CERTIFIED PUBLIC ACCOUNTANT

FOUNDATION LEVEL 2 EXAMINATIONS

F2.1: MANAGEMENT ACCOUNTING

DATE: WEDNESDAY 23, AUGUST 2023

MARKING GUIDE AND MODEL ANSWERS

QUESTION ONE

Marking Guide

Criteria of awarding marks	**Marks**
(a)	
(i) Explanation of cost classification according to	
function	1
behavior	1
time	1
citing examples in each classification	3
Maximum	**6**
(ii) Explaining the term cost driver.	1
Computing total production for product A, B & C 1mark each and 1 mark for the total.	4
Maximum	**5**
(iii) Computing allocation of production overheads to set up and apportioning it to products A, B & C	1.5
Computing allocation of production overheads to stores and apportioning it to products A, B & C	1.5
Computing allocation of production overheads to scheduling and apportioning it to products A, B & C	1.5
For the total overheads allocated to products A, B & C using ABC system	1.5
Maximum	**6**
(iv) total production cost for products A, B & C 1mark each	3
Total marks allocated	**20 Marks**

Model Answers

(a)

Classification of cost according to function

In this classification cost are classified according to the function they play in an organization

Examples of these costs include:

Production/manufacturing costs

Administrative costs

Selling and distribution costs

Classification of cost according to behaviour

In this cost classification the consideration is the cost behaviour. Cost behaviour is the observable increase or decrease in the value cost as a result of change in the level of output

Examples of these costs:

Direct/variable cost like direct materials, direct labour and variable production overheads.

Fixed costs like rent

Semi-fixed costs like electricity, guaranteed minimum wage

Classification of costs according to time

In this cost classification, costs are classified according to time of incurrence

Examples of these costs:

Historical costs are sunk costs or cost of past accounting period like rent, salaries, electricity.

Future costs are pre-determined future costs, they will be incurred in the future.

(b)

(i) Cost driver – it is an activity or event that triggers or influences the incurrence of a cost e.g., machining cost influenced by machine hours.

(ii) Total overheads

Products	Units produced	Hours required per unit	Total labour =(units×hrs.)	Labour rate per hour	Total production overheads (FRW)
A	40,000	6	40,000×6=240,000	10	2,400,000
B	35,000	8	35,000×8=280,000	10	2,800,000
C	25,000	10	250,000×10=250,000	10	2,500,000
Total			**770,000**		**7,700,000**

(iii) Overhead cost distribution

Overhead	Cost driver	Overhead absorption rate (OAR)	Total overhead (FRW)	Product A (FRW)	Product B (FRW)	Product C (FRW)
Set up cost	No of set ups	1000	0.5×7,700,000 =3,850,000	1600×1000	1200×1000	1050×1000

				=1,600,000	=1,200,000	=1,050,000
Stores cost	Materials purchased	1000	0.3×7,700,000 =2,310,000	1000×1000 =1,000,000	800×1000 =800,000	510×1000 =510,000
schedulin g	No of productio n runs	1000	0.2×7,700,000 =1,540,000	700×1000 =700,000	500×1000 =500,000	340×1000 =340,000
Total overhead s			**7,700,000**	**3,300,000**	**2,500,000**	**1,900,000**

OAR

Set up cost = $\frac{3,850,000}{3,850}$ =1000 per set up

Stores cost = $\frac{2,310,000}{2,310}$ =1000 per material purchased

Scheduling = $\frac{1,540,000}{1540}$ =1000 per production run

(iv) Total production cost for each of the product A, B & C

Particulars	Product A	Product B	Product C
Prime cost	1,000,000	800,000	600,000
Production overheads	3,300,000	2,500,000	1,900,000
Total production cost	**4,300,000**	**3,300,000**	**2,500,000**

QUESTION TWO

Marking Guide

Criteria of awarding marks	**MARKS**
(a)	
Explanation of job costing	2
Explanation of batch costing	2
Maximum Marks	**4**
(b)	
Production cost per batch computed	2
Cost of sales per batch computed	2
Selling price per batch computed	2
Selling price per unit computed	1
Maximum Marks	**7**
(c)	
Total prime cost computed	2
Total production cost computed	2
Total indirect overhead cost	1
Total sales revenue	2
Total profit realized	2
Total marks allocated	**20 Marks**

Model Answers

(a) Job costing and batch costing

Job costing

it is a costing method which is used to determine the costs and revenue attributable to a given job or assignment. The method is ideal where the company does manufacture variety of products and in this case each product is viewed as a job and therefore analysis is done of cost incurred as well as revenues generated by each job.

