CERTIFIED PUBLIC ACCOUNTANT

ADVANCED LEVEL 2 EXAMINATIONS

A2.2: STRATEGIC PERFORMANCE MANAGEMENT

DATE: THURSDAY 28, NOVEMBER 2024

INSTRUCTIONS:

1. Time Allowed**: 3hours 45 minutes** (15minutes 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

Background

Muzindutsi & Associates Ltd, a prominent business consulting firm established in Rwanda since 2003, is renowned for its specialized services in management accounting, human resources consulting, business advisory, accounting, and tax advisory. Recently you have been appointed as a senior consultant at Muzindutsi & Associates Ltd, you have been assigned to address long-pending assignments and prepare reports for review by the Managing Partner before presentation to the board of directors of our clients. Your portfolio includes Kamonyi University of Science and Agriculture (KUSA) and Nyanza Cement Processing Plant (NCPP).

Kamonyi University of Science and Agriculture (KUSA)

KUSA is the privately owned higher learning institution legally registered in Rwanda since 2004 and it is operating in Kamonyi district which is in the southern part of Rwanda. All academic programs should be accredited by the Rwandan higher education accrediting body locally and for their competitive advantage the university may try and obtain internationally accreditation. In Rwanda, there were only three universities and KUSA had about 62% of the total market share until 2018 where several local and international universities entered the market. The following table is the extract from the recently published article in the Huguka Today (HT) Press, a local publishing newspaper of July 2024 which highlighted that a total of 18 universities locally accredited to operate in Rwanda.

Universities operating in Rwanda and their related market share (July 2024)

SN	University Name	Country of Origin	Market share %
1	Arusha University of Science and Technology	Tanzania	30
2	Bujumbura College of Agriculture	Burundi	25
3	Kabutare Institute of Technology	Rwanda	14
4	Kamonyi University of Science and Agriculture	Rwanda	10
5	Rwamagana School of Political Sciences	Rwanda	7
6	Others (13 universities)	Local and international universities	14
	Total		**100**

Since the emergence of international universities with much experienced lecturers KUSA has faced different challenges including the reduction in market share as its tuition fees were much higher than those of international universities, in addition it experienced the high labour turnover as its competitors pay good salaries and other benefits including good working environment, many lecturers have left KUSA for other universities being attracted by these better packages. Due to the low number of lecturers KUSA board of governors recently decided to reduce the number of programs being offered in weekend and evening programs, this was made after a number of lecturers complained of no rest and suffering from work related stress. The international universities are putting much investments in different marketing channels.

KUSA's Information system

KUSA uses old-fashioned information system which is used to manually capture the accounting data, students' related data etc. KUSA's competitors use high-cost integrated business education information system which consolidates all student's data from admission until graduation. KUSA has recruited a number of data managers who are responsible to manually record student data (marks, payments etc.) into the system.

Extract from KUSA's Annual Financial report for the year ended 30 June 2024

a. 4 years' statement of financial performance for the year ended 30th June

Description		**2021**	**2022**	**2023**	**2024**
	Notes	**FRW' 000**	**FRW' 000**	**FRW' 000**	**FRW' 000**
Revenues					
Admission fees	1	43,400	38,100	17,860	15,400
Registration fees	1	78,900	76,000	33,400	21,300
Tuition fees	1	754,500	702,120	537,800	221,000
		876,800	**816,220**	**589,060**	**257,700**
Other revenues					
Consultancy fees	2	200,000	195,200	171,100	152,000
Rent revenues		189,600	192,050	208,300	276,900
Government & Research grants	2	438,500	408,000	365,002	303,700
		828,100	**795,250**	**744,402**	**732,600**
Total revenues		**1,704,900**	**1,611,470**	**1,333,462**	**990,300**
Operating Expenses					
Staff salaries		914,300	1,014,300	1,028,200	1,037,930
Research expenses		285,000	302,100	399,900	402,100
Community Engagement expenses		11,000	8,000	8,000	8,000
Marketing expenses		10,000	9,000	9,000	9,000
Repairs, Maintenance expenses		87,500	88,600	102,500	151,400
Other expenses		56,900	60,300	66,890	99,350
		1,364,700	**1,482,300**	**1,614,490**	**1,707,780**
Net Profit/(Loss)		**340,200**	**129,170**	**(281,028)**	**(717,480)**

