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CERTIFIED ACCOUNTING TECHNICIAN
STAGE 3 EXAMINATIONS

S3.2: MANAGEMENT ACCOUNTING

DATE: THURSDAY, 28 JULY 2022

MARKING GUIDE AND MODEL ANSWERS

SECTION A

Marking Guide

Marks

Marks for each correct answer

2

Total Marks for this section

20

Questions	Answers Grid
1	D
2	D
3	C
4	C
5	B
6	B
7	B
8	C
9	D
10	D

Model answers

QUESTION ONE

The Correct answer is **D**

A, B and C are not correct because of the following

- (i) Data on Governments' websites are secondary data
- (ii) An organization can in some cases rely on secondary data
- (iii) All externally obtained data are not primary data
- (iv) Both qualitative and quantitative data either be collected as primary or secondary data

QUESTION TWO

The Correct answer is **D**

A Is not correct answer because under investment centres, managers can be held accountable for controllable costs

B Is not correct because non-controllable costs are not a direct responsibility of managers under cost centres

C Is not correct because the cost centre manager should not be held accountable for the sudden increase in cost of power independently allocated to different cost centres by the group chief finance officer.

QUESTION THREE

The Correct answer is **C**

A, B and D are not correct as they are relating to characteristic of effective coding system

QUESTION FOUR

The Correct answer is **C**

A, B and D are not correct because of the following computation that support answer **C**

Particular	Units
sales Units	20,000
Add: Closing inventory of finished units	4,000
Less: Opening inventory of finished units: 5,000	(5,000)
Planned Production	19,000

Particular	Kgs
Planned Production	19,000
Unit cost	*6
Materials required for production	114,000

Computation of Budgeted material purchase

Particular	Kgs
Materials required for production	114,000
Closing inventory of materials	70,000
Opening inventory of materials	(60,000)
Budgeted material purchase	124,000

QUESTION FIVE

The Correct answer is **B**.

A, C and D are not correct because of below workings that support answer **B**

Standard hour in hours = $10/60=0.167$

Payment = $0.167 \times 130 \times \text{FRW } 13,000 = \text{FRW } 282,230$

QUESTION SIX

The Correct answer is **B**

A, C and D are not correct because of the following

C. Both the Public and the Private sector can use the 3Es approach while assessing the concerned entity's performance over a period

D. Both the Public and the Private sector are influenced by the legal and political environments.

QUESTION SEVEN

The Correct answer is **B**

A, C and D are not correct because of below computation that support answer **B**

Sales volume variance = (Budgeted sales units – Actual sales units) x Standard profit per unit
= FRW 80,000 adverse

Standard profit on actual sales = (Actual sales units x Standard profit per unit) = FRW 830,000

Fixed budget profit = 830,000 + 80,000 = FRW 910,000

QUESTION EIGHT

The Correct answer is **C**

A, B and D are not correct because of the following

A. There is no need for prevention since the transactions are executed in accordance with proper authorization

B. There is no need for prevention since access to assets is permitted only in accordance with proper authorization

QUESTION NINE

The Correct answer is **D**

A, B and C are not correct because of the following

A. This is correct - Budgets' assumptions may need to be re-visited when assessing performance against a flexed budget.

B. This is correct - A limiting factor arises in the context of decision making in a business. It is a resource that is in short supply such that it restricts the ability of the organisation to provide and sell more of its products or services.

C. This is correct - Productivity is the measure of how hard the employees are working or how productive they are being in their hours at work.

QUESTION 10

The Correct answer is **D**

A, B and C are not correct because of the following

(i) It is correct that if inventory levels are rising, absorption costing will give lower profits

(ii) It is correct that if inventory levels are falling, absorption costing will give a higher profit figure

(iii) It is correct that where inventory levels are constant, provided that unit costs are constant, absorption costing and marginal costing will give the same level of profit

SECTION B

QUESTION 11

Marking Guide

Marks

(a)	
Number of units at 45%	1
Variable production cost per unit	1
Fixed costs	1
60% capacity	1
Total production costs at 60% production capacity	1
(b)	
(i) Maximum 3 marks for a well explained difference and 1.5 marks awarded for one side and other awarded 1.5 marks. Do not exceed 3 marks on this question (Hint: Marker should analyse the valid points given by students and award marks accordingly)	3
(ii) 1 mark for one advantage and 1 mark for one disadvantage and Marker has a room for analysing valid point given by students and award marks but do not exceed 2 marks on this question.	2
Total	10

Model Answer

a) Number of units at 45% = $1,200 \times 45\% = 540$ Units

Variable production cost per unit = $(26,000 - 12,000) / (1,200 - 540) = 14,000 / 660 \text{ FRW} = \text{FRW } 21.21 \text{ million}$

Fixed costs = $12,000 \text{ m} - (540 \times 21.21 \text{ m}) = \text{FRW } 546.6 \text{ million}$

60% capacity = $1,200 \times 60\% = 720$ units.