Batch costing

It is a type costing approach in which cost are accumulated and attributed to a particular batch of products. The batch here refers to a group of homogeneous/identical units produced together and passes through all the stages of production together e.g., 50kgs bag of sugar.

(b)

Production cost per batch

Cost element	**Amount (FRW)**
Direct material cost per batch	10,000,000
Direct labour cost per batch	6,000,000
Production overheads: department A (1000×1000)	1,000,000
Production overheads: department B (2000×500)	1,000,000
Production overheads: department C (3000×300)	900,000

Total production cost per batch	**18,900,000**

Cost of sales per batch

Cost element	**Amount (FRW)**
Production cost per batch	18,900,000
Selling and administration cost	1,100,000
Total cost of sales per batch	**20,000,000**

Seling price per batch

Cost of sales per batch	20,000,000
Profit charged 20/80(20,000,000)	5,000,000
Selling price per batch	**25,000,000**

Selling price per unit = $\frac{\text{selling price per batch}}{\text{Total number of units in a batch}}$

$\frac{25,000,000}{10,000}$

FRW 2,500 per unit

(c)

Total prime cost for job JJJ

Direct material cost (20,000×10,000)	200,000,000
Direct labour cost (25,000×10,000)	250,000,000
Total prime cost	**450,000,000**

Total production cost for job JJJ

Prime cost for job JJJ	450,000,000
Production overheads 20/100 (450,000,000)	90,000,000
Total production cost for job JJJ	**540,000,000**

Total non-manufacturing overhead

25% (540,000,000) = 135,000,000

Total sales revenue for job JJJ

Total production cost	540,000,000
Non-manufacturing overhead	135,000,000
Cost of sales for job JJJ	675,000,000
Profit charged 20/80(675,000,000)	168,750,000
Total sales revenue for job JJJ	**843,750,000**

Total profit realized for job JJJ

Profit margin is 20%

This is based on the selling price; however, it has to be converted to the profit mark up that can be calculated on the cost of sales for job JJJ

This is done as follows; deduct the numerator from the denominator as follows

20/100 = 20/(100-20) = 20/80 = 20/80(675,000,000) = 168,750,000

QUESTION THREE

Marking Guide

Criteria of awarding marks	MARKS
(a)	
Explanation of service costing	2
(b)	
2merits (1mark for stating,1mark for explaining)	4
2demerits (1mark for stating, 1mark for explaining)	4
Maximum	**8**
(c)	
Total cost for replacement of tires	2
Total fueling cost	2
Total annual depreciation charges	2
Total servicing cost	2
Annual total operating cost	2
Total marks allocated	**20 Marks**

Model Answers

(a)

Service costing

It is costing method or cost accounting approach that is used by service industry entities like transport, communication among others. This costing approach is ideal for service industry since entities in this sector don't manufacture tangible products(goods) but rather offer intangible products (services). In manufacturing entities, we have cost of manufacturing/production while in service industries we have the cost-of-service delivery.

(b) Merits and demerits of service costing

Merits of service costing

(i) Determination of cost per service unit.

This costing method helps businesses to find out the cost per unit for their services.

(ii) Evaluation of variable, mixed and fixed costs.

This costing methods enables users to do cost analysis and ascertain which ones are variable, mixed and fixed for easy management of costs.

(iii) For performance evaluation of service units

It is possible for users of service costing to assess performance of every service unit and make improvements where performance isn't good.

(iv) Fair pricing

Service costs helps users to determine fair pricing so as to attract clients and/or retain those clients already on board.

