CERTIFIED ACCOUNTING TECHNICIAN

STAGE 3 EXAMINATIONS

S3.2: MANAGEMENT ACCOUNTING

DATE: THURSDAY 30, MAY 2024

MARKING GUIDE AND MODEL ANSWERS

SECTION A

MARKING GUIDE

QN	Answer	Marks
1	B	2
2	D	2
3	A	2
4	A	2
5	B	2
6	D	2
7	D	2
8	B	2
9	C	2
10	A	2
	Total Marks	**20**

MODEL ANSWERS

QUESTION ONE

Correct answer is **B**

Limiting factor is any factor that is in scarce supply and that prevents the organisation from expanding its activities further. The only option that wasn't a limiting factor was availability of raw materials as it cannot limit the organization to achieve its target.

The rest of the options were limiting factors from A, C and D.

QUESTION TWO

Correct answer is **D**

The adverse material usage variance is caused by the factors described in A, B and C making them correct.

QUESTION THREE

The Correct answer is **A**

To establish the root cause of variances to enable management put in place mitigation plans.

The rest of the choices can't be the reason for variance investigation.

QUESTION FOUR

Correct answer is **A**

In absorption costing, fixed production cost is absorbed into the cost of units.

Other options are wrong because:

B Under marginal costing closing inventories are valued at variable production costs
C Fixed costs are not absorbed in unit cost under marginal costing but rather under absorption costing
D Fixed production costs are treated as period cost under marginal costing and not absorption costing.

QUESTION FIVE

Correct answer is **B**

When dealing with perishable products, the method of inventory valuation that could be recommended is **FIFO (First in First Out).**

The rest of the options are wrong

A. Stating that LIFO can be used last in means that you will be issuing the items that are fresh, the latest items and the oldest will remain in stock which in turn will result into damages.
C. It is also incorrect as it has combined a correct element of B with an incorrect element of A

QUESTION SIX

The Correct answer is **D**

(iv) Machine repair and maintenance is a practice that leads to efficiency.

QUESTION SEVEN

The Correct answer is **D**

Selling price per unit = sales revenue/sales unit
Selling price per unit = 24,000,000/250,000
= 96 per unit

New sales revenue = 250,000 × 90/75 = 300,000 units
= 300,000 × 96 = FRW 28,800,000

Variable cost = 12,000,000 + 4,000,000 + 3,000,000 = 19,000,000

New variable costs = 19,000,000 × 90/75 = 22,800,000

Total fixed is 1,000,000

Total costs = total fixed costs + total variable costs
Total costs = 1,000,000 + 22,800,000 = 23,800,000

New profit = new sales revenue – new total cost
New profit = 28,800,000 – 23,800,000 = 5,000,000

Effect on profit is that the profit has increased from 4,000,000 to 5,000,000, by 1,000,000

QUESTION EIGHT

The Correct answer is **B**

The purchase and delivery of raw materials which are converted into finished goods is a direct cost. Any option with (i) is therefore wrong

QUESTION NINE

Correct answer is **C**

Ishimwe's pay is (3000-60) *100=294,000

B is wrong, it has no deducted bricks damaged since they are not payable

A is wrong, instead of deducting damaged bricks they added them.

QUESTION 10

Correct answer is **A**

The total pay for the month by TURATSINZE group is the total remuneration of both employees 294,000 + 250,000= FRW 544,000

B is wrong as it has used wrong calculated remuneration in Q9 FRW 360,000

C is also wrong it has used wrong calculated remuneration in Q9 FRW 300,000

SECTION B

QUESTION 11

MARKING GUIDE

QN	Description	Marks
a	Marginal costing profit statement	
	Sales	0.5
	Production cost	0.5
	Closing inventory	0.5
	Variable cost of sales	0.5
	Variable selling costs	0.5
	Contribution	0.5
	Fixed production cost	0.5
	Fixed non production costs	0.5
	Total fixed cost	0.5
	Marginal costing profit	0.5
	Maximum marks awarded for part a	5.0
b	Absorption costing profit statement	
	Sales	0.5
	Production cost	0.5
	Closing inventory	0.5
	Cost of sales	0.5
	Gross profit	0.5
	Variable non production	0.5
	Fixed non production costs	0.5
	Total non production cost	0.5
	Absorption costing profit	1.0
	Maximum marks awarded for part b	5.0
	Total	**10 Marks**

