CERTIFIED PUBLIC ACCOUNTANT

ADVANCED LEVEL 2 EXAMINATION

A2.2: STRATEGIC PERFORMANCE MANAGEMENT

DATE: THURSDAY 27, FEBRUARY 2025

INSTRUCTIONS:

1. Time Allowed: **3 hours 45 minutes** (15 minutes reading and 3 hours 30 minutes writing).
2. This examination has Two sections: **A & B**.
3. Section **A** has One Compulsory Question while Section **B** has **Three** optional questions to choose any **Two**.
4. In summary attempt **Three** questions.
5. Marks allocated to each question are shown at the end of the question.
6. Show all your workings where necessary,
7. The question paper should not be taken out of the examination room.

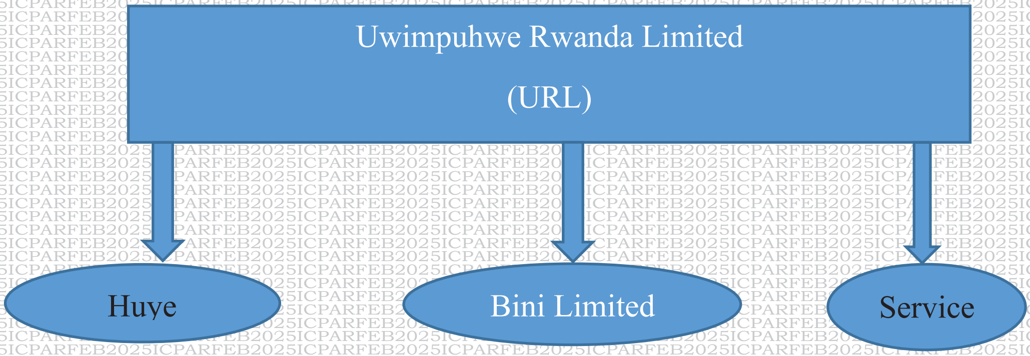
SECTION A

QUESTION ONE

Uwimpuhwe Rwanda Limited (URL)

a) URL is a Rwandan resident company that trades via several subsidiaries and joint ventures.

Below is the company structure:



At head office, URL budget preparation for the forthcoming year is underway, however, the Chief Executive Officer (CEO) is considering abandoning the bottom-up budgetary model currently being used for an alternative. The CEO maintains that the current method is costly in terms of time and other resources and that the middle managers are not up to the task.

A rolling budgetary model has been proposed and the Management Accountant who recently graduated in CPA has already developed a model, which he claims will not only save on management time but will also be of value for money activity.

Below is the model

$Y = a+1,000x$.

Where **'a'** is the budgeted or actual amount for the quarter just ended and **'x'** increases by one for each new quarter. The average seasonal variations (S.V.) in demand are shown below:

	Q1	**Q2**	**Q3**	**Q4**
Average S.V.	-15%	+10%	+15%	-10%

Actual results for the first two quarters of the year are provided below:

Quarter	**Budgeted sales**	**Actual Sales**
	Units'000	**Units'000**
1	10,500	8,600
2	15,600	10,200
3	17,000	-
4	18,600	-

Required:

i) **Discuss two benefits of adopting a rolling budget by URL** (4 Marks)

ii) Using the accountants' formula, **estimate budgeted sales volume for the final two quarters of the current year and the first two quarters of the following year** (4 Marks)

b) URL through its Huye subsidiary produces medicated soap for those suffering from skin diseases and related infections. The soap was recently approved by the Ministry of Health as safe for human use, boosting its acceptability and demand in the market.

However, during a recent executive meeting in June, the sales director was criticised that despite the approval and heavy advertisement spent on this product, the sales volumes have shown a consistent adverse variance. The Production Manager had also recently changed the material mix to make it 'affordable'.