Demerits of service costing

(i) Valuation difficulties

Unlike manufacturing, in service costing it is difficult to valuation of a service

(ii) Difficult in foresting costs.

It is not easy to predetermine the future operating costs since there are dynamics in the service industry which it nearly impossible for such to be done.

(c)

Total cost of tires replacement

Number of kms covered during the year 100,000

Number of times replacement was done $\frac{100,000}{100,000}$

Replacement of tires was done once @ 80,000 per tire×10tires = FRW 800,000

Total fueling cost

Number of kms covered during the year 100,000

Number of liters consumed $=\frac{100,000\times20}{100}$

=20,000litres×FRW 2,000 per liter

Total fueling cost =FRW 40,000,000

Annual depreciation charges

$$\frac{\text{Asset cost-salvage value}}{\text{Asset useful life (years)}}$$

$$=\frac{150,000,000-25,000,000}{10\text{years}}$$

Total annual depreciation charges =FRW 12,500,000

Total servicing cost

Number of kms covered during the year 100,000

Number of times servicing was done $=\frac{100,000}{20,000}$ =5times

Total servicing cost = 5×50,000= FRW 250,000

Total annual operating cost

Tires replacement cost = 800,000

Total fueling cost = 40,000,000

Annual depreciation charges =	12,500,000
Total servicing costs=	250,000
Driver and his assistant annual salary (2×12×200,000)	4,800,000
Total annual operating cost	**58,350,000**

QUESTION FOUR

Marking Guide

Criteria of awarding marks	**MARKS**
(a)	
Valuation of closing stock using	
FIFO	2
LIFO	2
WAPM	2
Maximum	**6**
(b)	
Explanation of	
EOQ model	2
JIT technique	2
Maximum	**4**
(c)	
Marginal costing	
Correct sales figure	1
Correct valuation of opening stock	1
Correct valuation of production cost	1
Correct valuation of closing stock	1
Correct value of gross contribution	1
Maximum	**5**
Absorption costing	
Correct sales figure	1
Correct valuation of opening stock	1
Correct valuation of production cost	1
Correct valuation of closing stock	1
Correct value of gross contribution	1
Maximum	**5**
Total marks allocated	**20Marks**

Model Answers

(a)

Valuation of closing inventory using first in first out (FIFO) method

Dates	**Receipts/purchases**			**Issues/sale**			**Stock balances**	
Dec 2022	Quantity	price	Amount	Quantity	Price	Amount	Quantity	Amount
1st	-	-	-	-	-	-	20,000	4,000,000
6th	5000	300	1,500,000	-	-	-	25,000	5,500,000
15th	15,000	400	6,000,000	-	-	-	40,000	11,500,000
29th	-	-	-	20,000	200	4,000,000	20,000	7,500,000
	-	-	-	5000	300	1,500,000	15,000	6,000,000
	-	-	-	10,000	400	4,000,000	5,000	2,000,000

Closing stock = 5000units @ 400 = 2,000,000

Valuation of closing inventory using last in first out (LIFO) method

Dates	**Receipts/purchases**			**Issues/sale**			**Stock balances**	
Dec 2022	Quantity	price	Amount	Quantity	Price	Amount	Quantity	Amount
1st	-	-	-	-	-	-	20,000	4,000,000
6th	5000	300	1,500,000	-	-	-	25,000	5,500,000
15th	15,000	400	6,000,000	-	-	-	40,000	11,500,000
29th	-	-	-	15,000	400	6,000,000	25,000	5,500,000
	-	-	-	5000	300	1,500,000	20,000	4,000,000
	-	-	-	15,000	200	3,000,000	5,000	2,000,000

Closing stock = 5000units @ 200 = 1,000,000

Valuation of closing stock using weighted average price method

Dates	**Receipts/purchases**			**Issues/sale**			**Stock balances**	
Dec 2022	Quantity	price	Amount	Quantity	Price	Amount	Quantity	Amount
1st	-	-	-	-	-	-	20,000	4,000,000
6th	5000	300	1,500,000	-	-	-	25,000	5,500,000
15th	15,000	400	6,000,000	-	-	-	40,000	11,500,000
29th	-	-	-	35,000	287.5	10,062,500	5,000	1,437,500

Weighted average price = $\frac{11,500,000}{40,000}$

Weighted average price = FRW 287.50

Closing stock 5000units valued at FRW 1,437,500

(b)

Economic order quantity (EOQ)model.