Total production costs at 60% production capacity = $\text{FRW } 546.6 \text{ m} + (720 \times 21.21 \text{ m}) = \text{FRW } 15,817.8 \text{ million}$

b) The answer is detailed as per roman numbers.

i) **The difference between absorption costing and marginal costing is explained here below:**

✓ Marginal costing is a method where the variable costs are considered as the product costs and the fixed costs are considered as the costs of the period. Whereas Absorption costing is a method that considers both fixed costs and variable costs as products costs

✓ Under Absorption costing, the fixed production overheads are absorbed into the cost of a product unit and therefore included as part of cost of sales and in the valuation of closing inventory. Variable costs on the other hand all fixed costs are treated as period costs and are written off in the statement of profit and loss in the period in which they are incurred and only

variable overheads are included in the cost of unit.

ii) **The Advantages of marginal costing system and absorption costing is detailed here below:**

Advantages of marginal costing system

- ✓ It provides more useful information for decision-making as it requires separation of variable and fixed costs.
- ✓ It removes the effect of inventory changes on profit giving a more logical, constant picture of operations.

Disadvantages for absorption costing system

- ✓ It does not require separation of variable and fixed costs and consequently is not as useful as marginal costing in decision making situations where relevant costs must be highlighted.
- ✓ If inventory levels fluctuate significantly, profit may be distorted as changes in inventory will affect the amount of fixed manufacturing overheads allocated to an accounting period.

QUESTION 12

Marking Guide

	Marks
a) 0.5 Marks for each of the 7 steps involved	3.5
5 objectives of a budgetary planning and control system, 0.5 marks for each	2.5
(Hint: Marker has a room to validate the points given by students and award marks accordingly not exceeding the marks allocated to each point and whole question)	
b) Zero-base budgeting,	1
Incremental budgeting	1
Bottom-up budgeting	1
Top-down budgeting	1
(Hint: Marker has a room to validate the points given by students and award marks accordingly not exceeding the marks allocated to each point and whole question)	
Total	10

Model Answers

a) Answer is described here below:

The steps involved in planning & control cycle are the following

- 1) Identify objectives
- 2) Identify potential strategies
- 3) Evaluate strategies
- 4) Choose alternative courses of action
- 5) Implement the long-term plan
- 6) Measure actual results and compare with plan
- 7) Respond to divergences from plan

5 Objectives of a budgetary planning and control system are the following:

- 1) To compel planning
- 2) To communicate ideas and plans
- 3) To co-ordinate activities
- 4) To establish a system control
- 5) To motivate employees to improve their performance
- 6) To provide a framework for responsibility accounting

b) Short notes of the following:

(i) **Incremental budgeting** is a budgeting process that starts with the budget from the previous period and adds or subtracts an incremental amount to cover inflation and other known expenses. It is suitable for stable businesses, where costs are not expected to change significantly and where there is good cost control and limited discretionary expenses.

(ii) **Under zero-based budgeting**, all budgets start at zero and activities/costs are only allowed if they are justified under investigation. All requests for resources must be presented and they are evaluated on the basis of cost-benefit.

(iii) **Top-down budgeting** is a method of setting budgets where the senior management are solely responsible for the setting of the budgets and they are then imposed upon managers who are responsible for meeting the targets.

(iv) **Under Bottom-up budgeting**; the budgets are prepared by the functional managers based upon their detailed knowledge of the resource and the costs associated with it.

