# CERTIFIED ACCOUNTING TECHNICIAN

# STAGE 3 EXAMINATIONS

# S3.2: MANAGEMENT ACCOUNTING

# DATE: FEBRUARY 2025

# MARKING GUIDE AND MODEL ANSWERS

# SECTION A

## MARKING GUIDE

| Q/NO | Answers | Marks |
|---|---|---|
| Q1 | C | 2 Marks |
| Q2 | B | 2 Marks |
| Q3 | C | 2 Marks |
| Q4 | C | 2 Marks |
| Q5 | D | 2 Marks |
| Q6 | D | 2 Marks |
| Q7 | B | 2 Marks |
| Q8 | C | 2 Marks |
| Q9 | B | 2 Marks |
| Q10 | B | 2 Marks |

**Total: 20 Marks**

**Model answers**

**QUESTION ONE**

**The correct answer is C**

A, B and D are the steps in planning and control cycle.

D is not. D is a step in decision making.

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**QUESTION TWO**

**The correct answer is B**

Marketing department is interested in the data on age, gender and religion in order to either venture into a given market.

A Finance and administration require financial data and IT Department requires ICT information.

D is not correct. Departments require different sets of data from a variety of sources.

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**QUESTION THREE**

**The correct answer is B**

When setting standards, one need to consider the expected prices of materials, labour and expenses, efficiency levels for use of materials asnd labour and budgeted overhead cost and volume of activities.

A, C and D are incorrect since they all have item iv, expected tax levels, which is not considered when estimating standards.

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**QUESTION FOUR**

**The correct answer is C**

i) Divide the contribution margin per unit of the limiting resource

ii)Rank the result of the contribution per limiting factor

iii) Start producing from the product gives the highest result per contribution margin

A, B and D do not indicate the correct order of limiting factor decisions.

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**QUESTION FIVE**

**The correct answer is D**

A, B and C are correct formulas of calculating the relevant variances.

D is wrong since all the formulas are correct**.**

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**QUESTION SIX**

**The correct answer is D**

**The following will lead into a favorable material usage variance.**

(i) Use of a higher grade of material which lead to less wastage
(ii) Use of more skilled labor leading to less wastage than normal usage
(iii) New machinery which provides greater efficiency

A, B and C are incorrect because they all contain use of solar power to cut on cost.
This does not have any direct link to the favorable material usage variance,

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**QUESTION SEVEN**

**The correct answer is B**

B is correct because it's the role of the directors to detect and prevent fraud.

A is incorrect because it is not the primary role of auditors to detect and prevent fraud. It is their secondary role.

C and D are incorrect since it is not the role of shareholders or government to detect and prevent fraud. A student may relate this to the work of police, which is not true in a company perspective.

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**QUESTION EIGHT**

T**he correct answer is C**

A, B and D are mixture of internal and external factors of SWOT framework.

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**QUESTION NINE**

**The correct answer is B**

Incremental change is done slowly step by step to its finality.

A is a wholesale or one off change

C Life cycle costing is a modern method of determining unit cost.

D is incorrect since A and C are incorrect or do not give the definition of incremental change.

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**QUESTION 10**

**The correct answer is B**

A is incorrect because it has statement (iii).ABC method tends to be accurate.

C is incorrect because we have statements describing absorption costing.

D is incorrect because absorption costing does not give accurate cost analysis as ABC.

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**SECTION B**

**QUESTION 11**

**Marking Guide**

| Details | **Marks** |
|---|---|
| Calculation of the correct ratio of customers perspective | 2 |
| Calculation of the correct ratio of internal perspective | |
| Productivity (2*1) | 2 |
| Unit cost (2*1) | 2 |
| Financial perspective | |
| Gross profit margin (2*1) | 2 |
| Innovative and learning and growth | |
| Development cost as a percentage of sales | 1 |
| Development cost as a percentage of gross profit | 1 |
| Total | 10 |

**Model answer**

| | **B11** | **B22** | **Total** |
|---|---|---|---|
| Production Unit | 50,000 | 10,000 | 60,000 |
| Labour hours per unit | 0.1 | 0.15 | |
| Total labor hours Required | 5,000 | 1,500 | 6,500 |
| Revenue (FRW) | 700,000,000 | 140,000,000 | 840,000,000 |
| Cost of units produced (FRW) | 450,000,000 | 85,000,000 | 535,000,000 |
| **Gross profit** | **250,000,000** | **55,000,000** | **305,000,000** |
| Development cost | | | 50,000,000 |

