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**CERTIFIED PUBLIC ACCOUNTANT
ADVANCED LEVEL 2 EXAMINATIONS**

A2.2: STRATEGIC PERFORMANCE MANAGEMENT

DATE: THURSDAY, 28 JULY 2022

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

a) RUSIZI Group is a well-known company operating in Rwanda. It has two divisions; A and B. Each Division produces only one type of product: A produces product (X) and B produces a final product (HK). The final product HK usually uses the product X as its input and each HK needs one unit of X.

RUSIZI Group operates in a highly competitive market for both products (X) and final product (HK) and its pricing is sensitive. Product X is produced by many other producers in the market, but it is expected that the external demand for the next year could increase to **2,000 Units** more than the sales quantity presented in the current budget for Division A. The following are the budgeted data as extracted from RUSIZI Group internal information system, for both divisions for the next year.

Income Statements of Division A and Division B

Particulars	Division A	Division B
	FRW	FRW
Sales	280,000	540,000
Cost of sales		
Variable Costs	200,000	228,000
Contribution	80,000	312,000
Fixed Costs (Controllable)	50,000	150,000
Profit	30,000	162,000

Other Information	Division A	Division B
Production/Sales (Units)	10,000	6,000
(6,000 of division A are transferred to Division B)		
Production Capacity (Unit)	10,000	14,000
External Market Price (FRW)	40	90
Capital Employed (FRW)	350,000	600,000
Cost of Capital Charge (%)	10	10

The external demand for divisions is as follows:

Division A: 6,000 units (Only 4,000 units of which can be currently satisfied)

Division B: All produced output is sold to the external market.

It is also in the RUSIZI Group policy that Divisional Managers' performance should be evaluated against the Four measures. Based on the data above, the budgeted performance measures for the two divisions are as follows:

	Division A	Division B
Residual Income (RI)-FRW	(5,000)	102,000
Return on Capital Employed (ROE)	8.57%	27%
Operating Profit Margin	10.71%	30%
Asset Turnover	0.80	0.90

Existing (Current) RUSIZI Group Policy:

In RUSIZI Group, there is a policy that product X should be transferred to Division B at the marginal cost of **FRW 20** per item and B must buy all the quantity it needs from A

Proposed RUSIZI Group Policy:

RUSIZI Group is proposing of giving the Divisional Managers the freedom to set their own transfer price and to buy the products from external suppliers but there are concerns about problems that could arise by granting such autonomy.

Required

i) If division autonomy is granted to divisional Managers, and the transfer price of the product is set by the Manager of Division A at the current market price , recalculate the budgeted performance measures for each division. (13 Marks)

ii) Discuss the changes to the performance measures of the divisions that would arise as a result of altering the transfer price to FRW 40 per unit of product. (4 Marks)

iii) Discuss the problems that could arise for each of the Divisional Managers and for RUSIZI Group as a whole as a result of giving full autonomy to the Divisional Managers and how adopting the dual prices and two-part tariff system approach can fix them (5Marks)

b) RUSIZI Group has supplied one of its famous products to different customers across the country. The marketing department has revealed that customers **Muhanga Ltd, Ruhango Ltd and Kamonyi Ltd have been placing more orders than others throughout the year.**

The customer related gross margins are FRW 1,194,000, FRW 2,140,000 and FRW 2,112,000 for Muhanga Ltd, Ruhango Ltd and Kamonyi Ltd respectively,

Additional Information regarding the three customers:

Particulars	Muhanga Ltd	Ruhango Ltd	Kamonyi Ltd
Unit sold	9,200	11,600	7,600
Number of orders Placed	600	640	960
Number of sales Visit	160	100	200
Number of invoices Sent	620	780	2100

RUSIZI Group management has designed an activity-based costing system with following activity cost pools and activity rates:

Activity cost pool	Activity Rate
Sales Visit	FRW 840 per Visit
Order processing	FRW 380 per order placed
Dispatch Cost	FRW 700 per order placed
Billing and Collections	FRW 194 per Invoice sent