Is the order quantity that minimizes the total stock holding and ordering costs in inventory management. It is an ideal order quantity that a company should purchase to minimize all inventory associated costs of holding and ordering.

Just In Time (JIT) technique

It is an inventory management system of having the exact quantity of raw materials that will be assembled to produce/manufacture goods that are on order. The system doesn't allow keeping of stock items of raw materials as well as that of finished and consumer goods. The aim is to reduce od costs of holding inventories at the warehouse.

(c)

Standard cost card for production

Cost elements	Marginal costing approach	Absorption costing approach
Direct material cost per unit	250	250
Direct labour cost per unit	150	150
Variable production ohs	200	200
Fixed production overheads	-	100
Total production cost per unit	**600**	**700**

Gross contribution margin using marginal costing approach

Cost of goods produced and sold	
Opening inventory (3000×600)	1,800,000
Production cost (27,000×600)	16,200,000
Closing inventory (3000+27000-25,000) ×600	(3,000,000)
Cost of goods produced and sold	15,000,000
Profit charged 20/80(15,000,000)	3,750,000
Sales revenue as per marginal costing	**18,750,000**

Gross profit margin using absorption costing approach

Cost of goods produced and sold	
Opening inventory (3000×700)	2,100,000
Production cost (27,000×700)	18,900,000
Closing inventory (3000+27000-25,000) ×700	(3,500,000)
Cost of goods produced and sold	17,500,000

Profit charged 20/80(17,500,000)	4,375,000
Sales revenue as per marginal costing	**21,875,000**

QUESTION FIVE

Marking Guide

Criteria of awarding marks	**MARKS**
(a)	
Calculation of contribution margin	2
Break-even point, in units 2Marks and 1Mark in value	3
Margin of safety in units 2 Marks and in value 1Mark	3
Sales level to achieve profit target	2
Marks	**10**
(b)	
Make or buy decision 0.5mark for stating and 0.5 Marks for explaining (maximum 3Marks)	3
Accept or reject special order price 0.5 Marks for stating and 0.5 Marks for explaining (maximum 3 Marks)	3
Optimal production mix 0.5 Marks for stating and 0.5 Marks for explaining (maximum 2 Marks)	2
Drop or retain decisions 0.5 Marks for stating and 0.5 Marks for explaining (maximum 2 Marks)	2
Total marks allocated	**20 Marks**

Model Answers

(a)

Total contribution margin.

Contribution margin = sales-variable costs

Sales revenue (8,000×10,000) =	80,000,000
Variable costs	
Direct material cost (25,000×1,000)	25,000,000
Direct labour cost skilled (50,000×500)	25,000,000
Direct labour cost semi-s (30,000×300)	9,000,000
Variable production overheads (22,000×500)	11,000,000
Total variable costs	(70,000,000)
Total contribution margin	**10,000,000**

Breakeven point in units and in value

Breakeven point = total fixed costs / Contribution per unit

Contribution per unit = 10,000,000 (total contribution) / 10,000 (production units)

Contribution per unit = 1,000

Breakeven point in units = $\frac{8,000,000}{1000}$

= 8,000 units

Breakeven point in value = breakeven point in units × selling price per unit

= 8,000×8,000 = FRW 64,000,000

Margin of safety in units and in value

Margin of safety = current sales level – break-even point sales

= (10,000-8,000) = 2,000 units

Margin of safety in value = margin of safety units × selling price per unit

=2,000×8,000 = FRW16,000,000

Sales level required to achieve a profit of FRW 5,000,000

Sales level = $\frac{\text{total fixed costs + target profit}}{\text{Contribution per unit}}$

= $\frac{8,000,000+5,000,000}{1000}$

=13,000 units

Sales value = 13,000×8,000 = FRW104,000,000

(b)

Factors considered when making the following managerial non-routine decisions.

