CERTIFIED ACCOUNTING TECHNICIAN

STAGE 3 EXAMINATIONS

S 3.2: MANAGEMENT ACCOUNTING

DATE: THURSDAY 29, AUGUST 2024

MARKING GUIDE & MODEL ANSWERS

SECTION A

MARKING GUIDE

Q/NO	Answer
Q1	**B**
Q2	**B**
Q3	**C**
Q4	**C**
Q5	**B**
Q6	**B**
Q7	**D**
Q8	**A**
Q9	**A**
Q10	**D**

Award 2 marks for each correct answer

Total: 20 Marks

Model answers

QUESTION ONE

The correct answer is B.

A, B, and D, are not correct because those statements are true.

QUESTION TWO

The correct answer is B

A is not correct because it is describing control activities

C is not correct because it describes control information system

D is not correct because it defines monitoring of controls

QUESTION THREE

Answer: C

X = 14, y = 654.36 - (6.2*14) = 567.56

Forecast = trend * seasonal component = 567.56 * 0.983 = 557.91

A is not correct, as it has been calculated by adding the seasonal component to the forecast (567.56 + 0.983) =568.54

B is not correct, as it has been calculated for the 13^{th} month.

Y=654.36 -6.2*13=573.76

573.76/0.983=564.01

D is not correct because the trend was not multiplied with the seasonal component.
y = 654.36 - (6.2*14) = 567.56

QUESTION FOUR

Correct answer is C

Details	units	selling price	Amount	
Actual sales	1,850	20,000	37,000,000	
Budgeted sales	1,800	22,000	39,600,000	
Sales revenue variance			(2,600,000)	A

A Is not correct because actual sales were deducted from budgeted sales.
39,600,000-37,000,000=2,600,000 F
B is not correct because actual sales are wrong. The units used to compute actual sales is the budgeted units and actual sales were deducted from budgeted sales.
(1800*22,000) -(1800*20,000) =. FRW 3,900,000 F
D is not correct because actual sales are wrong. The units used to compute actual sales is the budgeted units and budgeted sales were deducted from actual sales.
(1800*20,000) -(1800*22,000) =.FRW 3,900,000 A

QUESTION FIVE
Correct answer is B
An adverse variance is neither always good nor bad.
Other Options are wrong that is A, B and D as they do not consider the full analysis of variance and its favorability or adversity

QUESTION SIX

The correct answer is B

	Details	Skilled workers	Unskilled workers
	Employees	26	35
	Hours	13	20
	Output(units)	10,998	20,300
Productivity	**output/hours**	**846**	**1015**

A is not correct because it relates to hours per employee

Details	**Skilled workers**	**Unskilled workers**
Employees	26	35
Hours	13	20
Productivity (hours/employee)	13/26=0.5	20/35=0.57

C is not correct because they relate to output per employee.

	Details	Skilled workers	Unskilled workers
	Employees	26	35
	Hours	13	20
	Output(units)	10,998	20,300
Productivity	**Output/employee**	**10998/26=423**	**20,300/35=580**

D is not correct because the productivity per employee in C were interchanged.

QUESTION SEVEN

Correct answer is D

All variances highlighted should be investigated, this is not the case for each and every variance as there are those which are favorable and others which are adverse. The investigation should be made according to specific case. And the cost of investigation should not outweigh the associated benefits

A, B, C are not correct answers because those statements are true.

QUESTION EIGHT

Correct answer is A

SP	1,500	
AP	1,525	
SQ	9,000	
AQ	9,200	
Standard cost(1500*9200)	13,800,000	
Actual cost (1525*9200)	14,030,000	
VARIANCE	**230,000**	**A**

B is not correct because the actual cost was deducted from standard cost.
14,030,000-13,800,000=230,000 F

C is not correct because the variance relates to material usage variance
1,500 (9,000-9200) = 300,000 A
D is not correct because the variance relates to material usage variance and the variance was wrongly interpreted.
1,500 (9,000-9200) = 300,000 F

QUESTION NINE

The correct answer is A
B is not correct because debt relates to what the company owes
C is not correct because profitability assess the profit earned by a business.
D is not correct because Activity ratios are mainly used in the determination of the organizations efficiency in utilizing its assets to generate revenue.