Below are the management accounts report extracts for this particular soap. The standard cost card for May was as follows:

Ingredient	Kilograms	Price per kilogram (FRW)
Ochur	0.5	10
Remo oil	0.9	19
Alovera sap	0.7	28

The budget for production and sales in May was 238,500 units. Actual production and sales were 244,800 units. The actual ingredients used were as follows:

Ingredient	Kilograms
Ochur	142,800
Remo oil	197,482
Alovera sap	183,112

In June the materials mix, material yield, and sales volume variances were as follows:

Mix: FRW 118,000 Adverse

Yield: FRW 142,000 Favorable

Sales volume FRW 31,600 Adverse

Required:

i) **Calculate the total material mix variance and the total material yield variance for May.** (8 Marks)

ii) **Briefly explain what the adverse materials mix and favorable materials yield variances indicate about production at Huye.** (4 Marks)

iii) **Discuss whether the material mix and the material yield variance may have led to an adverse sales volume variance.** (4 Marks)

c) Another line of soap that has been advertised based on its 'gender' characteristics and which has now become a household name is facing a production challenge as a result of a shortage of special ingredients required to make them.

The company must decide on an optimal production quantity for each gender soap, luckily, the Management Accountant has come up with a linear programming model which he believes, if implemented should lead to an optimal product mix. The Assistant Accountant, James Nkusi does not seem to understand why a shadow price may be used to carry out sensitivity analysis on the availability of a limiting factor including its applicability and the benefits that could be accrued by URL in using a shadow price. James has therefore requested the Management Accountant to explain the fundamentals of a shadow price.

The model is provided below:
Variables:
Let M = the number of male soap produced
Let F = the number of female soap produced

Constraints
Ingredient TXL: $1.5M + 2F \leq 600$ powder in kilograms
Ingredient QRC: $0.75M + 0.5F \leq 210$ paste in litres
The objective is to maximize contribution subject to:
$C = 720M + 840F$

Required:

i) Using appropriate calculations, **find the optimal production mix and related contribution that could be earned by URL.** (5 Marks)
ii) **How much should be the maximum extra amount the company could pay for each unit of ingredient TXL and QRC?** (6 Marks)

d) Assuming you are URL's Management Accountant, **explain to James what a shadow price is, its applicability and the benefits URL may experience in its use.** (5 Marks)

e) URL has provided you with the following data from Bini Limited, one of its subsidiaries that assembles and distributes air conditioners to various wholesalers and retailers.

Bini's financial statements for the year to 30 June 2024 are set out below:

Description	**FRW' 000**
Sales revenue	3,330
Cost of sales	(2,590)
Gross profit	740
Other operating expenses	(185)
Operating profit	555
Interest payable	(30)
Abnormal loss (note (ii))	(270)
Profit before taxation	255
Income tax	(70)
Profit after taxation	**185**

Extract of the statement of financial position	FRW'000	FRW'000
Non-current assets (note (i))		660
Current Assets	595	
Less current liabilities	(500)	95
Net Assets		**755**

Additional information:

1) The details of the non-current assets are 10% of their original cost
2) The abnormal loss is on the sale of a batch of air conditioners that had become worthless due to improvements in technology.

Sector ratios of companies reporting a full year's results for periods ending between 1 April and 31 July 2024 are as follows:

Return on capital employed	25.30%
Net assets turnover	2.2 times
Gross profit margin	35%
Net profit (before tax) margin	15·5%

Required:

i) Calculate the ratios for Bini Ltd and compare them with the sector performance. (4 Marks)

ii) Analyze Bini Ltd's profitability based on a comparison with the sector averages. (6 Marks)

(Total 50 Marks)

SECTION B

QUESTION TWO

a) Harambe Ltd is a company specializing in the production of tech products. The company has been using old-fashioned technology which is not environmentally friendly in producing the product named Harambe_P21. Recently, the government enacted a law in which fines were set for anyone who uses technology that emits carbon dioxide in the environment. Harambe Ltd has estimated the following expected fines:

Amount in FRW	Probabilities %
12,500,000	30
19,800,000	40
22,480,000	30

As a result, Harambe Ltd is considering an investment in new technological equipment that will improve innovative products and at the same time improve efficiency which is also environmentally friendly. The equipment will cost FRW 40 million and is expected to be used for 4 years, after which the equipment will be sold at 12.5% of its initial cost. The equipment is expected to attract a tax-allowable depreciation of 25% on reducing balance and the balancing charge/allowance will be paid/recovered at the end of year four.

