NOVEMBER 2021 PROFESSIONAL EXAMINATION
MANAGEMENT ACCOUNTING (PAPER 2.2)
CHIEF EXAMINER'S REPORT, QUESTIONS & MARKING SCHEME

STANDARD OF THE PAPER

The paper examined candidates in the following subject areas, which were well within the syllabus of the Institute:

- Transfer Pricing and Divisional Performance
- Management Accounting concepts include standards, benchmarking, business process re-engineering and self-interest threats.
- Performance ratios using budgetary control and cash budgets.
- Investment Appraisal using Payback Period and behavioural aspects of Budgetary Control.
- Breakeven Analysis with sensitivity analysis.

There were no errors and ambiguities in the questions, and the content requirements of the questions were acceptable under examination conditions and time requirements.

Marks allocations were well stated in the questions, with written answers accounting for 37% of the total marks while calculated answers took 63%. A ratio of 40/60 will be appropriate.

NOTABLE WEAKNESSES OF CANDIDATES

The following were some weaknesses observed;

- Poor handwriting makes it difficult to read what the candidates have written.
- Inability to present suggested solutions in a well-structured and report format.
- Poor interpretation of the results calculated.
- Bad expression of the English language.

PERFORMANCE OF CANDIDATES

The performance of the candidates was considered the best in recent times. The pass rate of the November 2021 diet is 32.69% as compared to 22.57% attained in the May 2021 diet.

There were no signs of copying, with very good performances seen across all examination centres.

QUESTION ONE

Lamiokor and Zenator are two divisions of Tsorkor group. Lamiokor division manufactures an intermediate product known as component A which has no external market. Zenator division incorporates this intermediate product, component A, into a final product that it sells to external customers. One unit of component A is used in the production of one unit of the final product. Lamiokor has quoted a transfer price of GH¢45 for each unit of component A.

The details of monthly production costs for each division are as follows:

Lamiokor Division

Variable cost:	GH¢15 per Component A
Product Specific Fixed Cost:	GH¢50,000 (Incurred only by Lamiokor division and specifically for the production of Component A)

Zenator Division

Variable cost:	GH¢9 per unit
Product Specific Fixed Cost:	GH¢75,000 (Cost incurred only by Zenator when converting component A to final product)

The relationship between monthly external customer demand and selling price of the final product is as follow:

Month	Demand	Selling price per Unit (GH¢)
1	1,000	120
2	3,000	100
3	4,000	90
4	5,000	80
5	6,000	67

Required:

a) Explain **FOUR (4)** objectives of transfer pricing. **(4 marks)**

b) Based on a transfer price of GH¢45 per component A, prepare the monthly profit statement for:

i) Lamiokor Division **(6 marks)**

ii) Zenator Division **(6 marks)**

iii) Tsorkor Group **(4 marks)**

(Total: 20 marks)

QUESTION TWO

a) It is a fact that human beings are unique individuals, yet some look up to successful people as mentors, and there is nothing wrong with that. It is believed that it is not necessary to reinvent the wheel in everything we want to do. Where others have done it well, we can follow their steps.

In business, there are several areas where one company can benchmark successful ones to remain competitive. Successful organisations always seek to follow best practices to enhance their operations and to meet customers' satisfaction.

Required:

i) Explain ***product benchmarking***. **(2 marks)**

ii) Explain ***process benchmarking***. **(2 marks)**

iii) State **TWO (2)** difficulties that may be faced when embarking on Competitive Benchmarking. **(2 marks)**

b) Technology is what moves the wheel of competition. For example, banks have moved away from the cumbersome processes of cash deposits and withdrawals over the years. In fact, with some banks, customers can transact business in the comfort of their homes through internet banking. This is an aspect of Business Process Re-engineering (BPR).

Required:

State **FOUR (4)** challenges to be faced when developing BPR. **(4 marks)**

c) An Accountant is not immune from putting their interest ahead of organisational goals. The tendency to hide serious errors that might affect one's competence as an Accountant cannot be discounted. This is especially the case when an increase in remuneration is based on performance assessment.

