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**CERTIFIED ACCOUNTING TECHNICIAN**

**STAGE 3 EXAMINATIONS**

**S3.2: MANAGEMENT ACCOUNTING**

**MODEL ANSWER AND MARKING GUIDE**

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## MARKING GUIDE

Question Number	Answer
1	C
2	A
3	A
4	B
5	A
6	D
7	C
8	B
9	C
10	B

**Marks**

2 Marks for each correct answer 2

Total marks for this section **20**

### Detailed Answer

#### 1. C

i) and ii) only) is the correct answer as it states that i) An increase in direct material prices and ii) An increase in raw material usage per unit the real cause of variance in this scenario. iii) and iv) are not cause of direct material Variance .

#### 2. A

Formula (Actual hours – Budgeted hours) \* standard rate

Standard rate is 125,000/25,000=5

Answer by calculation = (24,000 – 25,000) \*5 = FRW 5,000 adverse

Option B is incorrect Favorable instead of adverse)

Option C and D forget to multiply Actual hours -Budgeted hours by standard rate

#### 3. A (i) and (ii) only

##### Cost

##### Budget

Raw material costs

Production budget

Wages of factory workers

Production budget

Salary of marketing director

Marketing budget

Market research survey

Marketing budget

**4. B**

Actual cost FRW 10,887,500

Absorbed cost FRW 10,500,000

Under absorbed FRW 387,500

A is incorrect (over absorption instead of under absorption)

C& D use budgeted hour instead of actual hours

**5. A.**

A favorable sales price variance means a company received a higher-than-standard selling price on its goods, often due to fewer competitors, aggressive sales and marketing campaigns, or improved product differentiation.

Option B is meaning of unfavorable sales price variance

Option C and D is not related to cost variance

**6. D:**

$(\text{FRW } 75 - \text{FRW } 50) / \text{FRW } 50 = 0.50 \times 100 = 50\%$ .

**7. C**

The question was testing the candidate's knowledge on the Contribution Margin especially on formula, C is the correct formula.

**8. B) i), ii) and iii.**

Fixed cost and payables are the items of the financial position.

**9. C**

Return will be increased if the breakeven time is shortened, not maximized.

The question was testing the candidates a way not maximizing return over a product life cycle. A, D and C maximizing return over a product life cycle.

**10. B**

Zero based budgeting is used to compare the incremental cost and related benefits of activities.

Option A is not correct because an incremental budget is a budget prepared using a previous period's budget or actual performance as a basis with incremental amounts added for the new budget period.

## SECTION B

### MARKING GUIDE

QUESTION 11	Marks
a) Valid recommendation to shift from LIFO to FIFO (1 Marks per each valid point maximum 5Marks)	5
b) Inventory management process (Listing 0.5-mark, explanation 0.5 mark maximum,5 Marks)	5
<b>Total marks</b>	<b>10</b>

### Detailed Answer

#### a) Which Method Is Better FIFO or LIFO

FIFO is the more transparent and trusted method of calculating cost of goods sold, over LIFO.

By its very nature, the “First-In, First-Out” method is easier to understand and implement. Most businesses offload oldest products first anyway – since older inventory might become obsolete and lose value. As such, FIFO is just following that natural flow of inventory, meaning less chance of mistakes when it comes to bookkeeping.

LIFO allows a business to use the most recent inventory costs first. These costs are typically higher than what it cost previously to produce or acquire older inventory. As such, profits are lower. Although this may mean less tax for a company to pay under LIFO, it also means stated profits with FIFO are much more accurate because older inventory reflects the actual costs of that inventory. If profits are naturally high under FIFO, then the company becomes that much more attractive to investors.

The problem with a company switching to the LIFO method is that the older inventory may stay on the books forever, and that older inventory (if not perishable or obsolete) will not reflect current market values. It will be understated.

Lastly, under LIFO, financial statements are much easier to manipulate. It is considered a best practice to go with FIFO.