Additional information

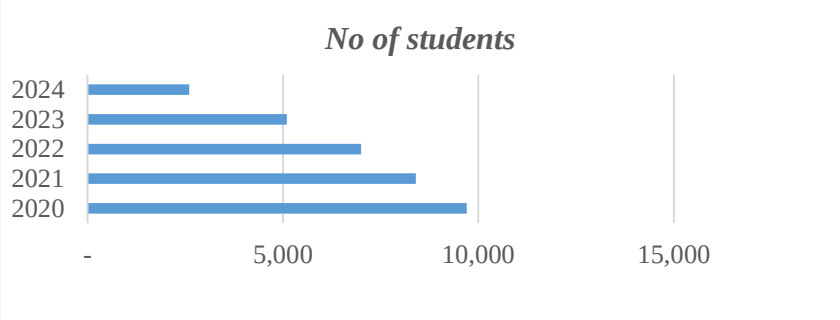
1. KUSA has no formal credit policy in regards to the admission, registration and tuition fees
2. Consultancy services and research grant are usually done by university lecturers

b. 4 years' extract statement of financial position as at 30th June

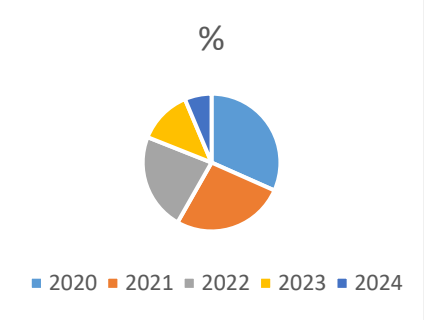
Description	2021	2022	2023	2024
	FRW' 000	FRW' 000	FRW' 000	FRW' 000
Assets				
Non-current assets	1,200,050	1,140,048	969,040	775,232
Current Assets				
Debtors	657,600	612,165	441,795	193,275
Cash& Cash equivalent	82,810	79,525	74,440	73,260
Equity and Liabilities				
Share capital	500,000	500,000	500,000	500,000
Liabilities				
Long term debts	750,000	850,000	890,000	1,020,300
Short term debts	225,000	255,000	267,000	306,090
Creditors	88,500	84,600	103,500	121,400

c. Other university information

Number of students admitted



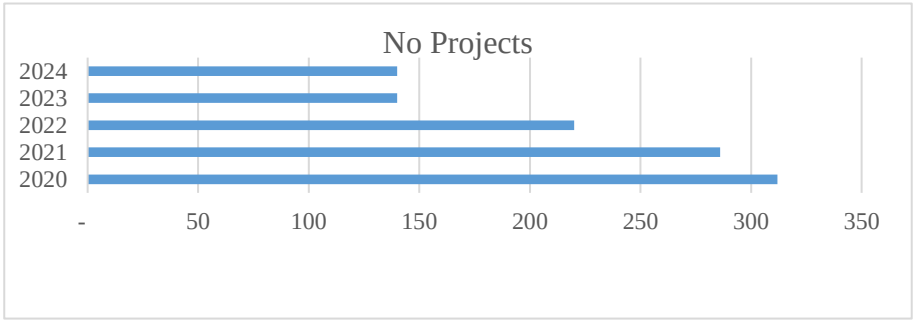
Percentage of market share



Number of accredited programs

			Accreditation	
SN	**University Name**	**No of programs**	**Local**	**International**
1	Arusha University of Science and Technology	42	42	42
2	Bujumbura College of Agriculture	40	40	40
3	Kabutare Institute of Technology	36	36	6
4	Kamonyi University of Science and Agriculture	35	35	0
5	Rwamagana School of Political Sciences	28	28	3
6	Others (13 universities)	87	87	51
	Total	**268**	**268**	**142**

Number of research project being implemented at KUSA



Recent KUSA's board of governors meeting

Recently, Prof James NTACYOMPOMBA, the chairperson of KUSA's governing council summoned the meeting where university performance was deeply discussed.