QUESTION 10

The correct answer is D

A is not correct answer because fixed cost remains constant at all levels of activity

B is not correct answer because variable costs vary with level of production

C is not correct answer because semi variable costs are partly variable and partly fixed.

SECTION B

QUESTION 11

Marking guide

QN 11	Criteria of awarding marks	Marks
a)	Award 1 mark for fixed costs and 1 mark for variable costs	**2**
b)	Award 1 mark for computation of depreciation	**1**
	Award 1 mark for computation of routine maintenance cost	**1**
	Award 1 mark for computation of insurance	**1**
	Award 1 mark for computation of total petrol cost	**1**
	Award 2 mark for computation of repair cost	**2**
	Award 1 mark for computation of tyre replacement cost	**1**
	Award 1 mark for computation of total annual cost	**1**
Total		**10**

Model answers

a) Difference between fixed and variable cost

A fixed cost is a cost which tends to be unaffected by increases or decreases in the volume of output while a variable cost is a cost which tends to vary directly with the volume of output. The variable cost per unit is the same amount for each unit produced.

b) Fixed, variable and step costs

Fixed costs		**FRW '000'**
Depreciation =(Initial cost- salvage value)/ useful life	(48-4)/4	11000
Routine maintenance	Yr. 1-2 (400*2) =800 Yr. 3-4(120%*400*2) =960 (960+800)/4=440	440
insurance		500
Variable costs		**FRW per mile**
Petrol		1650
Repairs	(800,000/160,000)	5
Total variable cost per mile		1655

Note: A car travels 40,000 miles per annum. In four years the total distance will be 160,000 miles.

Step costs

The tyre replacement occurs after 30, 000 miles. If a car travels between 30,000 miles and 60,000 miles there will be a single replacement

Estimated total cost		
		40,000 miles
		FRW '000'
Fixed cost		
Depreciation		11,000
Routine maintenance		400
insurance		500
Total fixed cost		11,900
Variable costs		
Petrol	1,650*40,000	66,000
Repairs	5*40,000	200
Total variable costs		66,200
step costs		
Tyres replacement	(4*100,000)	400
Total annual cost (11,940+66,200+400)		**78,500**

QUESTION 12

Marking guide

QN 12	Criteria of awarding marks	Marks
a)	Increase in the volume of sales	**1**
	Expanded supply chain	**1**
	Increased completion	**1**
	Increased availability	**1**
	Enhanced marketing	**1**
	Maximum	**5**
b)	Recession	**1**
	Depression	**1**
	Recovery	**1**
	Boom	**1**
	Maximum	**4**
	Political	**1**
	Social	**1**
	Technological	**1**
	Ecological	**1**
	Legal	**1**
	Maximum	**1**
Total		**10**

Model answer

a) Characteristics of the growth stage

Increase in the volume of sales. The product is fairly known and therefore there are new and repeat customers hence increase in the level of sales.
Expanded supply chain. As the demand increases, the chain of distribution is expanded, to ensure that the product is distributed to all parts of the intended market.
Increased completion. As the market becomes profitable, other competitors start developing similar products leading to high competition
Increased production. As the demand grows, the firm is forced to increase its production to meet the growing demand.
Increased availability. The distribution of the product ensures that it is readily available.
Enhanced marketing. The marketing efforts at this stage are aimed at ensuring that customers are able to differentiate the company's product from those of the competitors.

b) **PESTEL ANALYSIS**

i) Recession

employment, consumer confidence and consumer spending start to fall

Depression

heavy unemployment and low consumer demand are typical in this phase, though very often economies go straight from recession to recovery without experiencing depression

Recovery

investment and employment start to regenerate and consumer spending rises

Boom

consumer spending is rising fast

ii) other factors that are analysed

- ✓ political factors
- ✓ social factors
- ✓ technology factors
- ✓ ecological factors
- ✓ legal factors