**b) Inventory management process:**

**5 key stages**

The inventory management process involves tracking and controlling stock as it moves from your suppliers to your warehouse to your customers. There are five main stages to follow:

**Purchasing:** This can mean buying raw materials to turn into products, or buying products to sell on with no assembly required

**Production:** Making your finished product from its constituent parts. Not every company will get involved in manufacturing — wholesalers, for instance, might skip this step entirely

**Holding stock:** Storing your raw materials before they're manufactured (if required), and your finished goods before they're sold

**Sales:** Getting your stock into customers' hands, and taking payment

**Reporting:** Businesses need to know how much it is selling, and how much money it makes on each sale

**MARKING GUIDE**

<b>QUESTION 12</b>	<b>Marks</b>
<b>a)</b> Advantages of Flexible budgeting (1 Marks per each max 3)	3
Disadvantages of Flexible budgeting (1 Marks per each max 2)	2
<b>Maximum Marks</b>	<b>5</b>
<b>b)</b> Meaning of Budget Variance	2
Cause of Budget Variance	3
<b>Maximum Marks</b>	<b>5</b>
<b>Total marks</b>	<b>10</b>

**a) Advantages and disadvantages of Flexible budgeting.**

**Advantages of Flexible Budgeting**

A flexible budget is an appealing concept. Here are several advantages:

- *Usage in variable cost environment.* The flexible budget is especially useful in businesses where costs are closely aligned with the level of business activity, such as a retail environment where overhead can be segregated and treated as a fixed cost, while the cost of merchandise is directly linked to revenues.

- *Performance measurement.* Since the flexible budget restructures itself based on activity levels, it is a good tool for evaluating the performance of managers - the budget should closely align to expectations at any number of activity levels.
- *Budgeting efficiency.* Flexible budgeting can be used to more easily update a budget for which revenue or other activity figures have not yet been finalized. Under this approach, managers give their approval for all fixed expenses, as well as variable expenses as a proportion of revenues or other activity measures. Then the budgeting staff completes the remainder of the budget, which flows through the formulas in the flexible budget and automatically alters expenditure levels.

These points make the flexible budget an appealing model for the advanced budget user. However, before deciding to switch to the flexible budget, consider the following countervailing issues.

### **Disadvantages of Flexible Budgeting**

The flexible budget at first appears to be an excellent way to resolve many of the difficulties inherent in a static budget. However, there are also a number of serious issues with it, which we address in the following points:

- *Formulation.* Though the flex budget is a good tool, it can be difficult to formulate and administer. One problem with its formulation is that many costs are not fully variable, instead having a fixed cost component that must be calculated and included in the budget formula. Also, a great deal of time can be spent developing cost formulas, which is more time than the typical budgeting staff has available in the midst of the budget process.
- *Closing delay.* A flexible budget cannot be preloaded into the accounting software for comparison to the financial statements. Instead, the accountant must wait until a financial reporting period has been completed, then input revenue and other activity measures into the budget model, extract the results from the model, and load them into the accounting software. Only then is it possible to issue financial statements that contain budget versus actual information, which delays the issuance of financial statements.
- *Revenue comparison.* In a flexible budget, there is no comparison of budgeted to actual revenues, since the two numbers are the same. The model is designed to match actual expenses to expected expenses, not to compare revenue levels. There is no way to highlight whether actual revenues are above or below expectations.
- *Applicability.* Some companies have so few variable costs of any kind that there is little point in constructing a flexible budget. Instead, they have a massive amount of fixed overhead that does not vary in response to any type of activity.

b)

### **Budget Variance**

A budget variance is a periodic measure used by governments, corporations, or individuals to quantify the difference between budgeted and actual figures for a particular accounting category. A favorable budget variance refers to positive variances or gains; an unfavorable budget variance describes negative variance, indicating losses or shortfalls. Budget variances occur because forecasters are unable to predict future costs and revenue with complete accuracy.

### **Causes of Budget Variances**

There are three primary causes of budget variance: errors, changing business conditions, and unmet expectations.