Make or buy decision

Availability of the product to be bought

Where it certain that the product to be bought is available then the cost should be compared with the one of making/manufacturing. But if it is not available then the option of manufacturing is automatically adopted.

Cost of buying verses the cost of making

The option adopted should the most economical to the business. If manufacturing is expensive then the option of buying is adopted and vice versa

Spare capacity

Consideration should be given to the spare capacity of business plant or production capacity. If the plant is operating at full capacity, then the option of buying is adopted since there isn't any spare capacity for production left unutilized.

The effect of the cause of action to clients

Caution has to be exercised since the quality of a manufactured product that customers are used to is not the same. If it is proved beyond reasonable doubt that quality will be compromised then buying is not an option since this will adversely affect the reputation of the business

Accept or reject a special-order price

Absorption or not of variable production costs

If the price of the special order placed before the business delivery of goods is able to fully absorb all the variable production cost and still remain with some contribution per unit then it can be accepted on the contrary if it can't then it will be rejected in totality.

Effect this has on other customers/clients

If the special order will water down or dilute completely the normal price at which other clients buy then it should be rejected but if there is certainty that this won't adversely affect the other market then it can be accepted.

Spare capacity

A special order can only be accepted if there a spare production capacity for the same, but where it is unavailable then it won't be adopted.

Optimal production mix

Contribution per unit

Where there are constraints to production, then it is important to consider the production mix that is optimal or that which can optimally utilize the scarce resources. The production mix adopted should be the one that maximizes contribution per unit of the product.

Demand of the product

The production mix adopted should also take into account the product that is on high demand. Production should be on priority based on which product that is demanded most.

Drop or retain decisions

Overall effect to the organization

If by dropping a given product or department a company makes further losses then consider retaining it.

Effect of fixed costs

Before a decision is made a decision first has to be made on the treatment of fixed costs, if it a burden to absorb these costs in other products or departments then it is prudent to retain it.

QUESTION SIX

Marking Guide

Criteria of awarding marks	**MARKS**
(a)	
Stating a purpose of preparing a budget 0.5marks, explanation 1.5mks (maximum 6)	6
(b)	
Fixed budget: for the correct	
Sales revenue figure	0.5
Direct material cost figure	1
Direct labour cost figure	1
Variable production overhead cost	1
Fixed production overhead cost	0.5
Selling and distribution cost figure	0.5
Budgeted profit figure	0.5
Maximum	**5**
Flexible budget: for the correct	
Sales revenue figure	0.5
Direct material cost figure	1
Direct labour cost figure	1
Variable production overhead cost	1
Fixed production overhead cost	0.5
Selling and distribution cost figure	0.5
Flexed profit figure	0.5
Maximum	**5**
(c)	
Scenario 1 stating the type of budgeting style 0.5mark and 1.5 for explanation	2
Scenario 2 stating the type of budgeting style 0.5mark and 1.5 for explanation	2
Maximum	**4**
Total marks allocated	**20 Marks**

Model Answers

(a)

Purpose of a budget to an organization

Planning

It is a planning tool. The budget shows the organizational finance plan with goals and objectives as well as quantifies all these into something tangible that can be aimed at. This future planning helps in anticipating future business conditions and this helps to plan this can be mitigated.

Control

Budget set certain targets against which actual performance can be measured. This enables the organization to ascertain whether there is efficiency the management of scarce resources.

Coordination

A budget act as the medium through which an organization communicates its financial plans throughout the different parts of an entity this thus shows how the different parts fit together to form an integrated plan for the organization as a whole.

Priority spending

When there is a budget plan, it forces the organization to spend resources on priority basis rather than doing random spending of the scarce resources.