**Customer perspective**

Percentage of sales represented by new product = $\frac{New\ Sale}{Sale\ Existing\ sale+New\ Sale}$

Percentage of sales represented by new product = $\frac{140,000,000}{700,000,000+140,000,000} = 17\%$

**Internal perspective**

Existing Productivity of B11= $\frac{Production\ Unit}{Existing\ Labour\ Houre\ Required} = \frac{50,000}{5,000} = 10$

New Productivity of B12= $\frac{Production\ Unit}{New\ Labour\ Hour\ required} = \frac{10,000}{1,500} = 6.67$

**Unit cost Perspective**

PRODUCT OF B11 = $\frac{Existing\ Total\ Production\ Cost}{Existing\ Unit\ Produced} = \frac{450,000,000}{50,000} = 9,000$

PRODUCT OF B12 = $\frac{Total\ Production\ Cost}{Unit\ Produced} = \frac{85,000,000}{10,000} = 8,500,$

**Financial Perspective**

Gross Profit

Existing Product B11=$\frac{Gross\ Profit\ for\ Existing}{Existing\ Sales} * 100\% = \frac{250,000,000}{700,000,000} *100\%=36\%$

New Product B12=$\frac{Gross\ Profit\ FOR\ New\ Product}{Sales\ of\ new\ product} * 100\% = \frac{55,000,000}{1400,000,000} *100\%=39.3\%$

Development costs as % of sales= $\frac{Development\ Cost}{Existing\ Sales+New\ Sales} * 100\%$

Development costs as % of sales= $\frac{50,000,000}{840,000,000} * 100= 6\%$

**QUESTION 12**

**Marking Guide**

IGABE Co Ltd

| Calculation of the correct | Marks |
|---|---|
| Gross profit margin ratio | 2 |
| Operating profit margin ratio | 2 |
| Return on capital employed ratio | 2 |
| Current ratio | 2 |
| Quick ratio | 2 |
| Total marks | 10 |

**Model answers**

**Computation of Ratios**

1. Gross profit margin= $\frac{Gross\ Profit}{Sale} * 100\%$

   Gross profit margin= $\frac{374{,}300{,}000}{700{,}000{,}000} * 100\% = 53\%$

   Moderate gross profit margin of 53% indicates an average improved efficiencies in the firm.

2. Operating profit margin= $\frac{Operating\ Profit}{Sale} * 100\%$

   Operating profit margin= $\frac{74{,}300{,}000}{700{,}000{,}000} * 100\% = 11\%$

   Low operating profit margin of 11% indicates financial instability and inefficiency.

3. Return on capital employed= $\frac{Profit\ Interest\ and\ Tax}{Capital\ Employed} * 100\%$

Return on capital employed= $\frac{74{,}300{,}000}{246{,}000{,}000} * 100\% = 30.2\%$

A ROCE of more than 20% shows the firm is in a good financial position. In this case, the firm`s ROCE is 30.2% meaning that firm is in a good financial position.

Capital Employed= Total Asset- Current Liabilities

Capital Employed= 281,500,000- 35,500,000= 246,000,000

4. Current Ratio = $\frac{\text{Current asset}}{Current\ Liabilities} = \frac{60{,}000{,}000}{35{,}500{,}000} = 1.7:1$

   This current ratio of 1.7:1 indicates that the firm is fairly liquid and can settle current its liabilities when they fall due.

5. Quick Ratio = $\frac{\text{Current asset} - \text{Invenrtory}}{Current\ Liabilities} = \frac{60{,}000{,}000 - 10{,}000{,}000}{35{,}500.000} = 1.41:1$

   The quick ratio of 1.41:1 indicates that the firm is more liquid and can settle its current liabilities with ease.

