

CERTIFIED PUBLIC ACCOUNTANT FOUNDATION LEVEL 2 EXAMINATIONS F2.1: MANAGEMENT ACCOUNTING

DATE: WEDNESDAY 29, NOVEMBER 2023
MARKING GUIDE AND MODEL ANSWERS

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QUESTION ONE

Marking Guide

Criteria	Marks
a) Eight steps followed in the budget making process	
Step 1: Determine the long-term objectives of the organization	R MOLEN TO SEE SOUSE ENT
Step 2: Formation of a budget committee	2023 POOLS NOVE NOVE NO
Step 3: Preparation of a budget manual	ENDONE COSTENED EN
Step 4: Identification of the principal budget factor (Limiting factor)	MER MER AND PARTICIPATION IN
Step 5: Preparation of an initial budget that factors in sluck	R2023 ER 2018 ER ROOMER NOT
Step 6: Review of Initial Budget	ONE WOAR OLD SEE SON ONE WILL
Step 7: Preparation of a master budget	EMBELIEMPARIO DE SOS SOS SOS SOS SOS SOS SOS SOS SOS SO
Step 8: Continuous review of the budget making process	2AA CPARER ZWEETENE PAR I
	8
b)	TO SOLVE THE COLOR OF THE COLOR
i) Revised operating statement using a flexible budget approach	
Sales	NEWSON SOLUTION OF THE PROPERTY OF THE
Cost of Sales:	
Materials	R W 2023 R 2016 R TO PAR TO PA
Labour	CPAR NO CPI
Variable Overheads	NEW YORK SOLD SEE SHEET SOLD
Total of cost of sales	2023 THE VEHIOLE 1029
Administration Costs:	
Fixed	0.5
Variable	BERNBER NOVAR NOVAR
Distribution Costs:	
Fixed	0.5
Variable	NIBER VENIENCEN CENTS (CENTS)
Total of administration and distribution costs	REPART OF NOVE WEEK ARM TO
Net Profit	OVAR CPAR 2016ER MEER 1
	10
ii) 2 marks awarded for a clear explanation	2
Total marks awarded for question one	20

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Model Answers

a) Eight steps followed in the budget making process

Step 1: Determine the long-term objectives of the organization

Step 2: Formation of a budget committee

Step 3: Preparation of a budget manual

Step 4: Identification of the principal budget factor (Limiting factor)

Step 5: Preparation of an initial budget that factors in sluck

Step 6: Review of Initial Budget

Step 7: Preparation of a master budget

Step 8: Continuous review of the budget making process

b)

2 2023 200 VEN NO AR NU 12 NO ER 2 NO VEN NO AR NU 15 NO ER 2 NO AR NO VEN 15 NO ER 2023 2023 VEN NO VEN	Working	Flexed Budget	Actual Performance	Variance	
Production	VENDERNO PAR CP 3 CHEME	VEWOVER CRAIS COS	2,150,000	JEN NOVE NU 2023 ER	BER NOVAR WPAR
Units	OAR ROOF BERNBER NO AR	2,150,000	3 CHBER ENBUENCPAR	C3 ENBERVERNOVE	1CP 2023 2023 VENNO
	ENPONE MON3 (C) 2053 50 MON	FRW	FRW	FRW	OVENE PAR 10PK 10
Sales	8,120,000*2,15 0,000/1,820,000	9,592,308	8,568,000	1,024,308	Adverse
Cost of Sales:	2 R 2010 VENI NOVE NO 2023 ER 20	RANCERR OPER 2022	EMBER NOPAR CPARER 20	VENERAR ICPASIC	WELLEWONE NO LEW COST
Materials	1,320,000*2,15 0,000/1,820,000	1,559,341	1,152,000	407,341	Favourable
Labour	1,920,000*2,15 0,000/1,820,000	2,268,132	2,304,000	35,868	Adverse
Variable Overheads	256,000*2,150, 000/1,820,000	302,418	288,000	14,418	Favourable
BERTENBARIO SENDARIO SOLO	3 3, 1,0 2 3,0 3	4,129,890	3,744,000	385,890	Favourable
Administration Costs:	CPATORER ENDUEND PATOR	2023 KNBE VENOVE (O) 2003 KNBE VENOVE (O) 2007 KNBE KNBER	BER 2012 (ENN NOVE NO 2012 EL BER 2012 (ENN NOVE RE 2012 EL BER 2012 (ENN NOVE NOVE NE PROPERTIES	2023 20 VEN NO	A 2023 ER ZABER NO OVENDVIJA PRO 2023 R. Z
Fixed	23 12023 VENDOVE NOV 3023 10.	1,408,000	1,472,000	64,000	Adverse
Variable	432,000*2,150, 000/1,820,000	510,330	392,000	118,330	Favourable
Distribution Costs:	NOW TO THE PROPERTY OF AREA	2023 ER 201ER R ROYAR TO ENECKLIBER AR ROYAR TO ENECKLIBER AR ROYAR TO	BER ON BERLINGER NO PAR BER VEHICUEN OPER NO PAR NO PAR NO 223 LA 2022 FR 2023	PARET ZAMBELEMBER MIEGOVEMBOVEMBER MENOVEMBOVEMBER MENO	3 CPP 3 CHEFYENING 3 FR 2023 VENIEN NOVEMBER 3 FR NOVEMBER CPARE
Fixed	PAR 2012 ER MEEN NO PAR O	1,200,000	1,150,000	50,000	Favourable
Variable	520,000*2,150, 000/1,820,000	614,286	584,000	30,286	Favourable
23 VENBUOVENOVISIOPAD	200.2,020,000	3,732,615	3,598,000	134,615	Favourable
Net Profit	6053 1053 THE WORLD 15310	1,729,802	1,226,000	503,802	Adverse