SECTION C

QUESTION 13

Marking guide

QN 13	Criteria of awarding marks	Marks
a)	Solving labour shortage	
	Increase the overtime worked	**1**
	Use sub-contractors	**1**
	Use up finished goods held in inventory	**1**
	Buying in finished goods inventory	**1**
	Improving labour efficiency	**1**
	Paying higher rates	**1**
	Maximum	**6**
b)		
i	Labour hours required	
	(MB,SB, MB) 0.5 each (0.5*3)	**1.5**
	Surplus/shortfall	**0.5**
	Material (Kgs required)	
	(MB,SB, MB) 0.5 each (0.5*3)	**1.5**
	Surplus/shortfall	**0.5**
	Maximum marks	**4**
ii	Sales mix	
	Award 1 mark for contribution(MB, SB, MB)(1 mark*3)	**3**
	Award 1 mark for contribution/limiting factor(1 mark*3)	**3**
	Award 1 mark for correct ranking	**1**
	Award 1 mark for optimal mix	**1**
	Maximum	**8**
ii	Resultant profit	
	Award 0.5 mark for contribution of each item(0.5marks*3)	**1.5**
	Award 0.5 marks for total contribution	**0.5**
	Maximum	**2**
Total		**20**

Model answers

a) Solving labour shortage

Increase the overtime worked – it may be possible to agree additional overtime with the employees in order to maintain production
Use sub-contractors – in some types of business it may be possible to use agency workers or to sub-contract the work in order to maintain production levels. Either of these options is likely to be fairly costly
Use up finished goods held in inventory – if production levels are reduced then for the short term sales can still be maintained by running down the finished goods inventory
Buying in finished goods inventory – this could be an expensive option leaving factory capacity under-utilized and may have quality implications as well
Improving labour efficiency – this is not something that can be done quickly but with training and over a period of time it may be possible.
Paying higher Rates-This will enhance output as the workers will be highly motivated
Training employees- it enhances efficiency within the organisation

b)

Labour hours per unit

	TOTAL LABOUR HOURS		**Hours/unit**	
MR	(350000/500)	700	700/3500	0.20
SB	(750000/500)	1,500	1500/1500	1.00
MB	(1,500,000/500)	3,000	3,000/3,000	3.00

direct material kgs per unit

	Total Kgs		**KGs/Unit**	
MR	(560000/100)	5,600	5600/3500	1.60
SB	(450,000/100)	4,500	4500/1500	3.00
MB	(2,000,000/100)	20,000	20000/1000	20.00

labour hours required:

MR	(3,500*0.2)	700
SB	(1500*1)	1,500
MB	(1,000*3)	3,000
Required		5,200
available		8,000
Surplus		**2,800**

Material kgs required:

MR	3,500*1.6	5,600
SB	1,500*3	4,500
MB	1,000*20	20,000
		30,100
Available		29,350
Shortfall		**(750)**

The limiting factor is the material(Kgs)

Determination of contribution per limiting factor:

	MR	**SB**	**MB**
Selling price (total sales/sales units)	400	1,400	4,000
Direct labour (Total labor cost/ sales units)	100	500	1,500
Direct material (total material cost/ sales units)	160	300	2,000
Variable overheads (total variable cost/ sales units)	80	300	250
Contribution	**60**	**300**	**250**
Limiting factor	1.6	3	20
Contribution per limiting factor	37.5	100	12.5
Ranking	**2**	**1**	**3**

Optima product mix:

	Units	**Kgs/unit**	**Kgs**
SB	1,500	3.00	4,500
MR	3,500	1.60	5,600
MB	963	20.00	19,250
			29,350

Note: Allocation to MB;

Because the material is in short supply, the total 1,000 units cannot be produced.
The units to be produced will be (29,350-4500-5600)/20 = 963

Resultant profit:

Details	**MR**	**SB**	**MB**	
Contribution per unit	60	300	250	
Optimal units	3,500	1,500	963	
Total contribution	210,000	450,000	240,625	900,625
Fixed costs	140,000	200,000	260,000	600,000
Resultant net profit	**70,000**	**250,000**	**(19,375)**	**300,625**

QUESTION 14

Marking guide:

QN 14	Criteria of awarding marks	**Marks**
a)	Disadvantages of NPV	
	Award 1 mark for each correct disadvantage (1 mark*3)	**3**
b)i	NPV	
	Award 0.5 marks for correct computation of present value for each year (0.5 marks*5)	**2.5**
	Award 0.5 marks for correct NPV	**0.5**
	Maximum	**3**
ii	IRR	
	Award 1 mark for correct NPV at 12%	**1**
	Award 1 mark for correct NPV at higher rate	**1**
	Award 1 mark for correct IRR formula	**1**
	Award 1 mark for correct IRR VALUE	**1**
	Maximum	**4**
c)	Financial indicators to assess customer satisfaction	
	Award 1 mark for correct identification of financial indicator	**5**
d)	Difficulties in measuring public sector performance	
	Lack of profit measure	**1**
	Multiple objective and different expectations	**1**
	Political, social and legal consideration	**1**
	Measuring outputs	**1**
	Nature of service provided	**1**
	Financial constraint	**1**
	Maximum	**5**
Total		**20**

a) Disadvantages of NPV

- ✓ Difficulties in identifying an appropriate discount rate.
- ✓ The cash flows are assumed to occur at the year end and this assumption may not be true and realistic.
- ✓ Majority of the organizational managers are not conversant with the concept of NPV.

b)

(i) Computing NPV

Time	**Cash flow**	**Discount factor(7%)**	**Present value**
	FRW "million")		FRW "million"
0	(500,000)	1	(500,000)
1	250,000	0.935	233,750
2	150,000	0.873	130,950
3	70,000	0.816	57,120
4	60,000	0.763	45,780
Net present value			**(32,400)**

Advice: The company should not invest on the project as the NPV is negative.

(ii) Computing IRR

Calculate NPV using 7% and 2% as cost of capital

@ 2%

Time	Cash flow	Discount factor(2%)	Present value
	FRW "MILLION"		FRW "MILLION"
0	(500,000)	1	(500,000)
1	250,000	0.98	245,000
2	150,000	0.961	144,150
3	70,000	0.942	65,940
4	60,000	0.924	55,440
Net present value			**10,530**

@7%

Time	**Cash flow**	**Discount factor(7%)**	**Present value**
	FRW "million")		FRW "million"
0	(500,000)	1	(500,000)
1	250,000	0.935	233,750
2	150,000	0.873	130,950
3	70,000	0.816	57,120
4	60,000	0.763	45,780
Net present value			**(32,400)**

IRR

$$IRR = \text{R1} + \frac{\text{NPV1}}{\text{NPV1} - \text{NPV2}} * (R1 - R2)$$

$$IRR = 2\% + \frac{10{,}530}{10{,}530 - -32400} * (7\% - 2\%)$$

$$IRR = 0.0323\ (3.23\%)$$

Note

R1= lower interest rate

R2=higher interest rate

NPV 1= NPV of lower interest rate

NPV2= NPV of higher interest rate

c) Financial indicators to assess customer satisfaction

Reduced customer complaints
Increased purchases by existing customers
Repeat purchases
Increased referrals linked by existing customer
Reduced budget of handling customer grievances and complaints
Reduced no purchase returns from customers
Any other correct answer awarded

d) Difficulties in measuring public sector performance

- ✓ **Lack of profit measure**: with the public sector services, there has rarely been any market competition and no profit motive. Since most of public sector organization cannot be judged by their success against competition nor by profitability, have other methods of assessing performance to be used.
- ✓ **Multiple objective and different expectations**: non-profit organizations like public sector tend to have multiple objectives, so that even if they can all be clearly identified it is impossible to say the overriding objective. Different stakeholders hold different expectations of public sector organizations.
- ✓ **Political, social and legal consideration**: Given the role of government in public sector, long term organizational objectives are sometimes sacrificed for short term political gains.
- ✓ **Measuring outputs**: outputs can be measured in a way that is generally agreed to be meaningful and data collection can be problematic. However, it is difficult to assign a monetary value to many non-profit seeking entity outputs.
  Nature of service provided: many not for profit organizations provide services for which it is difficult to define a cost unit. This problem does not exist for commercial services providers but problems of performance measurement are made simple because are profit can be used.
- ✓ **Financial constraint**: although every organization operates under financial constraints, these are more pronounced in not-for-profit organizations as e.g local authority's ability to raise finance is subject to strict control by the government