1. Errors by the creators of the budget can occur when the budget is being compiled. There are a number of reasons for this, including faulty math, using the wrong assumptions, or relying on stale or bad data.
2. Changing business conditions, including changes in the overall economy or global trade, can cause budget variances. There could be an increase in the cost of raw materials or a new competitor may have entered the market to create pricing pressure. Political and regulatory changes that were not accurately forecast are also included in this category.
3. Budget variances will also occur when the management team exceeds or underperforms expectations. Expectations are always based on estimates and projects, which also rely on the values of inputs and assumptions built into the budget. As a result, variances are more common than company managers would like them to be.

## SECTION C

### MARKING GUIDE

#### QUESTION 13

#### Marks

a)	Objectives of Cost-Volume-Profit Analysis: (1 Mark of each objective, maximum 5)	5
b)	Calculating the break-even point	2
	Graph well drawn and labelled	2
	Interpretation of graph	1
	<b>Maximum marks</b>	<b>5</b>
c)	Assumptions Underlying Cost-Volume-Profit Analysis: (Each objective is 1 Mark, maximum 6 mark)	6
d)	Ascertaining the sales volume required to achieve a target profit	2
	Conclusion	2
	Maximum marks	10
	<b>Total Marks</b>	<b>20</b>

#### Detailed Answer

##### a) Objectives of Cost-Volume-Profit Analysis:

There exists close relationship between the cost, volume and profit. If volume is increased, the cost per unit will decrease and profit per unit will increase. Thus, there is direct relation between volume and profit but inverse relation between volume and cost.

Analysis of this relationship has become interesting and useful for the cost and management accountant. This analysis may be applied for profit-planning, cost control, evaluation of performance and decision making.

- This analysis helps to forecast profit fairly and accurately as it is essential to know the relationship between profits and costs on the one hand and volume on the other.
- This analysis is useful in setting up flexible budget which indicates costs at various levels of activity. We know that sales and variable costs tend to vary with the volume of output. It is necessary to budget the volume first for establishing budgets for sales and variable costs.
- This analysis assists in evaluation of performance for the purpose of control. In order to review profits achieved and costs incurred, it is necessary to evaluate the effect on costs of changes in volume.
- This analysis also assists in formulating price policies by showing the effect of different price structures on costs and profits. We are aware that pricing plays an important part in stabilizing and fixing up volumes especially in depression period.



- v) This analysis helps to know the amount of overhead costs to be charged to the products at various levels of operation as we know that pre-determined overhead rates are related to a selected volume of production.
- vi) This analysis makes possible to attain target profit by locating the volume of sales required for such profit and finally achieving such sales volume.
- vii) This analysis helps management in taking number of decisions like make or buy, suitable sales mix, dropping of a product etc.