ii) Main reason why a flexed budget is normally preferred to a fixed budget

A flexed budget is normally preferred to a fixed budget because a flexed budget is adjusted to reflect actual activity.

F2.1 Page 3 of 17 The actual performance of the business will therefore be compared to actual activity level which is a comparison of like with like.

QUESTION TWO

Marking Guide

Criteria	Marks
a) Role of management accounting	
Any four points explained (2 marks for every point)	8
b)	
Fixed overhead expenditure variance	3
Fixed overhead volume variance	3
Fixed overhead volume capacity variance	3
Fixed overhead volume efficiency variance	3
	<u>12</u>
Total marks awarded for question two	20

Model Answers

a) Explanation of the role of management accounting

1) Accounting for costs

This may be seen as a record keeping or store keeping role. Information must be gathered and analysed in a manner which will help in planning, control and decision making

2) Planning and Budgeting

Involves the quantification of plans for the future operations of the enterprise. Such plans may be for the long or short term, for the enterprise as a whole or for the individual aspects of the enterprise.

3) Control of operations of the enterprise

Control may be achieved by the comparison of actual cost with that information included in the plan. Any differences between planned and actual events can be investigated and corrective action implemented.

4) Decision making

Cost accounting information assists in the making of decisions about the future operations of the enterprise. Such decision making may be assisted by the information from cost techniques and cost-volume – profit

5) Resource allocation decisions

For example, product pricing in determining whether to accept or reject jobs: This is based on cost and revenue implications of the relevant decisions

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6) Performance evaluation

Cost accounting information is used to measure and evaluate actual performance so as to make a decision of the degree of optimality or efficiency of resource utilization.

7) Motivation of employees

Motivation involves influencing human behaviour so that the participants identify with the objectives of the organisation. To be motivating however, targets should be challenging but also achievable

8) Communication

To communicate means to make known, impart or transmit the information.

The management accountant aids the communication process by installing and maintaining an effective communication system such as the Management Accounting Information System

b) Calculation of variances

i) Fixed overhead expenditure variance

Budgeted fixed overhead expenditure - Actual fixed overhead expenditure

Budgeted fixed overhead expenditure	2,500,000
Actual fixed overhead expenditure	2,584,000

(2,500,000 - 2,584,000) =84,000 Adverse

ii) Fixed overhead volume variance

(Budgeted production units - Actual production units)* Budgeted fixed cost per unit

5,000 Budgeted production units 4,980 Actual production units 2,500,000/5,000= 500 Budgeted fixed cost per unit