MODEL ANSWERS

11) a

Kamage Ltd			
Marginal costing profit statement for year ended 31st December, 2021			
		FRW	FRW
Sales	(9,200 * 4,000)		36,800,000
Variable Cost of Sales:			
Opening Inventory	(0 * 3,000)	-	
Add: Production	(10,000 * 3,000)	30,000,000	
Less: Closing Inventory	(800 * 3,000)	2,400,000	27,600,000
Less: Variable selling costs			1,840,000
Contribution			7,360,000
Fixed Cost			
Production	(300 * 10,000)	3,000,000	
Non Production		1,000,000	4,000,000
Marginal Costing Profit			3,360,000
Workings			
Variable production cost =	1,500 + 1,000 + 500 =	3,000	

11) b

Kamage Ltd			
Absorption costing profit statement for year ended 31st December, 2021			
		FRW	FRW
Sales	(9,200 * 4,000)		36,800,000
Cost of Sales:			
Opening Inventory	(0 * 3,300)	-	
Add: Production	(10,000 * 3,300)	33,000,000	
Less: Closing Inventory	(800 * 3,300)	2,640,000	30,360,000
Gross Profit			6,440,000
Non Production Costs			
Variable	(200 * 9,200)	1,840,000	
Fixed		1,000,000	2,840,000
Absorption Costing Profit			3,600,000
Total production cost = Variable production cost + Fixed production cost			
	(3,000 + 300) =	3,300	

QUESTION 12

MARKING GUIDE

QN	Description	Marks
12	**Net present value**	
	Correct net cash flow (0.5 marks per period)	2.5
	Application of PVIF in all years (0.5 marks per period)	2.5
	Present value (0.5 marks per period)	2.5
	Net present value	1.0
	Correct final decision	1.5
	Total	**10 Marks**

MODEL ANSWERS

Net Present Value Calculation					
Period	Cash Inflow	Cash Outflow	Net Cashflow	PVIF 10%	Present Value
	FRW	FRW	FRW		FRW
o	-	40,000,000	(40,000,000)	1	(40,000,000)
1	9,800,500	500,900	9,299,600	0.909	8,453,336
2	10,094,515	500,900	9,593,615	0.826	7,924,326
3	10,397,350	500,900	9,896,450	0.751	7,432,234
4	10,709,271	500,900	10,208,371	0.683	6,972,317
			Net Present Value		(9,217,786)
Note: Cash inflow is increased by 3% every year starting from 9,800,500					

Advisory decision:

Brian should reject the investment proposal since it gives a negative net present value. The proposal could only be accepted if the net present value was positive.

SECTION C

QUESTION 13

MARKING GUIDE

QN	Description	Marks
a	Calculation of Variances	
i	Sales Price Variance	
	Correct formula	0.5
	Application of formula	0.5
	Correct answer	0.5
	Correct interpretation whether F or A	0.5
ii	Sales Volume Variance (under MC)	
	Correct formula	0.5
	Application of formula	0.5
	Correct answer	0.5
	Correct interpretation whether F or A	0.5
iii	Material Price Variance	
	Correct formula	0.5
	Application of formula	0.5
	Correct answer	0.5
	Correct interpretation whether F or A	0.5
iv	iv) Material Usage Variance	
	Correct formula	0.5
	Application of formula	0.5
	Correct answer	0.5
	Correct interpretation whether F or A	0.5
v	Labour Rate Variance	
	Correct formula	0.5
	Application of formula	0.5
	Correct answer	0.5
	Correct interpretation whether F or A	0.5
vi	Labour Efficiency Variance	
	Correct formula	0.5
	Application of formula	0.5
	Correct answer	0.5
	Correct interpretation whether F or A	0.5