### b) Calculating the break-even point

Total revenue – total variable costs – total fixed costs = Profit

$$(\text{USP} \times Q) - (\text{UVC} \times Q) - \text{FC} = P$$

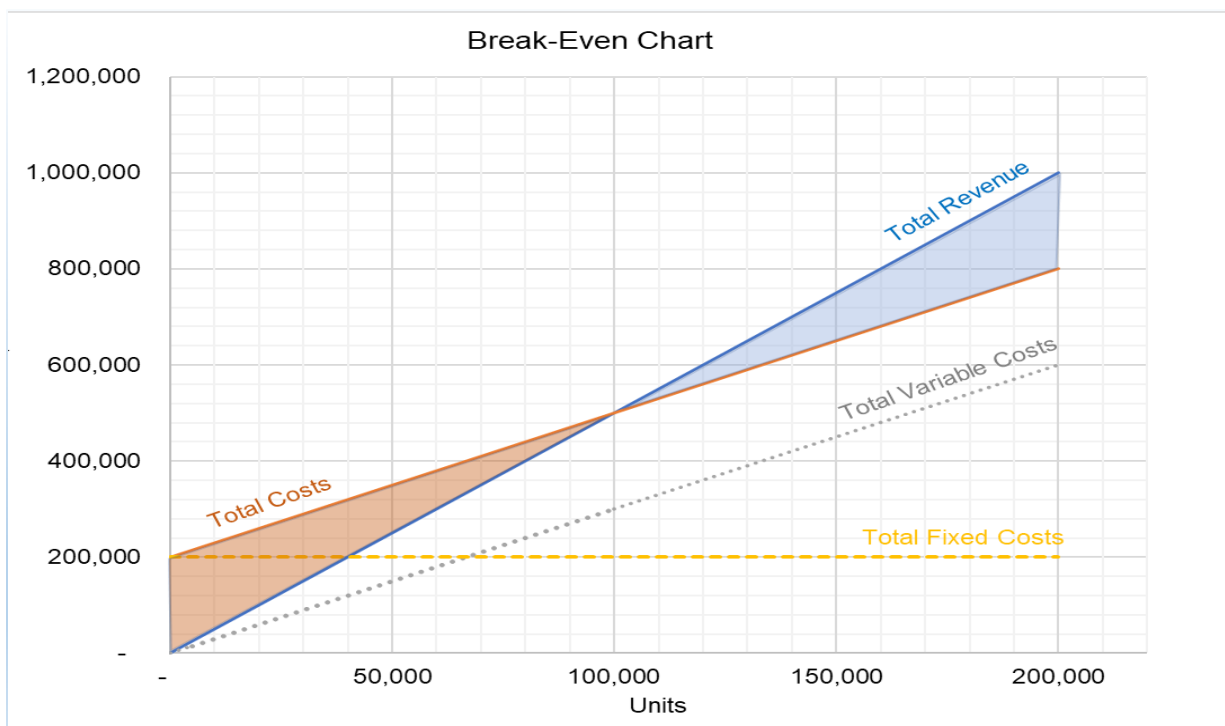
$$(50Q) - (30Q) - 200,000 = P$$

$$(50Q) - (30Q) - 200,000 = 0$$

$$20Q - 200,000 = 0$$

$$20Q = 200,000$$

$$Q = 10,000 \text{ units.}$$



The graph above shows the relationship between total revenue and total costs. The area between the two lines below the break-even point represents losses and the area above the break-even point shows the volume of total profit.

### c) Assumptions Underlying Cost-Volume-Profit Analysis:

Following are the main assumptions to be taken into consideration while making a simple system of cost-volume-profit analysis:

- i) Fixed and variable cost patterns can be established with reasonable accuracy and that fixed costs remain static and marginal costs are completely variable at all levels of output.
- ii) Selling prices are constant at all sales volumes.
- iii) Factor prices (e.g. material prices, wage rates) are constant at all sales volumes.
- iv) Efficiency and productivity remain unchanged.
- v) In a multi-product situation, there is constant sales mix at all levels of sales.
- vi) Turnover level (volume) is the only relevant factor affecting costs and revenue.
- vii) The volume of production equals the volume of sales.

**d) Ascertaining the sales volume required to achieve a target profit**

$$(50Q) - (30Q) - 200,000 = 300,000$$

$$20Q - 200,000 = 300,000$$

$$20Q = 500,000$$

$$Q = 25,000 \text{ units.}$$

Alternatively, the contribution method can be used:

$$\text{UCM} = 20, \text{FC} = 200,000 \text{ and } P = 300,000.$$

$$Q = \frac{\text{FC} + P}{\text{UCM}}$$

$$Q = \frac{200,000 + 300,000}{20}$$

**Therefore, Q = 25,000 units.**

Finally, the answer can be read from the graph, although this method becomes clumsier than the previous two. The profit will be FRW 300,000 where the gap between the total revenue and total cost line is FRW 300,000, since the gap represents profit (after the break-even point) or loss (before the break-even point.)

## MARKING GUIDE

### QUESTION 14

### Marks

a)	(i) Gross profit margin (0.5 Marks per formula, 0.5 marks per calculation and 1 Mark per interpretation)	2
	(ii) Return on capital employed (0.5 Marks per formula, 0.5 marks per calculation and 1 Mark per interpretation)	2
	(iii) Asset turnover (0.5 Marks per formula, 0.5 marks per calculation and 1 Mark per interpretation)	2
	(iv) Current ratio (0.5 Marks per formula, 0.5 marks per calculation and 1 Mark per interpretation)	2
	(v) Quick ratio (0.5 Marks per formula, 0.5 marks per calculation and 1 Mark per interpretation)	2
	(vi) Inventory holding in days (0.5 Marks per formula, 0.5 marks per calculation and 1 Mark per interpretation)	2
	(vii) Payable's payment period in days (0.5 Marks per formula, 0.5 marks per calculation and 1 Mark per interpretation)	2
	(viii) Receivables period in days (0.5 Marks per formula, 0.5 marks per calculation and 1 Mark per interpretation)	2
	Maximum Marks	<b>16</b>
b)	<b>Suggestions to improve company's financial performance</b>	4
	Total Marks	<b>20</b>