(5,000 - 4,980)*500 =10.000 Adverse

iii) Fixed overhead volume capacity variance

(Total Budgeted hours - Total actual hours)*Budgeted fixed cost per hour 5000*2 = **Total Budgeted hours** 10,000 10,500 Total actual hours Budgeted fixed cost per hour 250 (10,000 - 10,500)*250 =125,000 Favourable

iv) Fixed overhead volume efficiency variance

QUESTION THREE

(Budgeted hours for actual production - Total actual hours)*Budgeted fixed cost per hour 2*4980 = 9,960 Budgeted hours for actual production Total actual hours worked 10,500 Budgeted fixed cost per hour 2,500,000/(5000*2) =250 (9,960 - 10,500)*250 =135,000 Adverse

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Marking Guide

Criteria	Marks
a) Preparation of a stock ledger card	
Receipts of goods (1 mark for each of the 3 sections)	3
Issue of goods (1 mark for each of the 3 sections)	Novemon Service 3
Balance (1 mark for each of the 3 sections)	3
Closing inventory	CPAR CPARE VENEER HISPAR AS T
	10
b) Value of cost of sales	
Opening inventory	INCPARA CO23 KINE VENOVE I
Purchases	2
Closing stock	ROUSER MEET NO AR CPARE 1
Cost of sale final answer	2
c) Gross profit	
2 marks for the correct answer	2
d) Advantages of JIT (1 mark for each advantage)	2
Total marks awareded for question three	20

Model Answers

a) Preparation of stock ledger card (LIFO Method)

023 2023 TEMBE	NEWOAR ICES	5 505 SEMPONEN	Recei	NOVER NO PAR NO	DEEL WEEK	Issu	BER ENBERGNEE	Balan	CHEMBUENICPAR
Date	Details	PLE JOSE OF STREET	pts	53 15 053 TEMBLONE	10033 O.	es	R NO AR NO 23 ER 21	ce	CPAR R 2022 ER ME
CONTRACTOR		Quantity	Price/ unit	Total Amount	Qua ntity	Pric e/uni t	Total Amount	Quant ity	Total Amount
1st Februar y	Openin g stock		E 2020 VERNO AR NOVER NO AR NOVER 2023 VEN 2023 R 2023 VEN MBER 2024 VEN	ER 2023 ER 108 ER REPUBLIKUER OPA NORTH 2023 ER EN LER ER EN EN EN	ANOPARION ANOPARION 23 12023 VEN BERNANGER	MAR 200 BEF BEF 200 BEF BOYENE	ACCEPTANT OF THE CONTROL OF THE CONT	1,300	520,000
6th Februar y	Produce d	1,700	410	697,000	ER 2018 ER EN OVEN I CPART 2023 ER 2023 EMBEREN EN	CPAR CPAR CPAR CPAR R 2023 VEMB R 2002 VEMB R 2012 VEM	PRENEER NEER TO OVEN NOVER CPART SPAR 2023 CPARE ENDER WENNER TO ENDER OVEN NOVER TO	3,000	1,217,00
11th Februar	Produce d	2,500	420	1,050,00	AR 2022 BERZENBEN ANORAR NOV 3 CRAFER 20	MEER NO 3 CPARA 3 CPARA 3 CPARA 3 CPARA BENENBER	AR CPAER 2018ED 023 ENDE VENDO 140 ENR NO PRE 201 13 CO 23 ENBER 201	5,500	2,267,00
16th Februar y	Sales		OVERNOVA NOVENDOVAR SCRAD SCRAR SCRAD SCRAR SCRAD SCRAR	2023 L. 2022 PARMOUTHER PARM WENDOUTHER 2023 PARMOUTHER 2023	2,50 0	420	1,050,00 0	3,000	1,217,00 0
NOVENBEVEN NOVERROPAR NOVERROPAR NOVERRO NOVERNO NO NOVERNO NO NOVERNO NO NOVERNO NO NOVERNO NO NOVERNO NO NOVERNO NO NOVERNO NO NOVERNO NO NOVERNO NO NOVERNO NO NOVERNO NO NOVERNO NO NOVERNO NO NO NOVERNO NO NO NOVERNO NO NO NOVERNO NO NO NO NO NO NO NO NO NO NO NO NO N	ONE COPOS TO SERVICE OF THE CO	CHRONE NOVES	F 202 R 200 W MEMBERAR NOW 023 ICPAR 2023 R 20 023 ICPAR 2023 R 20 024 ICPAR 2023 R 20 025 ICPAR 2023 R 20 026 ICPAR 2023 R 20 027 ICPAR 2023 R 20 0	ENCERE NOVER	1,70 0	410	697,000	1,300	520,000
PARA NOPA	RNOVERNOVE CH RNOVERNOVE 2023 CH RNOVER R 2023 CH	123 202 VENNOV BER NO PAR JOPA	RNO23 P202 SER 2023 ER20VENR	ER NOVE IN PAR PAR NOPAR IN PAR PAR NOPAR IN PAR	300	400	120,000	1,000	400,000