SECTION C

QUESTION 13

Marking Guide

Marks

a)	
i) Break even sales	1
Break even units	1
Contribution	1
Break even units	1
Contribution to sales ratio	1
Break-even sales	1
ii) Formula of Margin of safety %	1
Computed Margin of safety %	1
iii) Revenue to generate target profit	1
Revenue to generate target profit	1
b)	
Cost effectiveness	2
Reliability	2
Timeliness	2

(Hint: Marker has a room to validate the points given by students and award marks accordingly not exceeding the marks allocated to each point and whole question)

c)Maximum 2 marks for each correct answer	4
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(Hint: Marker has a room to validate the points given by students and award marks accordingly not exceeding the marks allocated to each point and whole question)

Total	20
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Model Answer

a) i) Break even sales = Total fixed costs/Contribution to sales ratio

Break even units = Total fixed costs/Contribution per unit

Contribution = 600 – 260 = FRW 340

Break even units = 16,000,000/340 = 47,059 Units

Contribution to sales ratio = 340/600 = 0.567

Break-even sales = 16,000,000/0.567 = FRW 28,235,294

Or

Break even sales = Break even units x selling price per unit

Break even units = Total fixed costs/Contribution per unit

Contribution per unit = 600 – 260 = FRW 340

Break even units = 16,000,000/340 = 47,059 Units

Break even sales = 47,059 x 600 = FRW 28,235,294

ii) Margin of safety % = ((Actual or expected sales – break even sales units)/ Actual or expected sales) x 100

((152,000 - 47,059)/152,000) x100 = 69%

iii) Revenue to generate target profit = (Total fixed costs + target profit)/ Contribution to sales ratio

Revenue to generate target profit = (16,000,000 + 205,000)/ 0.567 = FRW 28,597,059

Or

Revenue to generate target profit = ((Total fixed costs + target profit)/ Contribution per unit)

X selling price per unit = ((16,000,000 + 205,000)/ 340) x 600 = FRW 28,597,059

b) **3 objectives of an effective accounting system**

- ✓ **Cost effectiveness:** Ensuring that something is of good value
- ✓ **Reliability:** Ensuring a process or system performs consistently well
- ✓ **Timeliness:** The system should provide information at the required time

c) **Fraud matrix can help GumaMuRugo (G) Ltd in the following ways:**

- ✓ The fraud matrix can help to investigate potential fraud within the system
- ✓ Fraud matrix helps to analyse the controls in place to prevent fraud
- ✓ Helps also to grade the potential for fraud according to risk

QUESTION 14

Marking Guide

	Marks
a) Initial investment in the first year	0.5
Annual maintenance fees, 0.5 Mark for each, maximum 2 marks	2
Cash inflow, 0.5 Mark for each, maximum 2 marks	2
Totals before PV, 0.5 Mark for each, maximum 2.5 marks	2.5
Discount factors, 0.5 Mark for each, maximum 2.5 marks	2.5
Computed PV values, 0.5 Mark for each, maximum 2.5 marks	2.5
Computed NPV	1
Recommendation	1
b) Advantages (3 Marks - 1 mark for each correct point)	3
Disadvantages (3 Marks - 1 mark for each correct point)	3
Total	20

(Hint: Marker has a room to validate the points given by students on advantages and disadvantages and award marks accordingly not exceeding the marks allocated to each point and whole question)

Model Answer

a) The feasibility of Kayinamura investment is done using Net present Value (NPV) as per below Computation of net present value.

Year	0	1	2	3	4
Initial investment		(40,000,000)			
Annual maintenance fees	(500,900)	(500,900)	(500,900)	(500,900)	
Cash inflow		9,800,500	10,094,515	10,397,350	10,709,271
Total	(500,900)	(30,700,400)	9,593,615	9,896,450	10,709,271
Discount Factor	1	0.917	0.84	0.772	0.708
PV	(500,900)	(28,152,267)	8,077,824	7,640,060	7,582,164
NPV	(5,353,119)				

✓ The project has a negative NPV and Kayinamura should not undertake the project or he can reject the project

B. 3 advantages and 3 disadvantages of the net present value method are listed below

Advantages

- ✓ Shareholder wealth is maximized
- ✓ It takes into account the time value of money
- ✓ It is based on cashflows which are less subjective than profit
- ✓ Shareholders will benefit if a project with a positive NPV is accepted

Disadvantages

- ✓ It can be difficult to identify an appropriate discount rate
- ✓ Some managers are unfamiliar with the concept of NPV
- ✓ For simplicity, cash flows are sometimes all assumed to occur at year ends: this assumption may be unrealistic.