vii	Variable Overhead Expenditure Variance	
	Correct formula	0.5
	Application of formula	0.5
	Correct answer	0.5
	Correct interpretation whether F or A	0.5

viii	Variable Overhead Efficiency Variance	
	Correct formula	0.5
	Application of formula	0.5
	Correct answer	0.5
	Correct interpretation whether F or A	0.5
	Maximum marks awarded for part a	16
b	Types of standards	
i	Ideal standard	1
ii	Attainable standard	1
iii	Current standard	1
iv	Basic standard	1
	Maximum marks awarded for part b	4
	Total	20

MODEL ANSWERS

a) Calculation of variances and stating whether adverse or favourable

i) Sales Price Variance		
SPV = (Budgeted Selling Price/Unit - Actual Selling Price/Unit) * Actual Quantity		
Budgeted Selling Price/Unit =	15,000	
Actual Selling Price/Unit =	16,667	
Actual Quantity =	195,000	
SPV = (15,000 - 16,667) * 195,000 =	325,000,000	F
ii) Sales Volume Variance (under MC)		
SVV = (Budgeted Quantity - Actual Quantity) * Budgeted Contribution/Unit		
Budgeted Quantity =	200,000	
Actual Quantity =	195,000	
Budgeted Contribution/Unit = (700,000,000 / 200,000 =	3,500	
SVV = (200,000 - 195,000) * 3,500 =	17,500,000	A
iii) Material Price Variance		
MPV = (Budgeted Price/kg - Actual Price/kg) * Actual Quantity		
Budgeted Price/Kg =	300	
Actual Price/Kg =	320	
Actual Quantity = (944,000,000 / 320 =	2,950,000	
MPV = (300 - 320) * 2,950,000 =	59,000,000	A

iv) Material Usage Variance		
MUV = (Budgeted Quantity for Actual Production - Actual Quantity) * Budgeted Price/kg		
Budgeted Quantity = 900,000,000 / 300 =	3,000,000	
Budgeted Quantity per Unit = 3,000,000 / 200,000 =	15	
Budgeted Quantity for Actual Prod = 15 * 195,000 =	2,925,000	
Actual Quantity =	2,950,000	
Budgeted Price/Kg =	300	
MUV = (2,925,000 - 2,950,000) * 300 =	7,500,000	A
v) Labour Rate Variance		
LRV = (Budgeted Rate/hour - Actual Rate/hour) * Actual Hours		
Budgeted Rate / Hour =	5,000	
Actual Rate / Hour =	4,500	
Actual Hours = (562,500,000 / 4,500) =	125,000	
LRV = (5,000 - 4,500) * 125,000 =	62,500,000	F
vi) Labour Efficiency Variance		
L Eff V = (Budgeted Hours for Actual Production - Actual Hours) * Budgeted Rate/hour		
Budgeted Hours = 600,000,000 / 5,000 =	120,000	
Budgeted Hours per unit = 120,000 / 200,000 =	0.60	
Budgeted Hours for Actual Product = (0.6 * 195,000) =	117,000	
Actual Hours = (562,500,000 / 4,500) =	125,000	
Budgeted Rate / Hour =	5,000	
LEV = (117,000 - 125,000) * 5,000 =	40,000,000	A
vii) Variable Overhead Expenditure Variance		
Vexp V = (Budgeted Rate/hour - Actual Rate/hour) * Actual Hours		
Budgeted Rate / Hour =	800	
Actual Rate / Hour =	830	
Actual Hours = (788,500,000 / 830) =	950,000	
V Exp V = (800 - 830) * 950,000 =	28,500,000	A