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21st Februar y	Purchas ed	3,600	430	1,548,00	100 PAR 108 23 12023 VEN 3ER NOPA CPAR 1202	AT REVIOUS AND VENE OF A STATE OF		4,600	1,948,00 0
26th Februar y	Purchas ed	3,100	450	1,395,00	ENBERRATIONENBER	CPA3 1CPA6 22023 VEMB 22 NOVEMB 2023 2023 V	PENBERNAPAN OVENBURINE PAR R 2018 ER ENIBE LINBER VENBURINE LINBER VENBURINE	7,700	3,343,00
28th Februar y	Sold	MEER ROVERS OF A STATE	R 12022ER BERVENOVE NOVERNOVE 310PAR NOVE	MEER NO PAR OF MEER 2022 223 VEN 3EP 2012 F 20 NO VEN 3EP 2023 CO	3,10	450	1,395,00	4,600	1,948,00 0
OVE NOVE CO PAR NOVEMBER 20 MBER VEMBURN MB NOVEMBOURN MB	ER NOVENNOVA TARNOPARIOPA TARNOPARIOPA TARNOPARIOPARIO TARNOPARIOPARIO	NO 12 PAR AND	OVER NOAR CPAR ICPAR 22023 VEMBE 22044 VEMBE AR NOPAR ICPAR IC	2202 ER MEER N NEMBURUNGER PAR KO223 ER 2023 NBE VEMBURUNGER	3,60	430	1,548,00	1,000	400,000
23 EMBOVE NO WOVER WOVE NO WOVER WOVE NO	1023 10 2023 202 16 023 10 2016 ER NO 18 2116 VENIGE AR NO 18	NR NOVE NO 23 A STANDER STANDE	NBERZNOV NBERZNOV 3 CPARNOV	RANGAR 202 ER 23 CRABER 2016 NOVE 20 CRABER 2016 NOVE	500	400	200,000	500	200,000

b) Value of cost of sales

Cost of Sales = Opening stock + Purchases - Closing Stock

Opening Stock 520,000

Purchases:

697,000 1,050,000 1,548,000

1,395,000 4,690,000

Closing Stock 200,000

Cost of Sales = 520,000 + 4,690,000 - 200,000 = 5,010,000

c) Gross profit

Gross profit = Sales - Cost of sales

Sales:

4500 * 500 = 2,250,000 7200* 600 = 4,320,000

6,570,000

 Less: Cost of sales
 5,010,000

 Gross profit
 1,560,000

d) Two advantages of Just In Time (JIT)

Rather than producing goods and supplying customers from stock, JIT processes focus on producing exactly the amount you need at exactly the time your customers need it.

Just-in-time advantages and disadvantages

The main advantages of JIT are that it can improve production efficiency and competitiveness.

It does this by:

1) Preventing over-production: The business only produces what is needed at a time

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- 2) Minimising waiting times and transport costs: Production only done at the time it is needed
- 3) Saving resources by streamlining your production systems
- 4) Reducing the capital, you have tied up in stock
- 5) Dispensing with the need for inventory operations

QUESTION FOUR

Marking Guide

Criteria	Marks
a) Total equivalent units calculation	
1 mark for output units	AR OPAR NO LE
2 marks for completed closing work in progress	2
1 mark for abnormal loss units	ER 2023 EMBLYE
2 marks for total equivalent units	2
	6
b) Cost per unit statement	
Total amount calculation	2
Equivalent units	CPAR 2012 I EN
Cost per unit	PAR CPAR LINE
	4
c) Value of output	2
d) Value of closing WIP	2
e) Value of abnormal loss	2
f) Process account	
(1 mark each for Dr amount, normal loss, abnormal loss	4
amount and balancing of dr and cr side)	
Total marks awarded for question four	<u>20</u>

Model Answer

a) Total equivalent unit calculation (AVCO Method)

	Output Units	CWIP Comp Units	Abnormal Loss	Total Equivalent Units
Material	8,200	2,000	300	10,500
Added materials	8,200	1,200	300	9,700
Conversion	8,200	800	300	9,300