Required:

Explain **TWO (2)** examples of circumstances that may create ***self-interest threats*** in performance management. **(5 marks)**

d) Standards are predetermined measurable quantities, set on defined conditions against which actual performance can be compared, usually for an element of work, operation or activity. Standards are unit concepts that apply to particular products, individual operators or process.

Required:

Explain **TWO (2)** types of standards. **(5 marks)**

(Total: 20 marks)

QUESTION THREE

a) GG Ltd is into fuel processing and transportation. GG Ltd produces three types of fuel, namely: Petrol, Diesel, and Pre-mix fuel.

The standard time for the production of the fuel types are:
Petrol: 50 minutes per metric tonne
Diesel: 30 minutes per metric tonne
Pre-mix fuel: 45 minutes per metric tonne.

The production budget for August is as follows:
Petrol: 42,000 metric tonnes
Diesel: 60,000 metric tonnes
Pre-mix fuel: 45,000 metric tonnes

The actual data for the month were as follows:
Labour: 100,000 hours
Production:
Petrol: 45,000 metric tonnes
Diesel: 50,000 metric tonnes,
Pre- mix fuel: 40,000 metric tonnes.

Required:
Compute and interpret the following:

i) The efficiency ratio. **(3 marks)**
ii) The capacity ratio. **(3 marks)**
iii) The production volume or activity ratio. **(4 marks)**

b) The budgeted Income Statement for Zeedan Company for the year 2020 is presented below.

	GH¢
Sales revenue	930,000
Cost of sales	558,000
Gross profit	372,000
Total expenses	225,000
Net profit	147,000

Notes:

i) Monthly sales in each quarter is the same. The sales for January is GH¢50,000 and this will remain unchanged up to March when it will increase by GH¢20,000 from April and remain unchanged for the remaining two months in the quarter. Third quarter monthly sales will be GH¢90,000 each while those of the fourth quarter is GH¢100,000 each.
ii) 20% of all sales are on cash basis, 40% of the monthly sales are paid in the month after sales, and the balance is paid the second month after sales. No bad debt is expected.
iii) The monthly cost of sales represents 60% of the current month's sales. Inventory is kept at 60% of the following month's cost of sales. All purchases are paid in full after one month.
iv) Included in the expenses is a depreciation of GH¢87,000. The monthly expenses paid as and when incurred is GH¢10,000. This is fixed in January but increased by 20% effective April.

Required:
Extract the Cash Budget for the second quarter of the year, showing the cash balance for each month in the quarter. **(10 marks)**

(Total: 20 mark)

QUESTION FOUR

a) Bee Ltd manufactures high-quality mobile phones for its local market. Due to less competition, Bee Ltd sales have grown significantly over the past few years and are expected to grow. Bee Ltd is planning to launch a new model, 'Ohenewa'.

The company has already spent GH¢1 million on Research and Development and will require a further investment of GH¢5.5 million in production equipment. This cost excludes the GH¢1.1million installation fee. The project has a life span of five years. In the end, the equipment will have a residual value of GH¢0.6 million. Sales and production of Ohenewa over its lifecycle are expected to be:

Year	**Units**
1	6,500
2	7,500
3	8,000
4	7,800
5	7,000

The selling price in Year 1 and Year 2 will be GH¢750 per unit. However, the selling price will be reduced to GH¢600 per unit in Year 3 and will remain at this level for the remainder of the project. The variable cost as a percentage of sales is 55% over the entire product lifecycle. The fixed overhead, including depreciation cost expected to be incurred directly due to increasing the production capacity, is GH¢2 million per annum.

Other information:
A cost of capital of 12% per annum is used to evaluate projects of this type.
Bee Ltd has a history of accepting similar projects which payback within three years.
Ignore inflation and taxation.

Required:
i) Calculate the **Payback Period** for Ohenewa project. (**10 marks)**
ii) Evaluate the acceptability of the project based on the calculation in i) above. **(2 marks)**

b) Bee Ltd could outsource the production of Ohenewa to an overseas manufacturer. The Accountant has presented figures to show that the NPV of the project based on outsourcing the production is GH¢0.5 million higher than the positive NPV of in-house production.