The equipment is expected to increase the production costs by 2% of the existing budgeted sales revenues. Note that no extra sales revenues will be generated as a result of the purchased equipment. The following are the existing budgeted sales revenues expected to be accrued from the sale of Harambe_P21 over four years.

Years	Year 1	Year 2	Year 3	Year 4
	FRW'000	FRW'000	FRW'000	FRW'000
Sales	25,000	34,000	28,000	33,000

No extra working capital will be incurred as a result of the investment in the new equipment. Harambe Ltd falls in a 28% tax bracket to its profit, whose payment is normally delayed by one year. Harambe Ltd uses 10% as a cost of capital to appraise its investments. All cash is expected to be incurred at the end of the year.

Required:

Critically assess the financial viability of investing in the new technological equipment.

(12 Marks)

b) Harambe Ltd has recently been awarded a tender to supply 10,000,000 units of its product to local university students. The costs that will be incurred to produce these units will be having both fixed and variable components. In a recent management meeting, The Chief Executive Officer was confused with mainly two items: the determination of total costs of the required 10,000,000 units and the concept of transfer pricing as the production of this equipment will require inputs from another division of Harambe Ltd. He approached the management accountant who provided the history of monthly total costs that the company incurred in producing the monthly output.

The Chief Executive Officer concluded the meeting and tasked the management accountant to conduct extensive research about the transfer pricing methods that can ensure goal congruence in Harambe Ltd.

The following cost data were provided by the management accountant:

Months	Output	Total costs
	Units '000'	FRW '000'
January	6,500	28,000
February	9,000	34,000
March	7,000	33,000
April	5,000	25,000
May	7,500	24,000
June	12,500	36,300
July	13,000	38,100
August	15,000	47,100
September	7,200	28,000
October	8,000	32,500
November	18,000	45,300
December	16,000	41,700

Required:

i) **Advise the Chief Executive Officer on the total costs attributable to the production of 10 million units and estimate the output that can be produced using FRW 60 million** (4 Marks)

ii) **Discuss how the concept of the learning curve can be used in the performance management of Harambe Ltd.** (5 Marks)

iii) **Briefly explain how the negotiated transfer pricing method can be used at Harambe Ltd to ensure goal congruence.** (4 Marks)

(Total: 25 Marks)

QUESTION THREE

You have recently opened up your own practice as a management accounting consultant. Below are some issues on your desk for review.

a) You recently attended a Board meeting of one of your clients and the production director made it clear that the way to persistently increase market share in the long term is to focus on quality, and is hoping to introduce a 'Total Quality Management' (TQM) approach. The finance director also shares this view and has said that 'standard costing will no longer have a place within the organization if TQM is introduced.'

Required:

Discuss the view that there is no longer a place for standard costing if TQM is introduced (6 Marks)

b) The Budgeted sales volume was 250,000 units at a standard contribution per unit of FRW 86. If the company had known in advance, it could have budgeted for a 15% lower sales volume due to a general downturn in demand. Actual sales were 231,000 Units.

Required:

i) **Discuss the usefulness of standard costs in management accounting decision-making.** (4 Marks)

ii) **Calculate market share and market size variances and explain the significance of those variances.** (3 Marks)

c) XYZ Ltd is a company incorporated to offer short-term housing for cats through 'Catty Services' departments when their owners are unable to care for them because of vacations, work obligations, illness, etc. As a part of their service, XYZ Ltd also handles the transportation of cats to and from their owners' homes at the start and end of each stay.