### Detailed Answer

#### a) Ratio

(i) Gross profit margin	$(1560 - 950 / 1,560) * 100\%$	39.10%	Profit margin is one of the commonly used profitability ratios to gauge the degree to which a company or a business activity makes money. This ratio indicates that out of 100 sales FHC is making gross profit of around 40.
(ii) Return on capital employed	$(1560 - 950 - 407 / 1600 + 100) * 100\%$	11.94%	Return on capital employed (ROCE) is a financial ratio that can be used to assess a company's profitability a

			nd capital efficiency. In other words, FHC company is generating around 12% of capital invested.
(iii) Asset turnover	$(1,560/1,700)$	0.92 Times	The asset turnover ratio measures the value of a company's sales or revenues relative to the value of its assets. This means that sales of FHC is 92% of its assets.
(iv) Current ratio	$(198 + 224 + 140)/162$	3.47	The current ratio is a liquidity ratio that measures a company's ability to pay short-term obligations or those due within one year. This means FHC having capacity of paying short term liability 3.47 times.
(v) Quick ratio	$(198 + 224/162)$	2.6	The quick ratio is an indicator of a company's short-term liquidity position and measures a company's ability to meet its short-term obligations with its most liquid assets. This means FHC having capacity of paying short term liability without selling it inventory 2.6 times.
(vi) Inventory holding in days	$(140/950) * 365$	53.79 Days	inventory holding in days is a financial ratio that indicates the average time in days that a company takes to turn its inventory, including goods that are a work in progress, into sales.
(vii) Payable's payment	$(162/950) * 365$	62.24 Days	Days payable's payment period is a financial ratio that indicates the average time (in days) that a

period in days			company takes to pay its bills and invoices to its trade creditors, which may include suppliers, vendors, or financiers.
(viii) Receivables period in days	$(198/1560) * 365$	46.33 Days	Receivables period in days refers to the amount of time it takes for a business to receive payments owed by its clients in terms of accounts receivable (AR)

**b) Four suggestions to the CEO of FANFAN Holding company on how he can improve his company's financial performance.**

**i) Recover outstanding debt**

Chase up as many outstanding payments as you can. If you don't have the time, consider using a reputable debt collection agency. Always have a condition of sale agreement before you make a sale. This gives the buyer your terms and conditions, including: how long they have to pay the debt; any percentages you'll apply to overdue payments

**ii) Reduce or rearrange expenses**

Work out which of your expenses you could reduce or rearrange. You might be able to:

- Arrange a deferred or periodic payment plan for larger expenses
- Switch off the suppliers to get a better deal
- Switch to cheaper options for consumables.

**iii) Sell dormant or unwanted assets**

Selling unwanted assets can be a good way to get some cash and reduce your storage costs. Consider leasing your main assets. This helps to spread the cost over a longer period.

**iv) Offer markdowns or increase prices**

Apply markdowns to full-price products or services to:

- attract sales
- move surplus stock or discontinued products

Increasing your prices is an option if your business faces rising costs.

**v) Use new marketing techniques**

Putting more effort into marketing doesn't necessarily require spending more money. For example, using the internet and social media can be a cheaper and smarter way of getting your message across.

**vi) Look for government grants**

You may be eligible for a grant in some circumstances, such as for business: expansion, research and development, innovation and exporting.