Required:
Explain **THREE (3)** non-financial factors that Bee Ltd would need to consider before making the decision either to outsource or produce in-house. **(3 marks)**

c) The entire process of budgetary control may negatively affect the behaviour of management and staff, leading to the non-achievement of goals.

Required:
Explain **THREE (3)** factors that may account for such harmful behaviour. **(5 marks)**

(Total: 20 marks)

QUESTION FIVE

a) Claudia Footwear (CFW) has developed a new range of high quality affordable sandals for beachwear. The sandals are based on an innovative design that protects feet from the effects of sun, salt and sand. The company has already received some sales orders for 9,000 sandals which form 75% of the operating capacity of CFW, and production is due to commence next month. The Management Accountant has prepared the following projections based on 75% operating capacity for the trading year ahead:

	GH¢	**GH¢**
Sales		288,000
Direct materials	54,000	
Direct wages	72,000	
Production overhead (Note 1)	60,000	186,000
Gross profit		102,000
Administration, selling, and distribution costs: (Note 2)		63,000
Net profit		**39,000**

Notes:
1. Production overhead is made up of fixed and variable costs in the proportion of 7:3, respectively.
2. GH¢36,000 of the total administration, selling, and distribution costs is fixed, and the remainder varies with sales volume.

Required:
i) Calculate the breakeven point in units and value. **(4 marks)**
ii) Calculate the profit that could be expected if the company operated at full capacity. **(3 marks)**

b) In order to enhance profitability, CFW has proposed the following options:

Option one
If the selling price per unit were reduced by GH¢4, the increase in demand would utilise 90% of the company's capacity without any additional advertising expenditure.

Option two
To attract sufficient demand to utilise full capacity would require a 15% reduction in the current selling price. In addition, however, CFW would have to spend GH¢5,000 on a special advertising campaign.

Option three
To attract sufficient demand to utilise full operating capacity without changing the selling price per unit, CFW has to spend GH¢35,000 on a special advertising campaign.

Required:
Present a statement showing the effect of the three alternatives compared with the original budget and advise management of CFW which of the **FOUR** possible plans ought to be adopted (the original budget plan or any of the three options). **(10 marks)**

c) State **TWO (2)** limitations and **ONE (1)** usefulness of Cost-Volume-Profit analysis. **(3 marks)**

(Total: 20 marks)

SOLUTION TO QUESTIONS

QUESTION ONE

a) **The main objectives of a transfer pricing system:**

- **To achieve goal congruence**. The transfer prices should be such that actions that will increase a division's reported profit will also have the effect of increasing the company's reported profit. This maximises the likelihood that the division managers will act in the company's best interests.

- **To ensure that divisional autonomy is maintained**. In principle, a company's top management could simply issue precise instructions to divisions as to what goods to transfer to each other, in what quantities, and at what prices. This would seem to solve the problem of transfer pricing at a stroke and achieve optimisation (for the company as a whole). However, most organisations are unwilling to go down this road because of the enormous benefits of allowing divisional autonomy. It would be very difficult to make division managers accountable for their profits if they were not free to make important decisions.

- **To ensure that the information provided (e.g., division Profit & Loss Accounts)** is useful for evaluating the economic performance of divisions and the managerial performance of division managers.

- **Minimising global tax liability.** Companies can use transfer pricing to transfer profits and costs to other divisions internally to reduce their tax burden.

- **Performance Evaluation.** Transfer prices should help accurately measure divisional performance (profitability).

- **Motivation**: Transfer prices should motivate the divisional managers to maximise the profitability of their divisions and make decisions that are in the organisation's best interests as a whole.