Chairperson: *Thank you, colleagues, for attending this important meeting. Today, I would like to hear from you what strategies are to be put in place for KUSA to regain its competitive position and its market share. It is clear that its profitability is shrinking day in day out.*

Deputy Vice Chancellor for Academics*: KUSA needs to improve its admission policy; we are currently using the outdated information system which cannot accommodate students' data. In addition, KUSA has tuition fees which is much higher than other universities in the country. In my view, if we manage to invest in the information system and reduce our tuition fees below even those of our competitors, KUSA would regain its competitive position.*

Deputy Vice Chancellor for Finance: *I understand very well the concern raised by the chairperson and the DVC for Academics. However, regaining our competitive position through reduction of tuition fees and purchasing the updated information system may not be the right course of action as it will require heavy investment and we are currently having the liquidity problems. In my view, KUSA should put more emphasis on the non-financial metrics like accreditation of its programs, increasing the number of research projects, improving its marketing strategies to increase the number of admitted students etc….*

Deputy Vice Chancellor for Planning: *We have received a number of complains where students and other stakeholders are not being given proper services. In my view, I think if KUSA could leave the traditional performance management system and introduce the new strategic performance management like kaizen in its academic and administrative processes for it to regain its competitive position.*

Deputy Vice Chancellor for Administration: *I totally agree with DVC for Finance, KUSA has been experiencing high turnover of its lecturers who move to other universities. What you should note is that they do not leave for only higher salaries but also for conducive working environment. Remember, KUSA's continuous professional development of our lecturers and academic staff stopped many years ago. In addition, remember that KUSA is experiencing the higher lecturer to student's ratio compared to our competitors.*

Chairperson: *Thank you all for your fruitful inputs, however, as we are running out of time, let us plan another meeting next week where we shall discuss each and every option in details.*

Nyanza Cement Processing Plant (NCPP)

NCPP is a new cement manufacturing company legally registered and operating in Nyanza district. NCPP uses traditional budgetary system which CEO wants to change to the adoption of flexible budget and application of variance analysis. The company sources its raw material locally, unfortunately, the company is faced with increase in prices at local market and its management decided to source the raw materials from China, even though they are cheap, they are claimed to be of lower quality. This increment in production cost has forced a number of competitors out of the market as many could not afford to source raw material from abroad as they are very expensive.
Due to the limited access to raw materials, many cement plants were forced out of the market and freed their employees, NCPP absorbed a number of these employees who were experienced, despite their higher labour rate compared to the existing ones.

NCPP uses direct labour hours as a basis of absorbing its overheads. The company is currently operating at 80% level of capacity at which 124,000 direct labour hours are used.

The following are the cost accounting data recently extracted from management accounting books of NCPP regarding the assembly division

Description	**Current level of capacity**
	FRW
Variable overhead	
Indirect labour	24,000,000
Stores	8,000,000
Semi Variable overhead	
Power (30% fixed)	40,000,000
Repairs (40% variable)	4,000,000
Fixed overheads	
Depreciation	22,000,000
Insurance	6,000,000
Salaries	20,000,000
Total overheads	**124,000,000**

The following are the variances of NCPP as calculated by its management accountant for the month of April 2024.

Description	**Amount**	**Adverse/Favorable**
	FRW	
Sales price variance	12,600,000	Adverse
Sales volume contribution variance	6,020,000	Favorable
Material price variance	1,600,000	Favorable
Material usage variance	2,400,000	Adverse
Labour rate variance	4,000,000	Adverse
Labour efficiency variance	1,200,000	Favorable
Fixed overhead expenditure variance	2,100,000	Adverse
Other cost information		
Standard contribution per unit	1,700	
Monthly production and sales-units	10,000	
Budgeted fixed overhead-FRW	2,800,000	

Required:

As a senior consultant, **you are required to draft reports of both KUSA and NCPP for Managing Partner's review before they are presented to clients' board of directors including the following:**

a) Analysis of financial performance of KUSA (13 Marks)

b) Analysis of KUSA's non-financial performance, considering the points highlighted by DVC Finance and Administration (8 Marks)

c) Explain how the new strategic performance management system in KUSA as highlighted by the DVC for Planning could be implemented (5 Marks)

d) Using data provided, **comment on the Overhead Absorption Rate when NCPP operates at 70% and 90% level of capacity.** (10 Marks)

e) Prepare a marginal operating statement of NCPP for the month of April 2024 and comment on each variance. (10 Marks)

f) Discuss circumstances under which NCPP can charge prices on its products below its marginal cost (4 Marks)

(Total: 50 Marks)

SECTION B

QUESTION TWO

Kigali Electronics Company (KEC) Ltd is a manufacturing company legally registered and operating in Rwanda since 2010 and it is located in Masoro, Kigali Special Economic Zone. KEC Ltd is well known for manufacturing high-quality electronic products which gives the company competitive advantages over its rivals.

The competition is tight in the market whereby there are many already established manufacturing industries producing similar electronic products, as a result, since its establishment, KEC Ltd decided to adopt the market penetration pricing strategy for it to be able to compete with its rivals although it changed to the marginal cost plus as a pricing strategy.

Recently in the senior management meeting, Mr. Karambizi, the Chief Executive Officer highlighted that the only way to stay competitive in this electronics market, we need to put more focus on innovation and adoption of effective and appropriate pricing strategies. The following is the estimated future costs statement of KECv1.1, a well-known model of a computer laptop which has three types of brands.

Details	**Product X**	**Product Y**	**Product Z**
	Amount	**Amount**	**Amount**
Direct material costs	**FRW**	**FRW**	**FRW**
Material A	190,000	210,000	215,400
Material B	120,000	120,000	120,000
Material C	85,000	78,000	93,000
Labour costs			
Skilled labour	75,000	95,000	75,000
Semi-skilled labour	28,000	31,000	31,000
Unskilled labour	15,000	15,000	15,000
Overheads			
Depreciation	7,500	6,800	6,500
Marketing costs	89,500	125,000	201,100
Insurance	36,000	36,000	36,000
Storage costs	87,000	107,000	127,000
Other overheads	120,000	98,000	120,000
Total costs	**853,000**	**921,800**	**1,040,000**

KEC Ltd recently hired the Chief Finance Officer who is keen to change the existing product pricing strategies as in her view, they are no longer helping the company to be competitive. As a result, she emphasized that target costing would be appropriate in setting prices of company's products. KEC Ltd requires 25% mark up and each brand of KECv1.1 selling price is fixed to FRW 1,000,000.

Required:

a) Considering the view of the Chief Finance Officer, **Evaluate the use of target costing as a new pricing strategy and advise KEC Ltd on how to close the potential target cost gap.**

(8 Marks)

KEC Ltd is currently preparing the budget for the period to 30th June 2025. The company produces and sells three models of computers namely: KECv1.1, KECv2.2 and KECv3.1. The following unit selling price and cost structure for the three products have been extracted from the most recent management accounts of the company:

Details	**KECv1.1**	**KECv2.2**	**KECv3.1**
	FRW'000	**FRW'000**	**FRW'000**
Selling price	250	310	80
Variable costs			
Material	65	18	20
Labour	60	120	15
Overheads	25	13	15
	150	**151**	**50**

The budgeted direct labour rate is FRW 7,200 while the total fixed overhead is FRW 1,600,000. The available direct labour hours are expected to be only 420,000 for the period under budget. Recently during the management meeting, the sales manager presented the expected demand for the three products were 24,000 units, 12,000 units and 60,000 units for KECv1.1, KECv2.2 and KECv3.1 respectively. She added that 7,000 units, 5,000 units and 4,000 units of KECv1.1, KECv2.2 and KECv3.1 respectively should be produced as part of the recently signed contract with the district as breach of which will attract serious penalties including the loss of future markets. The Chief Finance officer advised that the remaining production capacity can be allocated to the products according to their sales contribution, he added that the analysis should be made on the maximum price to be paid to the extra direct labour hour for KEC Ltd to ensure maximum contribution and profit is achieved. The Chief Executive Officer concluded the meeting arguing that the attitude of managers towards the accounting control information they receive might reduce the information's effectiveness, therefore this should be strictly avoided.