**SECTION C**

**QUESTION 13**

## Marking guide

| | GASANA limited | **Marks** |
|---|---|---|
| i | Prepare a sales budget | 2 |
| ii | Prepare a production budget | 4 |
| Iii | Prepare a material usage budget in units and value | 4 |
| iv | Material purchase budget in units and value | 4 |
| v | Prepare a labor cost budget | 4 |
| vi | Prepare variable overhead cost budget | 2 |
| | **Total marks** | **20** |

## Model answer

**a)**

| **Sales budget** | **P-GENX** | **P-GENZ** |
|---|---|---|
| Expected Sale Unit for the period | 1,000 | 1,500 |
| Selling price (FRW) | 3,000 | 4,000 |
| **Expected Sales Revenue** | **3,000,000** | **6,000,000** |

**b)**

| **Production budget** | **P-GENX** | **P-GENZ** |
|---|---|---|
| Sales units | 1,000 | 1,500 |
| Add closing stock | 250 | 350 |
| Less opening stock | (150) | (200) |
| Units produced during the period | 1,100 | 1,650 |

**c)**

| **Material usage budget (Material X)** | P-GENX | P-GENZ |
|---|---|---|
| Units produced during the period(ii) | 1,100 | 1.650 |
| Material X per unit | 2 | 3 |
| Total quantity of Material X Required in Kg | 2,200 | 4,950 |
| Price per Kg | 250 | 250 |
| Total Cost of Material X Required FRW | 550,000 | 1,237,500 |

| Material usage budget (Material Y) | P-GENX | P-GENZ |
|---|---|---|
| Units produced during the period(ii) | 1,100 | 1.650 |
| Material Y per unit | 1 | 2 |
| Total quantity of Required in Kg | 1,100 | 3,300 |
| Price | 270 | 270 |
| **Total Cost Material X Required in FRW** | **297,000** | **891,000** |

**d)**

## Material purchase budget in units and value

| | Material X | Material Y |
|---|---|---|
| Total quantity of material usage (P-GENX) | 2,200 | 1,100 |
| Total quantity of material usage (P-GENZ) | 4,950 | 3,300 |
| Add: Required closing stock | | |
| (P-GENX) in Kgs | 185 | 200 |
| (P-GENZ) in Kgs | 175 | 150 |
| Less opening stock | | |
| (P-GENX) in Kgs | 500 | 80 |
| (P-GENZ) in Kgs | 700 | 75 |
| Material purchased | 6,310 | 4595 |
| Price per unit (FRW) | 250 | 270 |
| Material purchased-Cost | 1,577,500 | 1,240,650 |

**e)**

| Labor cost budget | | P-GENX | | P-GENZ |
|---|---|---|---|---|
| Units produced during the period(ii) | 1,100 | | 1,650 | |
| Labor time per unit (Minutes | 30 | | 45 | |
| Total Labor time per (Minutes) Required | 33,000 | | 74,250 | |
| Minutes per hour | 60 | | 60 | |
| Total Labor hours used in production Required | | 550 | | 1237.5 |
| Labor rate (FRW) | | 1,200 | | 1,300 |
| Total labor cost | | 660,000 | | 1,608,750 |

**f)**

| Variable overhead cost budget | P-GENX | P-GENZ |
|---|---|---|
| Total hours used for | 550 | 1237.5 |
| Variable overhead absorption rate (FRW) | 200 | 250 |
| **Total variable overhead cost** | **110,000** | **309,375** |

**QUESTION 14**

**Marking guide**

| 14 | | Marks | Total |
|---|---|---|---|
| **(a)** | Discussion of four benefits of knowledge of cost behavior (4*1) | 4 | 4 |
| **(b)** | Summation of X, Y, XY and X2(4*1) | 4 | |
| | Calculating the correct Fixed cost | 2 | |
| | calculating the correct variable cost per unit | 2 | |
| | Showing the correct model/equation | 1 | |
| | Estimating the correct cost of 1,000 units | 1 | 10 |
| **( c)** | Correct apportionment of rent cost in the two departments | 1 | |
| | Correct apportionment of lighting cost in the two departments | 1 | |
| | Correct apportionment of heating costs in the two departments | 1 | |
| | Correct labor cost | 1 | |
| | Correct cost per unit | 1 | |
| | Correct profit per unit | 1 | 6 |
| | **Total marks** | | **20** |

**Model Answer**

**(a)**

Enables firm make future expenditures accurately

Helps understand how different costs are affected by changes in activity level.

It's essential in cost-volume analysis.

It assists in planning and budgeting

It helps in price setting

It helps in performance evaluation.