- **Recording movement of goods and services.**

(4 marks)

b)

i) **Division Lamiokor**

Transfer Price	45	45	45	45	45
Variable Cost	15	15	15	15	15
Contribution/unit	30	30	30	30	30
Demand	1,000	3,000	4,000	5,000	6,000
Total Contribution	30,000	90,000	120,000	150,000	180,000
Less Fixed Cost	50,000	50,000	50,000	50,000	50,000
Profit/Loss	**(20,000)**	**40,000**	**70,000**	**100,000**	**130,000**

(6 marks)

ii) **Division Zenator**

Selling Price	120	100	90	80	67
Variable Cost	9	9	9	9	9
Transfer Price	45	45	45	45	45
Contribution/unit	66	46	36	26	13
Demand	1,000	3,000	4,000	5,000	6,000
Total Contribution	66,000	138,000	144,000	130,000	78,000
Less Fixed Cost	75,000	75,000	75,000	75,000	75,000
Profit/Loss	**(9,000)**	**63,000**	**69,000**	**55,000**	**3,000**

(6 marks)

iii) **Tsorkor Group**

Selling Price	120	100	90	80	67
Variable Cost	24	24	24	24	24
Contribution/unit	96	76	66	56	43
Demand	1,000	3,000	4,000	5,000	6,000
Total Contribution	96,000	228,000	264,000	280,000	258,000
Less Fixed Cost	125,000	125,000	125,000	125,000	125,000
Profit/Loss	**(29,000)**	**103,000**	**139,000**	**155,000**	**133,000**

(4 marks)

Alternatively

Lamiokor division's Profit/Loss	(20,000)	40,000	70,000	100,000	130,000
Zenator division's Profit/ Loss	(9,000)	63,000	69,000	55,000	3,000
Group's Profit/Loss	**(29,000)**	**103,000**	**139,000**	**155,000**	**133,000**

(Total: 20 marks)

EXAMINER'S COMMENTS

Candidates' performance in this question was satisfactory. About 5% of the candidates scored 20 marks, and about 60% prepared the monthly profit statement correctly. However, a few of the candidates could not prepare the Group statement by simply adding the profit and loss of the two divisions. Few of them could not use the contribution approach.

Some candidates also had difficulties identifying the objectives of transfer pricing. These include goal congruence, divisional autonomy, performance measurement, staff motivation, and tax liability minimisation.

QUESTION TWO

a)

i) Product benchmarking; compare with companies producing the same product. The focus is on cost, functionality, quality and design. **(2 marks)**

ii) Process benchmarking compares the performance of one particular activity or process with the performance of another entity in a different industry. Used to analyse operating systems, and it works where companies agree to share information. **(2 marks)**

iii) Difficulties of competitive benchmarking.

- Lack of access to information.
- May be difficult to study and analyse competitors' systems
- Cost may be high.
- Information may be used to criticise staff.

(2 marks)

b) Challenges to be faced in developing BPR

- It is believed that radical change may be too expensive.
- Radical change may be too risky.
- It may place too much emphasis on technology.
- It may focus too much on cost reduction.
- It may not consider how dramatic change may affect organisational culture.

(4 marks)

c) Self-interest threats may occur due to the financial or other personal interests of an accountant or their immediate or close family members. Self-interest may tempt an accountant to withhold information that might damage them financially or get them into trouble with their bosses.

Examples of circumstances that may create self-interest threats in performance management include:

- Incentive compensation arrangements: an accountant's bonus may depend on improvements in reported efficiencies or profitability
- Inappropriate personal use of company assets
- Concern about job security
- Commercial pressures from outside the employing organisation

(5 marks)

d) **Types of standard**

Ideal, Perfect, Maximum Efficiency or Theoretic Standards

Ideal standards (costs) are the standards that can be attained under the most favourable conditions possible. The level of performance under ideal standards would be achieved through the best possible combination of factors — the best prices for materials and labour, highest output with best equipment and layout, and maximum efficiency in the utilisation of the production resources—in other words, maximum output at minimum cost. Such standards reflect only goals or

targets without any hope of performance being currently achieved.

These standards are extremely tight and do not provide for waste and inefficiency in any form; no material is wasted; no units are spoiled; there are no idle hours; operators work at predetermined speeds; the available capacity is fully utilised. The ideal standard represents the ultimate goal to strive for, but its attainment is impossible over sustained periods. It sets its sights on the stars.

