were generally good.

Assumptions under the Throughput accounting were well explained and most candidates who attempted it scored the full marks.

QUESTION THREE

a)

Time required for a set in each department

Cutting &planning	12 × 200 = 2,400 mins.
	2,400 ÷ 60 = 40 hrs
Joinery	8 × 225 = 1,800 mins.
	1,800 ÷ 60 = 30 hrs.
Finishing	15 × 180 = 2,700 mins.
	2,700 ÷ 60 = 45 hrs.

i)

Number of hrs. required		**available time**	**idle time**
C &P (40×10)	400	520	120
Joinery (30×10)	300	420	120
Finishing (45×10)	450	720	270

ii) Number of sets that can be produced in each department

C&P 520÷40 = 13
Joinery 420÷ 30 = 14
Finishing 720÷ 45 = 16
Maximum should be 13 sets.

(Marks are evenly spread = 10 marks)

b) **Budgeted profit = GH¢56,000/1400 = GH¢40**

i) Difference between Actual sales and Budgeted sales 8000F/40 = 200 units

Actual quantity sold = 1400+ 200
= 1,600 units

(3 marks)

ii) Actual Production

AH SR	5,080 @ GH¢10	50,800	
			13,200 F
SHSR	40 @ actual production	64,000	

Actual production = 1,600 units

(3 marks)

iii) Actual Direct Rate per hour

AHxAR 5080 @ AR	45,720	
		5,080 F
AHxAR 5080@10	50,800	

AR = 45720/5080
= **GH¢9 rate per hour**

(2 marks)

iv) **<u>Actual Material Price per unit</u>**

AQAP 7,300@AP	153,330	
		7,300A
AQSP 7300@ 20	**146,000**	

AP = 153,330/7300 = GH¢21 per unit

(2 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

(a) Candidates demonstrated good knowledge of the theory of constraint under the throughput accounting and were able to compute the idle time at each department. A few did not ascertain the optimal units to produce based on the hours available at each department.

(b) The question should have been within the competence of candidates, but the responses showed a clear demonstration of their inability to calculate actual or standard figures when the variances have been provided (working back). Only few of the candidates could solve the problem.

QUESTION FOUR

a) Computation of NPV

	Cash flow 1	2	3	4	5	
	GH¢	GH¢	GH¢	GH¢	GH¢	
Sales	250,000	220,000	300,000	350,000	400,000	
Contn. Margin	175,000	154,000	210,000	245,000	280,000	(3.75)
fixed opt. cost	35,000	25,000	45,000	57,000	70,000	(2.5)
Residual value					30,000	(0.25)
NCF	140,000	129,000	165,000	188,000	240,000	(2.5)
Disc fac.	0.870	0.756	0.658	0.572	0.497	(1.5)
PV of inflow	121,800	97,524	108,570	107,536	119,280	(2.5)

NPV **554,710 - 500,000 = 54,710** **(1)**

Accept project (1)

(15 marks)

b) key factors that have to be considered when changing the material mix are cost and quality

- **Cost:** The cheapest mix may not be the most cost effective. Often a favourable mix variance is offset by an adverse yield variance and the total cost per unit may increase.
- **Quality:** Using the cheaper mix may result in a lower quality product and the customer may not be prepared to pay the same price. A cheaper product may also result in higher sales returns and loss of repeat business.

(2.5 marks each = 5 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

(a) This was a simple capital budgeting question of which the candidates were to advise on the acceptability or otherwise of a project using the NPV technique. Candidates answered it well, the cash flows were accurately generated. The adjustments needed to arrive at the cash operating expenses did not pose any problem to candidates. Most of the candidates who attempted scored the full marks.

(b) Beyond the provision of price and quality of the materials required to determine the optimal mix of inputs, candidates rightly mentioned availability and possibility of swapping the inputs. Performance was good.

QUESTION FIVE

a)

i) Profit Statement

	Current	Proposed
	GH¢ million	
Sales (125+ 25), 150*1.3*0.95	150.00	185.25
Variable cost of sales (150*80%), (120*90%*1.3)	(120.00)	(140.40)
Contribution margin	30.00	44.85
Fixed Cost (125*20%), 25+5+(40*15%)	(25.00)	(36.00)
Net profit	**5.00**	**8.85**

(Marks are evenly spread using ticks = 9 marks)

ii) Break-even sales (Value) = F C/CS ratio = 36.00/44.4/ 185.25 =

GH¢148.86 million

Margin of Safety = 185.25 - 148.86 = **GH¢36.39 million**

(4 marks)

b)

i) Units to be sold to maintain the current profit

	GH¢
Sales (6,000 units x 1,600)	9,600,000
Variable cost [6,000 x (960+240)]	7,200,000
Contribution margin (A)	2, 400,000
Revised contribution margin per unit [1,600 – 960-(240x 1.15)] (B)	364
Units to be sold (A/B)	**6,593 Units**

(3 marks)

ii) Selling price per unit to earn a profit of GH¢ 2 million:

	GH¢
Revised capacity units (6,000 ÷0.8 x 1.25)	9,375
Revised fixed cost 850,000 + (760,000 x 10%)	926,000

9375 Sp – (240 x 1.15 +960) 9375 – 926,000 = 2,000,000

New selling price = GH¢1,548

(4 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

(a) Cost-volume-profit analysis is seen to be one of the less difficult areas under short term decision making yet candidates always have challenges dealing with sensitivity analysis. Most candidates could not adjust the break-even level of sales to arrive at the current level of operations. Deriving the proposed operating income statement using the expected adjustment posed a challenge to some candidates.

(b)

(i) calculation of the units to be produced required adjustment to the wages and a new contribution. This could be put in the formulae or one had to work back.

(ii) this also required adjustment to the current sales level, revision of the fixed cost and a new profit level.

Most candidates scored zero while a few scored some marks under requirement (a).

CONCLUSION:

The overall performance is below expectation. If the candidates had prepared well, and there was a good balance between theory and computation, the performance could have been better.

Candidates writing this paper should note that questions are set to cover all the areas in the syllabus and marks are allotted based on the weights of the topics so they should be guided accordingly. Facilitators who prepare candidates should encourage them to attain some level of understanding of the principles before registering to write the paper.