QUESTION 15

Marking guide

QN 15	Criteria of awarding marks	Marks
a)	Reasons why net profit and net cash flow differ	
	Purchase of non-current assets	**1**
	Sales of non-current assets	**1**
	Matching receipts from receivables and sales invoices raised	**1**
	Matching payments to payables and cost of sales	**1**
	Loans, share issues and overdrafts	**1**
	Maximum	**5**
b)	Sales budget	
	Award 1 mark for correct sales every month	**3**
	Production budget	
	Award 0.5 marks for correct computation of closing inventory	**1.5**
	Award 0.5 marks for correct computation of opening inventory for February and march (0.5 marks *2)	**1**
	Award 0.5 marks for correct computation of budgeted production (0.5 marks*3)	**1.5**
	Maximum	**4**
	Material budget purchase budget	
	Award 0.5 marks for correct computation of closing inventory	**1.5**
	Award 0.5 marks for correct computation of material usage per month (0.5 marks*3)	**1.5**
	Award 0.5 marks for correct identification of cost per kg	**0.5**
	Award 0.5 marks for correct computation of material purchase cost (0.5 marks*3)	**1.5**
	Maximum	**5**
	Labour cost budget	
	Award 0.5 marks for correct monthly budget (semi-skilled labour) (0.5 marks*3)	**1.5**
	Award 0.5 marks for correct monthly budget (Unskilled skilled labour) (0.5 marks*3)	**1.5**
	Maximum	**3**
Total		**20**

Model answers

a) **Below are reasons why net profit and net cash flow differ**

- ✓ **Purchase of non-current assets:** non-current assets are subjected to the periodic deduction on depreciation charge. However, this is charged to the statement of profit or loss and will be reduce overall profit for the period.
- ✓ **Sales of non-current assets:** when an asset is sold there is usually a profit or loss on sale for the period the sale of the non-current asset occurred; whereby the increase in cash flow during the period (value of the asset sold) should not have impact on the statement of prof or loss and loss or profit on sale of non-current asset have to be recorder to the statement of profit or loss to increase or reduce the overall profits accordingly.
- ✓ **Matching receipts from receivables and sales invoices raised**: If goods are sold on credit, the cash receipts will be the same as the value of the sales (ignoring early settlement discounts and bad debts). However, receipts may occur in a different period as a result of the timing of payment
- ✓ **Matching payments to payables and cost of sales**: If materials are bought on credit, the cash payments to suppliers will be the same as the value of materials purchased. Again, the payments may be in different periods due to timing. Materials purchase are matched against sales in a particular period to calculate profit, demonstrating that profit and cash flow will differ in particular period.
- ✓ **Loans, share issues and overdrafts**: cash may be obtained from a transaction which has nothing to do with profit or loss. Similarly, an increase in bank overdraft or a loan provide a source of cash for payments, but it is not reported in the stamen of profit or loss

b)

i) Sales budget

Month	**January**	**February**	**March**	**April**
Sales units	3,200	3,500	4,200	5,300
Selling price per unit	3,400	3,808	4,267	4,777
Total sales revenue	**10,880,000**	**13,328,000**	**17,912,832**	**25,316,803**

ii) Production budget

Month	**January**	**February**	**March**
Budgeted sales units	3,200	3,500	4,200
Closing inventory	640	700	840
Opening inventory	(420)	(640)	(700)
Production	**3,420**	**3,560**	**4,340**

iii) Material purchase budget

Month	January	February	March
Production	3,420	3,560	4,340
Kgs/unit	50	50	50
Total requirement	171,000	178,000	217,000
Closing inventory	44,500	54,250	69,000
Opening inventory	(32,500)	(44,500)	(54,250)
Material usage (Kg)	183,000	187,750	231,750
Cost/ Kg	1,100	1,100	1,100
Material purchase cost	**201,300,000**	**206,525,000**	**254,925,000**

iv) Labour cost budget

Semi-skilled labour

Month	January	February	March
Production	3,420	3,560	4,340
Hours per unit	8	8	8
Total hours	27,360	28,480	34,720
cost/hour	2,300	2,300	2,300
Total cost	**62,928,000**	**65,504,000**	**79,856,000**

Unskilled labour:

Month	January	February	March
Production	3,420	3,560	4,340
Hours per unit	6	6	6
Total hours	20,520	21,360	26,040
cost/hour	1,500	1,500	1,500
Total cost	**30,780,000**	**32,040,000**	**39,060,000**