Normal Standards
Normal standards are the average standards that (it is anticipated) can be attained during a future period of time, preferably long enough to cover one business cycle. Standards are set on a normal capacity basis, representing a volume that averages out the company's peak and slack periods. Constant unit costs are employed throughout the cycle, regardless of changes in current costs or selling prices.

These standards are not revised until the cycle has run its full course. This generally results in an incorrect valuation of inventories and consequent errors in the profit disclosed as the inventories are understated in periods of high prices and overstated when prices are low. Since these standards do not reflect the goals to be attained, they are not often used.

Basic Standards
The Chartered Institute of Management Accountants (UK) defines a basic standard as the standard established for use unaltered for an indefinite period, which may be a long time. Basic standards are seldom revised or updated to reflect current operating costs and price level changes.

Basic standards representing a fixed base are used primarily to measure trends in operating performance. Although useful, basic standards must be adjusted before they can be used for performance evaluation purposes. They can be based upon any capacity level selected initially to develop the standards.

Currently Attainable or Expected Actual Standards
Current standards are established for use over a short period, and are related to current conditions. They represent current costs to be expected from efficient opera-tions. These standards do not anticipate ideal performance; they are difficult but possible to achieve.

Currently, attainable standards are formulated after making allowance for the cost of normal spoilage, idle time due to machine breakdowns, and the cost of other events that are unavoidable in normal efficient operations. They take the place of actual cost and are recorded in account books and financial statements. Any deviation from these standards reflect inefficiencies in the production activities unless the variances have occurred due to uncontrollable factors.

Currently, attainable standards are revised to reflect changes in methods and

prices. Much effort and costs are involved in developing these standards. Based on engineering estimates, currently attainable standards are most expensive of the four types of standards. But these standards are most accurate and useful to management in product costing, inventory valuations, estimates, analyses, performance evaluation, planning, employee motivation, and managerial decision-making and external financial reporting.

(5 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

Candidates performed well in explaining benchmarking and types of standards. They, however had challenges in bringing out the problems faced in developing BPR and circumstances that may create Self-Interest threats in performance management.

QUESTION THREE

a)

i) Efficiency ratio = $\frac{\boldsymbol{Standard\ hour}}{\boldsymbol{Actual\ hour}}\ \boldsymbol{x\ 100\%}$

$= \frac{\mathbf{92{,}500}}{\mathbf{100{,}000}}\ \boldsymbol{x\ 100\%}$

= 92.5%

This means that the actual production level was achieved in more time than the standard time set for it.

That is 7,500 or 7.5% below the normal efficiency level. **(3 marks)**

ii) Capacity ratio = $\frac{Actual\ hours\ worked}{Budgeted\ hours}\ x\ 100\%$

$= \frac{100{,}000}{98{,}750}\ x\ 100\%$

= 101.27%

This means that the actual hours worked were more than budgeted hours by 1.27% or 1,250 hours. **(3 marks)**

iii) Production volume ratio = $\frac{Standard\ hours}{Budgeted\ hours}\ x\ 100\%$

$= \frac{92{,}500}{98{,}750}\ x\ 100\%$

= 93.70%

This means that the actual production level is less than the budgeted level of production by 6.33%. **(4 marks)**

Working for standard hours

Petrol	50/60 x 45,000	= 37,500
Diesel	30/60 x 50,000	= 25,000
Pre – mix fuel	45/60 x 40,000	= 30,000
		92,500

Working for budgeted hours

Petrol	50/60 x 42,000	= 35,000
Diesel	30/60 x 60,000	= 30,000
Pre – mix fuel	45/60 x 45,000	= 33,750
		98,750

b) Cash Budget for the Second Quarter

	April	**May**	**June**
GHGH¢	**GHGH¢**		**GHGH¢**
Receipts	54,000	62,000	70,000
Payments:			
Purchases	37,200	42,000	42,000
Expenses	12,000	12,000	12,000
	49,200	54,000	54,000
NCF	4,800	8,000	16,000
Bal b/d	2,000	6,800	14,800
Bal c/d	**6,800**	**14,800**	**30,800**