When XYZ Ltd was formed, the directors created a mission statement which was 'to provide very high value for money to all our clients'.

The directors have consistently strived to operate XYZ Ltd in a socially responsible way. Currently, they are contemplating establishing a 'Cat sanctuary' for stray cats, earmarking 20% of their total cat accommodation capacity for this purpose. The sanctuary would provide shelter to homeless cats until they are adopted by new owners. XYZ Ltd would not generate any revenue from these homeless cats.

Required:

i) **Advise the directors of XYZ Ltd regarding the appropriateness of its mission statement.** (3 Marks)

ii) **Explain the term 'critical success factor' and discuss THREE critical success factors for XYZ Ltd highlighting a key performance indicator for each critical success factor**. (6 Marks)

iii) Excluding the number of complaints by clients, **identify and briefly discuss THREE quantitative non-financial performance measures that could be used to assess the quality of service provided by XYZ Ltd.** (3 Marks)

(Total: 25 Marks)

QUESTION FOUR

Betty & Sisters Manufacturing Co is a manufacturing company registered and operating in Rwanda located in Rwamagana Special Economic Zone. The company engages in manufacturing drinking water known as AGAFUTSE. In the first week of June 2024, the company was awarded a tender to supply 200,000 bottles of AGAFUTSE for the upcoming international conference on strategic performance management that will be hosted in Kigali in early July.

The Chief Executive Officer requested the management accountant to prepare a cost and profit statement for the company to assess the profitability of this tender as this will be the only item on the agenda in the next week's management meeting. The following is the cost and profit statement as presented by the management accountant:

	Unit cost/price	**200,000 bottles**
	FRW	**FRW'000**
Sales	1,000	200,000
Variable costs		
Material cost	400	80,000
Labour costs	250	50,000
Overheads	150	30,000
	800	**160,000**
Contribution	**200**	**40,000**
Fixed overheads	140	28,000
Profit	**60**	**12,000**

Fixed overhead was absorbed based on the total output. After the management accountant's presentation, the Chief Executive Officer provided the following comment on the report.

I appreciate the work done by the management accountant and the expected profit from this tender seems impressive. Now I have only one concern, I am wondering if you have considered the potential changes that are expected to occur in our industry. If you remember well, due to recent strikes, all employers were requested to increase labour cost per bottle by 20%. Also, the material cost is expected to increase in the coming months, remember that we might be forced to cut prices to remain competitive in the market. I don't know if you have considered all these potential changes. I would like you to compute and analyze the percentage change of each variable as included in your report which may help us to better ascertain the tender's profitability.

Required:

a) Using relevant calculations, **advise the management of Betty & Sisters Manufacturing Co on the sensitive variables that must be put much focus on.** (7 Marks)

b) Briefly discuss other FIVE ways in which risk and uncertainty can be incorporated into planning and forecasting of Betty & Sisters Manufacturing Co. (5 Marks)

c) Betty & Sisters Manufacturing Co produces numerous products on which it spends a bigger amount of fixed overheads. The company usually uses the conventional product costing method where fixed overheads are absorbed using machine hours or direct labour hours. Recently after the

Chief Finance Officer (CFO) attended a strategic management workshop, he noted that it is of great importance to shift from conventional product pricing to an activity-based product costing method. The idea was well received by the Chie Executive Officer, but he would like to know in detail the stages to go through while applying the activity-based costing system and the benefits that the company will get from adopting this technique compared to the existing conventional method.

Required:

As Betty & Sisters Manufacturing Co CFO, **write a memo to the Chief Executive Officer responding to his concern.** (8 Marks)

d) **Briefly explain the rationale behind the popularity of full cost-plus pricing strategy over other pricing methods.** (5 Marks)

(Total: 25 Marks)

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