viii) Variable Overhead Efficiency Variance		
V Eff V= (Budgeted Hours for Actual Production - Actual Hours) * Budgeted Rate/hour		
Budgeted Hours = 800,000,000 / 800 =	1,000,000	
Budgeted Hours per unit = 1,000,000 / 200,000 =	5	
Budgeted Hours for Actual Product (5 * 195,000) =	975,000	
Actual Hours =	950,000	
Budgeted Rate / Hour =	800	
V Eff V = (975,000 - 950,000) * 800 =	20,000,000	F

b) Explain the following types of standards

i. Ideal standards

These are based on perfect operating conditions: no wastage, no spoilage, no inefficiencies, no idle time, no breakdowns. Variances from ideal standards are useful for pinpointing areas where a close examination may result in large savings in order to maximize efficiency and minimize waste. However, ideal standards are likely to have an un favorable motivational impact because reported variances will always be adverse. Employees will often feel that the goals are unattainable and not work so hard.

ii. Attainable standards

These are based on the hope that a standard amount of work will be carried out efficiently, machines properly operated or materials properly used. Some allowance is made for wastage and inefficiencies. If well set, they provide a useful psychological incentive by giving employees a realistic but challenging target of efficiency. The consent and co-operation of employees involved in improving the standard are required.

iii. Current standards

These are based on current working conditions (current wastage, current inefficiencies). The disadvantage of current standards is that they do not attempt to improve on current levels of efficiency.

iv. Basic standards

These are kept unaltered over a long period of time, and may be out of date. They are used to show changes in efficiency or performance over a long period of time. Basic standards are perhaps the least useful and least common type of standard in use.

QUESTION 14

MARKING GUIDE

QN	Description	Marks
a	Competence	2
	Confidenciality	2
	Integrity	2
	Credibility	2
	Resolution of ethical conclict	2
	Maximum marks awarded for part a	10
b) i	Variable cost per hour	
	Application of formula	1
	Correct answer	1
ii	Fixed component of service cost	
	Application of formula	2
	Correct answer	2
iii	Total labour cost	
	Total cost equation	1
	Application of formula	2
	Correct answer	1
	Maximum marks awarded for part b	10
	Total	**20 Marks**

MODEL ANSWERS

a) Ethical responsibilities of management accountants

Management accountants have an obligation to the organizations they serve, their profession, the public, and themselves to maintain the highest standards of ethics.

Management accountants should behave ethically. They have an obligation to follow the highest standards of ethical responsibility and maintain good professional image. The Institute of Management Accountants (IMA) has developed four standards of ethical conduct for management accountants and financial managers. These standards have since then been revered as the central code for accounting professionals.

1. Competence

Maintain an appropriate level of professional competence by on-going development of their knowledge and skills.

Perform their professional duties in accordance with relevant laws, regulations, and technical standards. Prepare complete and clear reports and recommendations after appropriate analyses of relevant and reliable information.

2. Confidentiality
Refrain from disclosing confidential information acquired in the course of their work except when authorized, unless legally obligated to do so.

Inform subordinates as appropriate regarding the confidentiality of information acquired in the course of their work and monitor their activities to assure the maintenance of that confidentiality. Refrain from using or appearing to use confidential information acquired in the course of their work for unethical or illegal advantage either personally or through third parties.

3. Integrity
Avoid actual or apparent conflicts of interest and advise all appropriate parties of any potential conflict. Refrain from engaging in any activity that would prejudice their ability to carry out their duties ethically. Refuse any gift, favour, or hospitality that would influence or would appear to influence their actions. Refrain from either actively or passively subverting the attainment of the organization's legitimate and ethical objectives.
Recognize and communicate professional limitations or other constraints that would preclude responsible judgment or successful performance of an activity Communicate unfavorable as well as favourable information and professional judgments or opinions. Refrain from engaging in or supporting any activity that would discredit the profession

4. Credibility
Communicate information fairly and objectively. Disclose fully all relevant information that could reasonably be expected to influence an intended user's understanding of the reports, comments, and recommendations presented.