Debtors collection schedule

	Jan	Feb	March	April	May	June	July
Sales	50,000	50,000	50,000	70,000	70,000	70,000	90,000
Cash	10,000	10,000	10,000	14,000	14,000	14,000	18,000
Jan bal		20,000	20,000				
Feb			20,000	20,000			
March				20,000	20,000		
April					28,000	28,000	
May						28,000	28,000
Total				**54,000**	**62,000**	**70,000**	

Creditors payment schedule

	March	April	May	June	July
Cost of sales 60%	30,000	42,000	42,000	42,000	54,000
Add closing stock	25,200	25,200	25,200	32,400	
	55,200	**67,200**	**67,200**	**74,400**	
Less opening stock	18,000	25,200	25,200	25,200	
Purchases	**37,200**	**42,000**	**42,000**	**49,200**	
Payment		**37,200**	**42,000**	**42,000**	**49,200**

MONTHLY EXPENSES	
TOTAL	225,000
Less depreciation	87,000
	138,000
1st quarter (10,000×3)	30,000
	108,000
Monthly exp. 9 months (108,000÷9)	**12,000**

(10 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

The performance of candidates in this question was not satisfactory. More than 50% of the candidates calculated the ratios correctly. Apart from the actual hours worked, which was given in the question, some candidates could not correctly determine the Standard Hours required and the Budgeted Hours.

Regarding the Cash Budget preparation, most of the candidates had difficulty interpreting the credit terms and, therefore, could not determine the cash receipts and payments correctly.

QUESTION FOUR

a)

i) **Payback Period**

Year	Net Cash Flow	Cummulative
0	(6,600,000)	(6,600,000)
1	1,393,750	(5,206,250)
2	1,731,250	(3,475,000)
3	1,360,000	(2,115,000)
4	1,306,000	(809,000)
5	1,690,000	

= 4yrs + $\frac{809,000}{1,690.000}$ x 12 months

= **4yrs 5months** **(10 marks)**

ii) The project should be rejected as the payback period of 4 years, 5 months is more than the company's acceptable payback period of three years. **(2 marks)**

Workings

Annual depreciation = $GH¢\frac{6.600.000-600,000}{5}$

= GH¢ 1,200,000

Annual increment cost (Relevant cost) = 2, 000,000- 1200,000

GH¢ 800,000

Workings net flows

Y1: (6500 * GH¢750) * 0.45 - GH¢ 800,000

= GH¢ 1,393,750

Y 2: (7500 * GH¢ 750)* 0.45 – GH¢ 800000

= GH¢ 1,731,250

Y3: (8000 *GH¢ 600) * 0.45 - GH¢ 800000

= GH¢ 1,360,000

Y4: (7800 * GH¢ 600) * 0.45 - GH¢ 800000

= GH¢ 1,306,000

Y5: (7000 * 600) * 0.45 + 600000 – 800000

= 1,690,000

b) **Quality**: can the outsourcing company produce the same product quality as Bee's other models? Bee Ltd has a reputation for high quality. This reputation could easily be destroyed if the outsourcing company cannot produce the new model to the same quality standard.

Reliability: can the outsourcing company be relied on to deliver the products when required by Bee's customers? This may especially be a potential problem as the outsourcing company is based overseas, and if the product is only for the home market, this could create a problem.

Management control: the company would need to manage the relationship with the outsourcing company. The fact that the outsourcing company is based overseas may make the relationship more difficult to manage. This may involve additional costs that have not been considered in the net present value calculations.

On-time delivery: Would the company be able to deliver on time**?** This may result in the need to maintain high stocks of the product, and if the outsourcing company is unable to meet the delivery schedule, result in lost sales for this model and potentially in lost sales for Bee's other models.

Staff morale may be affected, especially when an outsourcing model can be produced internally. Low morale of staff may negatively affect other aspect of the production.

(Any 3 points @ 1 mark each = 3 marks)

c) Factors accounting for harmful behaviour.

- **Worries** about cost-cutting; most workers misunderstand budgeting to mean cost-cutting process.
- **Opposition to unfair** targets imposed on staff.
- **Sub-optimization**; targets within some units may not be in the interest of the entire organisation.
- **Budget** slacks; budget targets are not realistic.
- **Blame** culture; managers are punished for the non- achievement of targets.
- **Unhealthy competition;** each department tries to achieve its target.