**MARKING GUIDE**

<b>QUESTION 15</b>	<b>Marks</b>
a)	
Calculation of Overhead absorption rate - Set-up costs	1
Calculation of Overhead absorption rate -Rent and power (production area)	1
Calculation of Overhead absorption rate- Rent (stores area)	1
Calculation of Overhead absorption rate-Salaries of store issue staff	1
Allocation of overhead for Server - Set-up costs	1
Allocation of overhead for Server -Rent and power (production area)	1
Allocation of overhead for Server - Rent (stores area)	1
Allocation of overhead for Server -Salaries of store issue staff	1
Allocation of overhead for PC - Set-up costs	1
Allocation of overhead for PC -Rent and power (production area)	1
Allocation of overhead for PC- Rent (stores area)	1
Allocation of overhead for PC -Salaries of store issue staff	1
<b>Maximum Marks</b>	<b>12</b>
b)	
Pros of Traditional Costing (1 Marks per each pros max 3)	3
Cons of Traditional Costing (1 Marks per each cons max 2)	2
<b>Maximum Marks</b>	<b>5</b>
Defining a responsibility center	1
Defining a cost center	1
Defining a profit center	1
<b>Maximum Marks</b>	<b>3</b>
<b>Total Marks</b>	<b>20</b>

**a) Calculation of per cost Driver**

	<b>Budgeted total annual overheads</b>	<b>Cost driver</b>	<b>Cost per cost driver</b>	<b>Cost per cost driver</b>

	<b>FRW'000</b>			<b>FRW'000</b>
Set-up costs	10,000	Number of set-ups	5	2,000
Rent and power (production area)	120,000	Number of weeks production	50	2,400
Rent (stores area)	50,000	Floor area of stores (m2)	800	62.5
Salaries of store issue staff	40,000	No of issues of inventory	10,000	4
<b>Total</b>	<b>220,000</b>			

#### **Reallocation of overhead to Server and PC**

	<b>Server</b>		
<b>Number of cost drivers</b>	<b>Number of cost drivers</b>	<b>Cost per cost driver</b>	<b>Allocated overheads</b>
		<b>FRW'000</b>	<b>FRW'000</b>
Set-up costs	5	2,000	10,000
Rent and power (production area)	10	2,400	24,000
Rent (stores area)	400	62.5	25,000
Salaries of store issue staff	2,000	4	8,000
<b>Total</b>			<b>67,000</b>

	<b>PC</b>		
<b>Number of cost drivers</b>	<b>Number of cost drivers</b>	<b>Cost per cost driver</b>	<b>Allocated overheads</b>
		<b>FRW'000</b>	<b>FRW'000</b>
Set-up costs	0	2,000	-
Rent and power (production area)	40	2,400	96,000
Rent (stores area)	400	62.5	25,000
Salaries of store issue staff	8000	4	32,000
<b>Total</b>			<b>153,000</b>

#### **b)Discuss the pros and cons of Traditional Costing and Activity-Based Costing**

##### **Pros and Cons of Traditional Costing**

- ✓ It gives reasonably accurate cost figures when the production volume is large, and changes in overhead costs do not create a substantial difference when calculating the costs of production. Traditional costing methods are inexpensive to implement.

- ✓ Traditional costing is best used when the overhead of a company is low compared to the direct costs of production.
- ✓ Companies usually use traditional costing for external reports, because it is simpler and easier for outsiders to understand.

### **Cons of Traditional Costing**

- ✓ Traditional costing does not give managers an accurate picture of product costs because the application of overhead burden rates is arbitrary and applied equally to the cost of all products.
- ✓ Overhead costs are not allocated to the products that consume the overhead activities.
- ✓ The traditional costing method is best used for manufacturers that only make a few different products.

### **c) Explanation of Management Accounting terms:**

A responsibility center is an area of a business for which costs or revenues are gathered and compared to budgets for control purposes. Responsibility centers are known as such because each of these areas of the business has a manager that is responsible for the activities of that area.

(ii) A cost center is an area of the business for which costs can be ascertained. This may be the entire factory or a smaller area such as a single machine.

(iii) A profit center is an area of the business for which both revenues and costs can be ascertained and therefore a profit or loss for a period can be determined. Often profit centers are larger areas of the business such as an entire division or geographical sales area.