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b) Cost per unit statement

O PER PORT OF THE PRESENT OF AS IN	Total Amount	Total Equivalent Units	Cost per Unit
Material	670,500,000	10,500	63,857.14
Added materials	306,000,000	9,700	31,546.39
Conversion	384,000,000	9,300	41,290.32

Note: Under AVCO, Total Amount = Total Input Amount + Opening WIP Amount

c) Value of output

POLY CAR CEAR SOURCE WERE BY SOURCE	Units	Cost per Unit	Total Amount
Material	8,200	63,857.14	523,628,571.43
Added materials	8,200	31,546.39	258,680,412.37
Conversion	8,200	41,290.32	338,580,645.16
ANOVENCE AND ELEVATION AND AND AND AND AND AND AND AND AND AN	RIVER OF STORES	ANECRA NO CPAR COREE A CONTROL ON COMPANY OF THE CONTROL OF THE CO	1,120,889,628.96

d) Value of closing work in progress

261, 0, 18EH FUNDA FUNDA 3053 F 5053 FUNDA SEAL CONTRACTOR OF THE SEAL OF THE	Units	Cost per Unit	Total Amount
Material	2,000	63,857.14	127,714,285.71
Added materials	1,200	31,546.39	37,855,670.10
Conversion	800	41,290.32	33,032,258.06
SOS EL SOS SE SOCIETARO DE LA SOS EL SOS SE SE SE SOS SE SE S	MERARACO ARACO ARE VENEVENTO	TOP 3 LENE PLANT TO BE SENDED	198,602,213.88

e) Value of abnormal loss

NEW HOLK HOW 3 10, 3653 500 MELL HO.	Units	CRAFT 202	Cost per Unit	Total Amount
Material	NOVENO 3 TO 2012 R 2014	300	63,857.14	19,157,142.86
Added materials	3 KENNE OVE 100 V 3 101 2023	300	31,546.39	9,463,917.53
Conversion	22023 TEMPS OVERNOVE 1CT	300	41,290.32	12,387,096.77
	AN 10023 ENRIVENION		ONT OPAR ROUS COOK ARM	41,008,157.16

f) Process account

Dr	NOVAR CPAN	PLOBER NE	Process 2 a/c	NOVENCEAR OF AR OF AR	CP SER 2023	NEEL SOS	Cr
<u>Particulars</u>	<u>Units</u>	P/U	Total Amount	<u>Particulars</u>	Unit s	P/U	Total Amount
Opening WIP	2,400	OF OF AR NOV	189,000,0 00	Normal Loss	900	15,00 0	13,500,000
Materials (Input)	9,000	3E R NO PAR CP 1023 CP 1023 CP 1023 CP 1003	543,000,0 00	Output	8,20 0	EMBLEVENOV	1,120,889,6 29

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Added Materials	2 VENERA OF THE STATE OF THE ST	288,000,0 00	Closing WIP	2,00	198,602,214
Conversion	18 AR 10 PA 30 PA 90 PE	354,000,0 00	JEHNOVENCE PO 3 COSTEMI AR HOVENCE PO 3 COSTEMI AR HOVENCE PO A TO A	ONE PORTS IN THE	EP 2010 SER NO BERN 2012 SER NE PAR 2013 SENET VENTOVEN OF
10 PAR 1 CPA 1 CPA 1 CP 1 CP 1 CP 1 CP 1 CP 1			Abnormal Loss	300	41,008,157
MEEN MEER NO PAR CO MOVEN COPAR COPAR CO	11,400	1,374,000 ,000	AR NO PAR ICPAR NOVE NOVE OF A	11,4 00	1,374,000,0 00

QUESTION FIVE

Marking Guide

Criteria	Marks
a)	
i) Break even point	
Correct formula for BEP units & revenue (0.5 marks each)	NO PAR OPAR A 2012 ER ME
Calculation of selling price per unit	3 LOSS LINE HOVE HOVE SOSS I
Calculation of fixed cost per unit	PAR ICP SUBERING TO
Calculation of variable cost per unit	EMERA CPARICPARE I
Calculation of BEP in units	NEED WEEK NOVER NO I
Calculation of BEP in value	1,003 E 5 505 PO VEW T
	6
ii) Profit expected if company operated at full capacity	
Calculation of full capacity units	PAR CPARE PENBERENDE I
Application of marginal costing formula	2 NOPAR OPAR WOLF I
Calculation of profit	2
	4
b) Profitability of each of the three possible options:	
Current option (based on original)	2
Option one	2
Option two	2
Option three	2
Choice of the best option	2
	10
Total marks awarded for question five	20