Required:

b) Considering the request of the Chief Finance Officer, **Advise KEC Ltd on the maximum price to be paid for the extra direct labour hour.** (12 Marks)

c) **Support the statement made by the Chief Executive Officer and propose the mitigating strategies to avoid such poor behaviors of managers in budgeting processes** (5 Marks)

(Total: 25 Marks)

QUESTION THREE

a) Kamana is a young entrepreneur who recently opened a unisex salon catering for both male and female clients, a total of 11,200 clients visited the shop in the year just ended, of which 40% were male clients.

Male clients are easier to serve; majority requires a simple haircut that lasts no more than 30 minutes. Average cost per hair cut is FRW 100,000. Only one hairdresser has been employed to serve the male clients.

Female hair care on the other hand requires several processes including washing, plaiting, setting, cutting, coloring, drying etc. these activities take time and required additional workforce, total of 4 hairdressers have been employed to server the female clients

Below is an extract of statement of profit or loss account for the year just ended

		FRW'000
Sales revenues		1,254,400
Staff salaries		(155,800)
Hair products:	Male	(42,800)
	Female	(140,000)
Gross profits		**915,800**

Shop assistant whose salary is allocated equally between the two products is paid a total of FRW22,000,000 per annum whereas each female hairdresser is paid a salary of FRW26,400,000 per annum

Required:

i) Calculate profit per male and female client (6 Marks)

Kamana is surprised that profitability at outcome of the results and is seeking your advice how to improve on profitability especially of female clients that is more demanding

ii) Other than increment in fees charges, **discuss other factors Kamana should take into account in improving profitability** (4 Marks)

b) Kamana is thinking of building his own complex apartment to host the saloon business and other enterprises. He is concerned about the risk associated with a proposed investment and is looking for ways to incorporate risk into its investment appraisal process. He has heard that Simulation, Adjusted payback and Risk-adjusted discount rates analysis may be useful in this respect.

Required:

Discuss any TWO of the above methods of adjusting for risk and uncertainty in investment (5 Marks)

c) Nyamirambo Intel Systems (NIS), one of the companies Kamana operates is a producer of a low cost closed circuit television (CCTV) systems for domestic use. The novel product is highly profitable with an ever increasing demand.

Production is however currently restricted to 120,000 units due to lack of skilled labour. NIS looking for ways of increasing its production capacity and one of the options under consideration is to outsource production of some parts that are used in assembling the CCTV. This will not only free up capacity but will also release cash tied up in the system.

Two components that are currently produced in-house and which may be bought from external supplier are 'the motherboard' and 'the sensor'. A quote from one of the reliable suppliers of these has been received and is under review.

The supplier has given the following quotes. Motherboard at FRW410,000 per unit and the sensor at FRW430,000 per unit. This price has been guaranteed for two years.

Items	**Motherboard**	**Sensor**
Units	120,000	120,000
Amounts	**FRW'000**	**FRW'000**
Direct materials	180,000	120,000
Direct labour	60,000	96,000
Heat and power costs	85,000	102,000
Machine costs Fixed	45,000	45,000
Depreciation and insurance costs	97,200	111,000
Total annual production costs	**467,200**	**474,000**

Additional Information:

1. Materials costs are expected to increase by 20% immediately
2. Direct labour costs are 100% variable and will increase by 10% in the coming year.
3. Heat and power costs include an apportionment of the general factory overhead, at 35% of the direct labour
4. Machine costs are semi-variable; the variable element is FRW 0.25 for every unit produced. Fixed cost element is FRW 8,000 per annum for motherboard and FRW 15,000 per annum for Sensor.
5. 70% of depreciation and insurance costs relate to an apportionment of the general factory depreciation and insurance costs; the remaining 30% is specific to the manufacture of motherboard and Sensors.