QUESTION 15

Marking Guide

	Marks
a)	
Quantity of raw material per unit	0.5
Cost of 1kg of raw materials	0.5
Cost of direct materials per unit	0.5
Hours per unit	0.5
Cost per hour	0.5
Cost of direct labour per unit	0.5
Variable production overhead per unit - Based on direct labour hours	0.5
Fixed production overhead per unit - Based on direct labour hours)	0.5
Total product cost	0.5
Standard profit margin	0.5
b)	
Sales on the three budgets, 0.5 mark for each sale	1.5
Direct materials	1
Direct labour	1
Variable production overheads	1
Fixed production overheads	1
Total production costs	1.5
Profit for each of the three budgets, 1 mark for each	3
c)	
i) Direct material price variance	1
ii) Direct material usage variance	1
iii) Direct labour rate variance	1
iv) Sales price variance	1
v) Sales volume variance	1
Total	20

Model Answer

a) Standard profit computation

Quantity of raw material per unit	$0.08 = 6,090 / 73,920$	Kgs
Cost of 1kg of raw materials	$827.59 = 5,040,000 / 6,090$	FRW
Cost of direct materials per unit	$68.18 = 0.08 \times 827.59$	FRW
Hours per unit	$0.06 = 4,170 / 73,920$	Hours
Cost per hour	$12,975.88 = 54,109,440 / 4,170$	FRW
Cost of direct labour per unit	$732.00 = 0.06 \times 12,975.88$	FRW
Variable production overhead per unit - Based on direct labour hours	$68.73 = 0.06 \times (5,080,320 / 4,170)$	FRW
Fixed production overhead per unit - Based on direct labour hours	$199.27 = 0.06 \times (14,730,240 / 4,170)$	FRW
Total product cost	$1,068.18 = 68.18 + 732.00 + 68.73 + 199.27$	FRW
Selling price	1,860.00	FRW
Standard profit margin	$791.82 = 1,860.00 - 1,068.18$	FRW

b) 3 separate Quarter 2 (Q2) 2021 statements of profit or loss

		73,920	92,400	92,400
	Standard cost Per Unit	Original Budget	Flexed Budget	Actual results
Sales	1,860	137,491,200	171,864,000	160,776,000
Direct materials	68	5,040,000	6,300,000	6,825,000
Direct labour	732	54,109,440	67,636,800	74,594,520
Variable production overheads	69	5,080,320	6,350,400	5,715,360
Fixed production overheads	199	14,730,240	18,412,800	17,348,310
Total production costs	1,068	78,960,000	98,700,000	104,483,190
Profit	792	58,531,200	73,164,000	56,292,810

Workings / Mark for each calculation

- ✓ $137,491,200 = 73,920 \times 1,860$
- ✓ $171,864,000 = 92,400 \times 1,860$
- ✓ $160,776,000 = 92,400 \times 1,740$
- ✓ $6,300,000 = 92,400 \times 68$
- ✓ $67,636,800 = 92,400 \times 732$
- ✓ $6,350,400 = 92,400 \times 69$
- ✓ $18,412,800 = 92,400 \times 199$

c) Computation of the following variances

(i) Direct material price variance

Direct material price variance	(Standard cost – Actual cost)*Actual Quantity	(1,007,069) = (828 – 971)*7,030	Adverse
Standard cost	828 = 5,040,000/6,090		
Actual cost	971 = 6,825,000/7,030		

(ii) Direct material usage variance

Direct material usage variance	(Standard Quantity - Actual Quantity)*Standard cost	482,069 = (7,613 – 7,030)*828	Favourable
Standard Quantity	7,613 = (6,090/73,920)*92,400		

(iii) Direct labour rate variance

Direct labour rate variance	(Standard rate - Actual rate)*Actual Hours	(10,882,925) = (12,976 – 15,192)*4,910	Adverse
Standard rate	12,976 = 54,109,440/ 4,170		
Actual rate	15,192 = 74,594,520/ 4,910		

(iv) Sales price variance

Sales price variance	(Actual price - Standard Price)*Actual volume	(11,088,000) = (1,740 - 1,860)*92,400	Adverse
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(v) Sales volume variance

Sales volume variance	(Actual volume - Budgeted volume)*Standard profit margin	14,632,800 = (92,400 - 73,920)*792	Favourable
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END OF MARKING GUIDE AND MODEL ANSWERS