**(b)**

**Model answer**

| S/N | X | Y | XY | x2 |
|---|---|---|---|---|
| **1** | 2,550 | 15,000 | 38,250,000 | 6,502,500 |
| **2** | 2,850 | 22,800 | 64,980,000 | 8,122,500 |
| **3** | 2,700 | 25,050 | 67,635,000 | 7,290,000 |
| **4** | 2,400 | 21,450 | 51,480,000 | 5,760,000 |
| **5** | 2,250 | 21,050 | 47,362,500 | 5,062,500 |
| **6** | 1,950 | 21,300 | 41,535,000 | 3,802,500 |
| **7** | 1,650 | 19,200 | 31,680,000 | 2,722,500 |
| **8** | 2,100 | 19,000 | 39,900,000 | 4,410,000 |
| **9** | 1,800 | 18,000 | 32,400,000 | 3,240,000 |
| **10** | 1,550 | 21,000 | 32,550,000 | 2,402,500 |
| | **21,800** | **203,850** | **447,772,500** | **49,315,000** |

Y=a + bX

Y= 16,264.8 + 1.89X

Y=16,271.48+1.89(1,600) =19,295.48

a= $\frac{\sum Y - b\sum X}{n}$

a= $\frac{203{,}850-(1.89*21{,}800)}{10}$ = 16,264.8

b= $\frac{n\sum XY - \sum X\sum y}{n\sum X2-(\sum X)2}$

b= $\frac{10*447{,}772{,}500-(21{,}800*\ 203{,}850)}{(10*\ 49{,}315{,}000)-(21{,}800^2)}$= 1.89

C)

| | | P-GENX | P-GENZ | | |
|---|---|---|---|---|---|
| **Details of O/H** | Cost Drives | **DEPTA** | **DEPTB** | **Total** | **Overhead** |
| | Floor area | 2,000 | 2,000 | **4,000** | |
| | Percentage | 0.5 | 0.5 | | |
| | apportionment of overheads | 790,000* 0.5 | 790,000* 0.5 | | |
| **Rent** | **Floor-area basis** | **395,000** | **395,000** | | **790,000** |
| | | | | | |
| | Floor area | 2,000 | 2,000 | 4,000 | |
| | Percentage | 0.5 | 0.5 | | |
| | apportionment of overheads | 300,000*0.5 | 300,000*0.5 | | |
| **Lighting-** | **Floor area** | **150,000** | **150,000** | | **300,000** |
| | | | | | |
| | Volume (Meter cubic) | **8,000** | **12,000** | **20,000** | |
| | **Percentage** | **0.4** | **0.6** | | |
| | apportionment of overheads | **1,750,000*0.4** | **1,750,000*0.6** | | |
| **Heating** | **Volume (Meter cubic)** | **700,000** | **1,050,000** | | **1,750,000** |

| | | | |
|---|---|---|---|
| **Sale Revenues** | **FRW 6,000*1,500 Unit** | | **9,000,000** |
| **Less: Cost of Production** | | | |
| Material Cost | FRW1,200* 1,500 unit | 1,800,000 | |
| Labor Cost (150%* Overhead Cost) | 150% *1,595,000 | 2,392,500 | |
| **Production O/H** | | | |
| Rent | | 395,000 | |
| Lighting- | | 150,000 | |
| Heating | | 1,050,000 | |
| **Total Production Cost** | | | **-5,787,500** |
| **Profit** | | | **3,212,500** |

Cost per Unit= $\frac{Total\ Production\ Cost}{Expect\ produced\ unit\ and\ sold}$ = $\frac{5{,}787{,}500}{1{,}500}$ = 3,858.33