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Model Answers

a)

i. Break-even point in units and value

BEP (Units) = <u>Fixed Cost</u> SP/Unit - VC/Unit

BEP (Value) = BEP (Units) * SP/Unit Selling price /unit = 24,750,000 / 4,500 = 5,500

Fixed Cost =	3 70/5 05 1053 1 2053 ENPLOYE 40 3 1	A BEE WORL WO AT WOOD SEE SOUTH WO	PAR CPARR 20 BERNE
Production Overhead:	Fixed	60% * 6,000,000 =	3,600,000
3 C 55 C 15 W 10 W 20 3 C 3 C 3 C 4 C 4 C 4 C 4 C 4 C 4 C 4 C	Variable	40% * 6,000,000 =	2,400,000
Administration	Fixed		2,800,000
EUR AF 3 CPA 1 CHEEL WHO VEN CPA	Variable	5600000 - 2800000 =	2,800,000
Total Fixed Cost =	3,600,000 + 2,800,000 =	6,400,000	AT 20'EET NEE AND BEVENOVE OP 2023 ANOVEN VOIS OF 2023 ANOVEN POOLE PROBLEMENT BELLEN EN EN EN EN
Total Variable Cost = 4	+,800,000 + 7,200,000 + 1	2,400,000 + 2,800,000 =	17,200,000
Variable Cost per Unit	= 17,200,000 / 4,500 =	3,822	

BEP (Units) =	Fixed Cost	6,400,000	PAREN SUBER WENE PAR	CPR. ICHBE
ONE OPAR OF SOLD HANDEN	SP/Unit - VC/Unit	5,500 `- 3,822	3,815	Units
BEP (Value) =	BEP (Units) * SP/Unit	3 815 * 5 500 =	20,980,132	FRW

ii. Profit expected if the company operates at full capacity

Full capacity = 4,500 units * 100 / 75 = 6,000 Units

Profit = (Selling Price / Unit - Variable Cost / Unit)*Sales Units - Fixed Cost=

Profit = (5,500 - 3,822) * 6,000 - 6,400,000 = FRW 3,668,000

b) Profitability of each of the three possible options

1) Original Plan Profit = (5,500 - 3,822)*4,500 - 6,400,000 = FRW 1,151,000

2) Option One

Selling Price /Unit reduced by 5% = 5,500 * 95% = 5,225 Sales Units = 4500*(90/75) = 5,400

Profit = (5,225 - 3,822)*5,400 - 6,400,000 = FRW 1,176,200

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3) Option Two

Selling Price / Unit reduced by 15% = 5,500 * 85% =	4,675	
Fixed Cost increased by FRW 500,000 =	6,900,000	
Sales Units at Full Capacity =	6,000	
Profit = (4,675 - 3,822)*6,000 - 6,900,000 =		FRW (1,782,000)
4) Option Three		
Selling Price / Unit =	5,500	
Variable Cost / Unit =	3,822	
Fixed Cost = $6,400,000 + 2,200,000 =$	8,600,000	
Profit = (5.500 - 3.822) * 6.000 - 8.600.000 =		FRW 1 468 000

Conclusion

Option Three is the best option because it gives the highest profit of FRW 1,468,000

QUESTION SIX

Marking Guide

Criteria	Marks
a) Steps involved in finding the optimal production plan	
1 mark awarded for each correct step	
Step 1: Identification of a limiting factor	NBER ZUBER NOVAR MAR
Step 2: Calculation of contribution	2 NOV 3 10 2023 R 2010 1 N
Step 3: Calculation of contribution per unit of limiting factor	ENEW OF 10P 2023 12 12 13 14 15 15 15 15 15 15 15 15 15 15 15 15 15
Step 4: Ranking of the products	CPREP LANGE MEDICAL TO
Step 5: Allocation of the scarce resources	CAR CRAFT COMERMA
Step 6: Finding of the optimal plan, contribution & profit	202 VERN HOVE MU 2023 1 20 2 NO PAR PAR 2018 1 11
	6
b) Finding the optimal plan, contribution & profiit	
Step 1: Identification of limiting factor	2
Step 2: Calculation of contribution	1.5
Step 3: Calculation of contribution per unit of limiting factor	1.5
Step 4: Ranking of the products	NOVE NOVE CENTER 102
Step 5: Allocation of the scarce resources	3 CHEER WENT AND 13
Step 6: Finding of the optimal plan, contribution & profit	
Optimal plan	AR OPAR OPAR 2001
Contribution	2
Profit	2
	14
Total marks awarded to Question six	<u>20</u>