(Any 3 points @ 1.33 mark each = 5 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

The performance of the candidates in this question was below expectations. The following were the problems encountered.

- Some candidates included the already incurred R & D expenditure in the cost of initial investments.
- The requirement was for the payback period and not discounted payback period, but most of them discounted the cashflows that affected the period.
- Few candidates included depreciation in the fixed overhead in arriving at the net cash flow.

Because of the above problems, most candidates got the calculated Payback Period wrong. Few of the candidates could also not compare the calculated Payback Period with the acceptable period of 3 years in similar projects.

Part b) of the question was well answered in bringing out non–financial factors to consider before deciding to outsource or produce. The decision include Quality of the product, Reliability, Delivery Time, Reputation, Staff Morale, and Management Control.

QUESTION FIVE

a) **Contribution/Unit**

		GH¢
Selling Price (288,000/9000)		32
Less Variable Cost:		
Direct Material (54,000/9,000)	6	
Direct Wages (72,000/9,000)	8	
Production Overhead (0.3 x 60,000/9,000)	2	
Selling and Distribution ((63,000-36,000)/9,000)	3	(19)
		13

i) Breakeven point in unit = $\frac{Fixed\ cost}{Contribution\ per\ unit}$

= $\frac{78,000}{32-19}$

= 6000 units

Breakeven point in value = 6000 x GH¢32 or GH¢$\frac{78,000}{13/32}$

= GH¢192,000 Sales value

(4 marks)

ii) Contribution ($^{100}/_{75}$ x 9000 x GH¢13) = 156,000
Less fixed cost 78,000
Profit **78,000**

(3 marks)

b) **Option 1**

Sales (GH¢32- GH¢4 x 10,800 units)	302,400
Less variable Cost GH¢ 19 x 108,800	205,200
Contribution	97,200
Less Fixed cost	78,000
Profit	**19,200**

Option 2

Sales (GH¢32 x 85% x 12,000)	326,400

Less variable cost 19 x 12,000	228,000
Contribution	98,400
Less Existing Fixed cost	78,000
Special advertising	5,000
Profit	**15,400**

Option 3

Sales	32 x 12,000	384,000
Less variable cost	19 x 12,000	228,000
Contribution		156,000
Less fixed cost		78,000
Advertising		35,000
Profit		**43,000**

From the above calculation option 3 must be adopted since it records the highest profit of 43,000. **(10 marks)**

Workings

Selling price per unit $\frac{288,000}{9000}$ = GHGH¢ 32

Variable cost per unit	GHGH¢
Direct material	54,000
Direct wages	72,000
Production overhead 3/10x 60,000	18,000
Administration selling & distribution (63,000- 36,000)	27,000
Total Variable Cost	171,000
Divided by demand	9,000
Variable cost per unit	**19**

Fixed Cost	GHGH¢
Production Fixed cost (60,000 x 7/10)	42,000
Administration selling & distribution	36,000
	78,000

c) **Limitations of CVP**

- Total fixed costs do not always remain constant.
- Total variable costs do not always vary proportionately.
- Total sales revenue does not always change proportionately.
- It is unrealistic to assume that production and sales levels are always the same.
- Impractical to assume a constant mix for sale since this depends on the changing demand levels.

(Any 2 points @ 1 mark each = 2 marks)

Advantages

- The main advantage of CVP analysis is that it aids in decision-making.
- It allows managers to control costs to achieve a target level of profit.
- It allows managers to determine the ideal selling price they should set to achieve a target level of profit.
- Helps in setting up the basis for budgeting activity.

(Any 1 point @ 1 mark = 1 mark)

(Total: 20 marks)

EXAMINER'S COMMENTS

This question was satisfactorily answered. Most of the candidates calculated the BE point in units and value correctly because they could determine the SP per Unit, VC per Unit and FCs and therefore got the Contribution/Unit correct.

However, over 50% of the candidates had problems introducing various sensitivities and therefore could not get the profits under these options right.