Resolution of ethical conflict
In applying the standards of ethical conduct, practitioners of management accounting and financial management may encounter problems in identifying unethical behaviour or in resolving an ethical conflict. When faced with significant ethical issues, practitioners of management accounting and financial management should follow the established policies of the organization bearing on the resolution of such conflict. If these policies do not resolve the ethical conflict, such practitioners should consider the following courses of action:

Discuss such problems with the immediate superior except when it appears that the superior is involved, in which case the problem should be presented initially to the next higher managerial level.
If a satisfactory resolution cannot be achieved when the problem is initially presented, submit the issues to the next higher managerial level. If the immediate superior is the chief executive officer, or equivalent, the acceptable reviewing authority may be a group such as the audit committee, executive committee, board of directors, board of trustees, or owners. Contact with levels above the immediate superior should be initiated only with the superior's knowledge, assuming the superior is not involved. Except where legally prescribed, communication of such

problems to authorities or individuals not employed or engaged by the organization is not considered appropriate.

Clarify relevant ethical issues by confidential discussion with an objective advisor to obtain a better understanding of possible courses of action. Consult your own attorney as to legal obligations and rights concerning the ethical conflict.

If the ethical conflict still exits after exhausting all levels of internal review, there may be no other recourse on significant matters than to resign from the organisation and to submit an informative memorandum to an appropriate representative of the organisation.

b)

i) Variable cost per hour

Variable cost per hour =	Cost at highest activity - Cost at lowest activity		
	Highest activity - Lowest activity		
Variable cost per hour =	22,800,000 - 15,000,000		
	2,850 - 1,550		
	7,800,000		
	1,300		
	6,000	FRW per hour	

ii) Fixed component of the service cost

Fixed cost = Total cost - Variable cost		
Fixed cost =	22,800,000 - (6,000 * 2,850)	
	5,700,000	FRW

iii) Total labour cost for 2,000 hours

TC = 6,000 * X + 5,700,000		
TC = (6,000 * 2,000) + 5,700,000		
TC =	17,700,000	FRW

QUESTION 15

MARKING GUIDE

QN	Description	Marks
a	Distinguish between incremental and zero based budget	
	1 marks awarded for each clear definition	2
b	Reasons for preparing a budget	
	2 marks for any three points clearly explained	6
c	Preparation of cash budget	
	Apportionement of sales into cash and credit	2
	Apportionement of purchases into cash and credit	1.5
	Salaries	1
	Rent apportionemt into cash and arrears	1.5
	Electricity	1
	Total cash outflow	1
	Surplus /deficit	1
	Opening balances	1
	Closing balances	1
	1 mark awarded for the format	1
	Maximum marks for part c	12
	Total	**20**

MODEL ANSWERS

a) Distinguish between incremental budgets and zero-based budget

1) Incremental budget

An incremental budget is a budget prepared using the previous period's budget or actual performance as a basis with incremental amounts added for the new budget. The allocation of resources is based upon allocations from the previous accounting year. Here, the management assumes that the levels of revenues and costs incurred during the current year will also be reflected during the next year. Accordingly, it will be assumed that revenues and costs incurred during the current year will be the starting point for estimations for the next year.

2) Zero based budget

Zero-based budgeting is a system of budgeting in which all revenues and costs must be justified for each new accounting year. Zero-based budgeting starts from a 'zero base' where every function within an organization is analyzed for its respective revenues and costs. These budgets may be higher or lower than the budget of the previous year. Zero-based budgeting is ideal for small scale companies due to its detailed attention to cut costs and to invest scarce resources effectively.

b) Explain any three reasons for preparing a budget

1) To ensure the achievement of the organization's objectives

Objectives are set for the organization as a whole, and for individual departments and operations within the organization. Quantified expressions of these objectives are then drawn up as targets to be achieved within the timescale of the budget plan.

2) To compel planning

Planning forces management to look ahead, to set out detailed plans for achieving the targets for each department, operation and (ideally) each manager and to anticipate problems. It thus prevents management from relying on ad hoc or un coordinated planning which may be detrimental to the performance of the organization.