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Model Answers

a) Explanation of steps involved in finding the optimal production plan

Step 1: Identify the limiting factor

Limiting factor exists when the resources needed are more than the resources available

Step 2: Calculate contribution per unit

Contribution per unit = Selling price per unit - Variable cost per unit

Step 3: Calculate contribution per unit of limiting factor Contribution per unit / Limiting factor per unit

Step 4: Rank the products

Ranked first is the product with highest contribution per unit of limiting factor

Step 5: Allocate the scarce resource

Allocation starting with the product ranked first

Step 6: Find the optimal production plan and total contribution

b) Finding the optimal production plan, total contribution and profit

Timber Available	201 VEN NOVE 47 2053 F 201	80,000	Square metres
Timber needed:	23 10 23 VENBER VENDOVER	2023 1 2020 VENN 40 NEW 2023 16 202 18 20	OVER NO AR RE2023 ER 2018
(18,000 / 2,000) * 4,500 =	40,500	VENCE NY 10 23 IENES VENTOVE 10 P.	SOSSAEMHONE HOUSE
(15,600 / 2,000) * 3,800 =	29,640	OPPER WELL MOUNT CONTROL TO THE WENT OF THE PROPERTY OF THE PR	AR CPAS CHEET ENDO
(18,000 / 2,000) * 2,700 =	24,300	94,440	MEET AND CPAN CPAN CPAN IN

Step 2: Calculate contribution per Unit

TEL TURE COM ONE TO SELECT ONE	Tables	Chairs	Shelves
Selling price per unit	65,000	55,000	72,000
Less: Variable cost per Unit	36,200	33,200	48,200
Contribution per unit	28,800	21,800	23,800

Step 3: Calculate contribution per unit of limiting factors

	Tables	Chairs	Shelves
Contribution per unit	28,800	21,800	23,800
Limiting factor per unit	9	8	9
Contribution per unit of limiting factor	3,200	2,795	2,644

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1st 2nd 3rd

Mad	5: Allocate the scarce resources	CONTRACTOR	90,000
4 OF	terials available	3 10 13 10 10 10 10 10 10 10 10 10 10 10 10 10	80,000
Allo	ocation of Materials:	CAR CRAP CREET THE LEW PART LEVEL TO STANK	ELEND AED OSH 3 15 053
1st	Tables	40,500	CPARER 2 MBETENBER AR 1 C ENRED RING TO 10 PAR 1 C
MEI MO	Balance = 80,000 - 40,500 =	MELENBERT THE CASE OF A STATE OF THE LENGTH OF THE STATE	39,500
2n d	Chairs	29,640	AND AR CPARE 2NDER EN 23 CPARE NOVEMBER EN 25 ROUGH NO PAR 2023
	D 1 20 500 20 510	20 20 20 20 20 20 20 20 20 20 20 20 20 2	
MOVER	Balance = 39,500 - 29,640 =	CHEEKENBULKUCPAY 3 CO 23 KINB CVEN OVEN	9,860
3rd	Balance = 39,500 - 29,640 = Only 9,860 metres is remaining and consume only 9,860	the quantity of shelves to be r	A TO THE THE TANK
3rd	Only 9,860 metres is remaining and	13 Land Market M	A TO THE THE TANK
3rd	Only 9,860 metres is remaining and consume only 9,860	ill be calculated as follows:	A TO THE THE TANK
3rd	Only 9,860 metres is remaining and consume only 9,860 Therefore, the quantity of shelves with the consumer of	ill be calculated as follows:	CHANGE TO THE TOTAL OF THE PARTY OF THE PART
3rd	Only 9,860 metres is remaining and consume only 9,860 Therefore, the quantity of shelves will consume 24,300 r	ill be calculated as follows:	A TO THE THE TANK