Profit per Unit= Selling Price – Cost of production

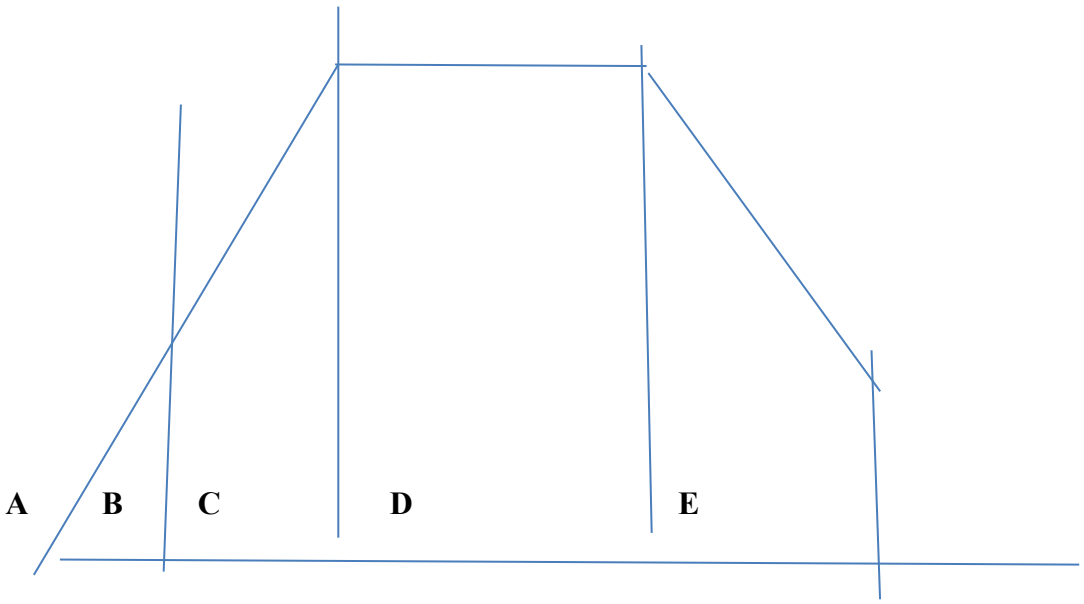
Profit per Unit= 6,000 – 3,858.33= 2,141.67

**QUESTION 15**

**Marking guide**

| 15 | | Marks | Total |
|---|---|---|---|
| (a) | Well illustrated diagram of product life cycle | 2 | |
| | Explanations on what can be done to increase sales (5*0.5) | 2.5 | 4.5 |
| (b) | Benefits of preparing functional budgets (2points*1 Mark* Budgets) | 8 | 8 |
| (c) | Explanations of two approaches to budgeting (2*1.5) | 3 | 3 |
| (d) | Definition of the cost unit | 1 | |
| | Definition of the cost object | 1.5 | |
| | Definition of the responsibility center | 2 | 4.5 |
| | Total marks | | 20 |
| | | | |

**(a)**




**A-Development phase**
**B-Introduction phase**
**C-Growth phase**
**D-Maturity phase**
**E-Decline phase**

**Development phase**

No production
Expenditure on acquisition of machines
Research and development costs
The success of a product depends on the efficiency and effectiveness of research at this stage.

**Introduction phase**.

Production begins
Customers are unaware of the products being produced.
Extensive marketing should be done.

**Growth stage**
Sales are increasing.
To increase sales, do more promotion activities.
Give free samples. Differentiate products.

**Maturity phase**
Sales begin stagnate because of boredom or high competition from duplicate products.
The firm can look for new markets, rebrand or close down operations.

**Decline phase**
Sales begin to decline.
Give discounts to attract new customers.
Look for new markets, rebrand or close down operations.

**(b)**

**Sales budget**

It enables managers generate achievable sales goals

It helps set targets for the sales team.

It can be used in performance evaluation

**Production budget**

It ensures the company has right amount of opening inventory

It ensures the company has right amount of closing inventory

It assists in scheduling production resources

**Material usage budget**

Assist in management of raw materials

Specifies the quantities of raw materials needed to produce each product.

Assists n efficient inventory management.

**Variable overhead cost budget**

It enables a firm to know in advance the expenses to be incurred in the future.

To assist in allocating resources effectively and efficiently.

For control purposes.

(c)There are two approaches to budgeting

**Top-down approach**, also known as imposed budget. This is a scenario where the top executives make a budget, pass it to budget holders to implement it.

**Bottom-up budget** or negotiated budget is budget approach whereby the budget holders or staff prepare budgets, pass it to the senior executives for authorization.

(d)

**Cost units**- A cost unit is a unit of product or service to which costs can be related. The cost unit is the basic control unit for costing purposes

**Cost objects**- A cost object is any activity for which a separate measurement of costs is desired

**Responsibility centers**- A responsibility center is a department or organizational function whose performance is the direct responsibility of a specific manager.

## End of marking guide and model answers