3) To communicate ideas and plans

A formal system is necessary to ensure that each person affected by the plans is aware of what they are supposed to be doing. Communication might be one-way, with managers giving orders to subordinates, or there might be a two-way dialogue and exchange of ideas.

4) To co-ordinate activities

The activities of different departments or sub-units of the organization need to be coordinated to ensure maximum integration of effort towards common goals. This concept of coordination implies, for example, that the purchasing department should base its budget on production requirements and that the production budget should in turn be based on sales expectations.

5) To provide a framework for responsibility accounting

Budgetary planning and control systems require that managers of budget centers are made responsible for the achievement of budget targets for the operations under their personal control.

6) To establish a system of control

A budget is a yardstick against which actual performance is monitored and assessed. Control over actual performance is provided by the comparisons of actual results against the budget plan. Departures from budget can then be investigated and the reasons for the departures can be divided into controllable and uncontrollable factors.

c) Preparation of cash budget for six months ended 31st December 2022

Rusizi Ltd								
Cash budget for six months ended 31st december, 2022								
		July	August	September	October	November	December	Total
CASH INFLOW		Frw 000	Frw 000	Frw 000	Frw 000	Frw 000	Frw 000	Frw 000
Sales	W1	22,800	32,600	22,200	31,800	34,400	47,600	191,400
Total cash inflow		22,800	32,600	22,200	31,800	34,400	47,600	191,400
								-
CASH OUTFLOW								-
Purchases	W2	21,625	23,375	13,350	22,250	28,200	31,200	140,000
Salaries		3,000	3,000	3,000	3,000	3,000	3,000	18,000
Rent	W3	4,500	4,500	4,500	4,500	4,500	4,500	27,000
Electricity		500	500	500	500	500	500	3,000
Total cash outflow		29,625	31,375	21,350	30,250	36,200	39,200	188,000
Surplus / Deficit		(6,825)	1,225	850	1,550	(1,800)	8,400	
Add: Opening cash balance		20,000	13,175	14,400	15,250	16,800	15,000	
Closing cash balance		13,175	14,400	15,250	16,800	15,000	23,400	

WORKINGS								
W1) Cash Received from sales		June	July	August	September	October	November	December
		Frw 000	Frw 000	Frw 000	Frw 000	Frw 000	Frw 000	Frw 000
Sales		30,000	28,000	35,000	16,000	36,000	40,000	54,000
Cash sales	60%	18,000	16,800	21,000	9,600	21,600	24,000	32,400
Cash received after 1 month	(50% of balance)	-	6,000	5,600	7,000	3,200	7,200	8,000
Cash received after 2 months	(50% of balance)	-	-	6,000	5,600	7,000	3,200	7,200
Total cash received from sales		18,000	22,800	32,600	22,200	31,800	34,400	47,600
W2) Purchases		June	July	August	September	October	November	December
		Frw 000	Frw 000	Frw 000	Frw 000	Frw 000	Frw 000	Frw 000
Purchases		22,000	21,500	24,000	9,800	26,400	28,800	32,000
Cash purchases	75%	16,500	16,125	18,000	7,350	19,800	21,600	24,000
Credit purchases	25%	-	5,500	5,375	6,000	2,450	6,600	7,200
Total cash paid for purchases		16,500	21,625	23,375	13,350	22,250	28,200	31,200
W3) Rent		June	July	August	September	October	November	December
		Frw 000	Frw 000	Frw 000	Frw 000	Frw 000	Frw 000	Frw 000
Rent		4,500	4,500	4,500	4,500	4,500	4,500	4,500
Cash rent	75%	3,375	3,375	3,375	3,375	3,375	3,375	3,375
Arrears (After 1 month)	25%	-	1,125	1,125	1,125	1,125	1,125	1,125
Total cash paid for purchases		3,375	4,500	4,500	4,500	4,500	4,500	4,500

END OF MARKING GUIDE AND MODEL ANSWERS