Step 6: Find the optimal production plan, total contribution and profit

Profit =. Contribution - Fixed Cost

	Units Produced (Optimal)	Contribution /unit	Total Contribution
Tables	4,500	28,800	129,600,000
Chairs	3,800	21,800	82,840,000
Shelves	1,095	23,800	26,061,000
Total Contribution	ONE MON 3 10, 2023 300 NE	R NO LE ROSSER SUBER MONA	238,501,000
Less: Fixed Cost (Working)	EINE OVERNOVEN CPROS 1200	OVER HOME HOME 10, 505 5 50	133,900,000
Profit	033 CHBER ENBYEMPRAN	10,3 NEW MOLE WORE, Co. 5053	104,601,000

Working on Fixed Cost

PATRICE LEWENCE CONTROL OF THE PARTY OF THE	Fixed cost per unit	Units	Total fixed cost
Tables	15,400	4,500	69,300,000
Chairs	11,600	3,800	44,080,000
Shelves	7,600	2,700	20,520,000
Total Fixed Cost	REVENUE OF SELECTION FOR SELECTION FOR SELECTION SELECTI	INBER ENDVENDENCPR	133,900,000

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Conclusion

The optimal production plan is to produce 4,500 tables, 3,800 chairs and 1,095 shelves to give a total contribution

of FRW 238,501,000 and total profit of FRW 104,601,000.

QUESTION SEVEN

Marking Guide

Criteria	Marks
a) Explanation of each of the terms	
1 mark awarded for each explanation	4
1 mark awarded for classifying it to either relevant or irrelevant	4
	8
b) Cost estimation using regression analysis	
i) Variable cost per unit	
3 marks awarded for all the columns being correct (1 per column)	3
2 marks awarded for finding the variable cost per unit	2
ii) Fixed cost	
2 marks for application of formula	2
1 mark for the correct answer	AR NOVER TO
iii) Formulation of total cost equation	2
iv) Estimation of total cost at 9,000 units	2
	12
Total marks awarded for question seven	20

Model Answers

a) Explain stating clearly whether the characteristic relate to relevant or non relevant cost

i) Opportunity cost

Opportunity cost refers to what you have to give up to buy what you want in terms of other goods or services.

The next best alternative that has been sacrificed when making your choice.

It is therefore a relevant cost.

ii) Committed cost

A committed cost is an investment that a business entity has already made and cannot recover by any means,

as well as obligations already made that the business cannot get out of.

It is irrelevant cost.

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iii) Common cost

The cost that will be incurred, regardless of the option chosen.

The cost that appears in all the options

It is an irrelevant cost

iv) Sunk cost

The historical cost that has already been incurred.

It is an irrelevant cost

	X	y	23 TEMBLOVE NOVE IC 2023, 20	xy x2
September, 2022	8,500	4,475,000	38,037,500,000	72,250,000
October, 2022	5,000	3,150,000	15,750,000,000	25,000,000
November, 2022	6,500	3,850,000	25,025,000,000	42,250,000
December, 2022	7,500	3,750,000	28,125,000,000	56,250,000
January, 2023	9,500	4,825,000	45,837,500,000	90,250,000
February, 2023	5,500	3,260,000	17,930,000,000	30,250,000
March, 2023 48,500	6,000	3,540,000	21,240,000,000	36,000,000
	48,500	26,850,000	191,945,000,000	352,250,000

i) Variable cost per Unit

$$b = \frac{n\sum XY - \sum X\sum Y}{n\sum x2 - (\sum x) 2}$$

$$b = \frac{7 * (191,945,000,000) - (48,500 * 26,850,000)}{(7 * 352,250,000) - (48,500)^2}$$

$$b = \frac{41,390,000,000}{113,500,000}$$

$$b = 365$$

ii) Fixed

$$a = \sum y - b \sum x$$

$$n \quad n$$

$$a = 26,850,000 - (365*48,500)$$

$$7 \quad 7$$

$$a = 1,309,075$$

iii) Total cost equation

$$y = a + bx$$

y = 1,309,075 + 365x

iv) Total cost of constructing 9,000 houses

y = 1,309,075 + (365 * 9,000)

y = 4,591,101

Total cost of 9,000 houses is FRW 4,591,101

END OF MARKING GUIDE AND MODEL ANSWERS

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