(b)

Fixed and flexible budgeted P&L for the year ended 31st December 2022

Types of budgets	**Fixed budget**		**Flexible budget**	
P & L items budgeted for	**Computation**	**Amount (FRW)**	**Computation**	**Amount (FRW)**
Direct material cost	20×20×20,000	8,000,000	25×20×25,000	12,500,000
Direct labour cost	10×40×20,000	8,000,000	08×40×25,000	6,400,000
Variable production overheads	5×40×20,000	4,000,000	6×40×25,000	6,000,000
Fixed production overheads		6,000,000		6,000,000
Total budgeted production cost		26,000,000		30,900,000
Selling and distribution cost				
Cost of sales		2,000,000		2,000,000
Add profit element		28,000,000		32,900,000
Sales revenue	**20,000×100**	2,000,000	25,000×184	4,600,000
	20,000×1500	**30,000,000**	**25,000×1500**	**37,500,000**

(c)

Scenario 1

Scenario 1 is where the above details are used to prepare the 2023 budget proposal while making some adjustments

This is an incremental budget

Justification

Incremental budget is one that is prepared while taking into consideration the previous year's budget estimates and making increases or decreases to those estimates.

Scenario 2

scenario 2 is where a budget proposal for 2023 is prepared while disregarding the above provided details.

This is a zero-based budget.

Justification

A zero-based budget is one that is prepared without making any reference to the previous year's budget estimates. It starts from zero reason as to why it is called zero based budget.

QUESTION SEVEN

Marking Guide

Criteria of awarding marks	**MARKS**
(a)	
Explanation of variance analysis	2
(b) for each correct	
Sales volume variance	2
Material A price variance	2
Material B price variance	2
Material A usage variance standard quantity of material 1mark, variance 1mark	2
Material B usage variance standard quantity of material 1mark, variance 1mark	2
Labour efficiency variance standard labour hours 1mark, variance 11mark	2
For each contributing factor to material cost variances 1mark (max 3)	3
For each stated cause of labour cost variance 1mark, (maximum 3 Marks)	3
Maximum	**18**
Total allocated marks	**20 Marks**

Model Answers

(a) Variance analysis

A variance is the difference between the projected/budgeted performance and actual performance whether favorable or adverse.

Variance analysis is the investigation of costs and/or sales variances whether favorable or otherwise so as to establish the cause and plan to mitigate if such variances indicated inefficiency in performance.

(b)

Sales volume variance

= standard selling price (budgeted sales volume – actual sales volume)

= 2,000(50,000×55000) = 10,000,000F

Material price variance

Actual quantities of materials used (standard price – actual price)

AQ(SP-AP)

Material A {45,000(200)-10,000,000} = 1,000,000A

Material B {40,000(250)-11,550,000} = 1,550,000A

Material usage variance

=standard price (standard quantity × actual quantity)

= SP(SQ-AQ)

Standard quantity = material required per × unit actual production

Material A SQ = $\frac{45{,}000\times55{,}000}{50{,}000}$

= 49,500kgs

Material B SQ = $\frac{40{,}000\times55{,}000}{50{,}000}$

= 44,000kgs

Material usage variance

Material A = 200(49,500-40,000) = 1,900,000F

Material B = 250(44,000-42,000) = 500,000F

Labour efficiency variance

= standard labour rate (standard labour hours × actual labour hours)

= SLR (SLH – ALH)

SLH = $\frac{(40{,}000\times55{,}000)}{50{,}000}$

= 44,000hours

= 400(44,000 – 40,000)

1,600,000F

3 contributing factors to material cost variances

(i) Use of lower or higher quality level of materials than planned for
(ii) Changes in material prices
(iii) Wastages resulting from poor handling by unskilled personnel
(iv) Losses resulting from increased abnormal losses.
(v) Bulky purchasing different from the initial plan

3 causes of labour cost variances

(i) Use of different grade of personnel than planned for.
(ii) Idle time caused delayed delivery of materials; machine break down etc.
(iii) Changes in the labour rates caused external factors.
(iv) Improved performance of personnel as a result of trainings.
(v) Payment of bonus premium that was not even factored in the budget.

END OF MARKING GUIDE AND MODEL ANSWERS