Required:

i) Advise NIS whether it should continue to manufacture the 'motherboard' and 'sensor' in-house or whether it should outsource their manufacture to the supplier (6 Marks)

ii) Discuss any other two factors that should be taken into account before a decision to buy from outside is taken (4 Marks)

QUESTION FOUR

a) Nyanza Plc has contracted you as their management accounting consultant, they have several issues on which they would like your expertise on:

Nyanza would like to use the minimax regret technique in deciding on its choice of product selling price given that the variable cost may be at one of three levels. The following regret matrix has been prepared using forecast data:

	Product selling price per unit		
State of variable cost	FRW 480	FRW 620	FRW 880
High	FRW 749,000	FRW 0	FRW 876,000
Medium	FRW 513,000	FRW 0	FRW 1,020,000
Low	FRW 0	FRW 460,000	FRW 1,507,000
Maximum Regret	?	?	?

Required:

Determine the selling price strategy which will apply where minimax regret is used as the decision base and explain the operation of minimax regret analysis. (5 Marks)

b) Nyanza has also developed a Talking Bag for kindergarten age children. The Talking Bag is able to "see' its' contents and talk to the child if anything is missing. The life of this Bag will be three years only as it is open to 'copycat'. Nyanza expects a contribution of 80%.

Nyanza has spent FRW 56 million in developing the Talking Bag. The time spent on this development meant that the company missed out on the opportunity of earning an estimated FRW 120,800,000 contributions from the sale of another product.

The selling price of Talking Bag will be at a constant FRW 65,000 per bag for the three years' life. Fixed costs are expected to remain at FRW 80,000,000 per year. However, if volumes exceed 14,500 units the fixed costs will increase by 50%.

Talking bag's budgeted volumes are as follows:

	Year 1	**Year 2**	**Year 3**
Sales volume	14,000 units	17,000 units	7,500 units

Required:

i) Explain the principles behind lifecycle costing and why Nyanza in particular should consider these lifecycle principles. (4 Marks)

ii) Produce the budgeted results for the 'talking Bag' (7 Marks)

c) Nyanza Plc also produces 'Smart Disability Chairs' (SDC) through its assembly division. These chairs are able to 'assist' person living with disability to have 'normal life' experiences again. The chairs have an in-built technology and can be programmed to carry out routine activities, they possess features such as voice command, sight recognition abilities that makes them easier to use compared to the ones are currently in the market

SDC once assembled are then transferred to the retail stores of the company for sales and distribution. Each retail store must collect the quantity they need from the Assembly warehouse

The transfer price that assembly division charges to the retail stores have been a subject of discussion for sometimes now. The current policy is for Assembly division to calculate the total variable cost of production and delivery and add 30% for profit. The assembly division argues that all costs should be taken into consideration and is offering to reduce the mark-up on costs to 20% in this case. The retail stores are unhappy with the current pricing policy arguing that it results in prices that are often higher than comparable products available on the market.

Assembly division has provided you with the following information to enable a price comparison to be made of the two possible pricing policies

	Cost per chair
	FRW
Materials	250,000
Labour	350,000

A chair is produced by assembly workers assembling a variety of components. Production overheads are currently absorbed into product costs on an assembly Labour hour basis. It takes 7 hours to assemble one chair

Production Overheads – recent historic cost analysis has revealed the following production overhead data:

	Total production overheads	**Total assembly labour hours**
	FRW'000	**Hours'000**
Month 1	1,650,000	16,000
Month 2	1,970,000	20,000

Fixed production overheads are absorbed on an assembly hour basis based on normal annual activity levels. In a typical year 177,600 assembly hours will be in assembly division.

Required:

i) Calculate the price that assemble division would charge for the SDC under the existing policy of variable cost plus 30%. (3 Marks)

ii) Calculate the increase or decrease in price if the pricing policy switched to total cost plus 20%. (2 Marks)

iii) Discuss whether or not including fixed costs in a transfer price is a sensible policy.

(4 Marks)

(Total 25 Marks)

End of question paper.

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