Required:

i) Discuss how the Customer Profitability analysis can enhance RUSIZI Group performance and its competitive advantage (2.5 Marks)

ii) Based on the information given above, Evaluate the three customers' profitability (5.5 Marks)

c) D and N are other divisions operating in RUSIZI Group. These divisions have been created as investment centers and they operate in similar market. Management on a monthly basis should prepare and submit an operating statement to the central authority of the company. Below are the operating statements for the month of February of the two divisions (Division D and N)

	Division D	Division N
	FRW ('000)	FRW ('000)
Sales Revenues	450	277.5
Variable Costs	172.5	156
Contribution	277.5	121.5
Controllable Fixed Costs	47.5	21
Controllable Income	230	100.5
Apportioned Central costs	169	90
Net Income Before tax	61	10.5
Divisional Net Assets	4,880	630

RUSIZI Group has a target return on capital of 10% per annum. Currently, RUSIZI Group believes its cost of capital is likely to rise and is considering increasing the target return on capital. The current policy is that the divisional management and performance are primarily assessed basing on the results of their respective Return on Investment (ROI)

Required:

i) Calculate the annualized Return on Investment (ROI) for divisions D and N, and discuss their relative performance using the ROI data and other information given above. (7 Marks)

ii) Calculate the annualized Residual Income (RI) for divisions D and N, and explain the implications of this information for the evaluation of the divisions' performance. (4 Marks)

iii) Explain three further methods of assessment of divisional performance that could be used in addition to ROI or RI. (3 Marks)

d) Recently, The Board of Directors of RUSIZI Group has decided to extend the company, and they are considering registering its subsidiary abroad. They have decided to register at least in one of the East African Community (EAC) member countries. This subsidiary will need some inputs from the head office in Rwanda.

Required:

For the benefit of the board of Director, write a memo, briefly discussing advantages and disadvantages of at least three approaches to determine the Arm's length price for RUSIZI Group. (6 Marks)

(Total 50 Marks)

SECTION B

QUESTION TWO

a) Ambara Uberwe Garment Ltd (AUG Ltd) is a manufacturing company registered in Rwanda specifically to manufacture Made in Rwanda related clothing. The company has an active and participative organizational structure. One month ago, AUG Ltd completed the purchase of Berwa Manufacturing Ltd (BM Ltd) which operates several manufacturing plants. Normally, BM Ltd managed its owned plants as profit centers, where profit was being measured using absorption costing method. Since BM Ltd was unable to get the required rate of return from its investments, its shareholders agreed to sell BM Ltd entirely to AUG Ltd.

The management of BM Ltd has defined the implementation of Just In Time (JIT) manufacturing as a key strategic and performance improvement tool. However, the AUG Ltd is informed that this kind of tool was never accepted or embraced by the individual plant managers.

The management of AUG Ltd believes that this kind of behavior was one of the key causes of poor performance of the plants, and hopes that when this behavior changes, the company will achieve the profit desired by the new shareholders.

Below is the information of one of BM Ltd factories extracted from its financial records for the three months period.

Details	FRW"000"
Selling price per unit	156,000
Variable Cost per Unit	
Raw materials	55,900
Direct labour and other variable overheads	67,600

The factory also incurred the monthly fixed production overheads of FRW 1,170 million and its normal output level is set at 100,000 Units per month.

The plant manager has provided the following information concerning the expected activities of the next three months period:

Month	Opening inventory	Production	sales	Closing Inventory
	Units	Units	Units	Units
June	-	96,000	94,000	2,000
July	2,000	100,000	94,000	8,000
August	8,000	90,000	95,000	3,000

Required:

- Using relevant calculations, evaluate the claim that the performance measurement system in place creates a disincentive for plant managers to implement the stated JIT production strategy. (11 Marks)
- Use the backflush accounting method to show AUG Ltd an alternative profit-based performance measurement system which would motivate plant managers to implement the stated JIT production strategy. (7 Marks)

b) Amagara Araramirwa Healthcare (AAH) runs a number of large hospitals which provide general and pediatric medical care for the people of Rwanda.

Rwanda is a highly developing economy and healthcare is considered to be a high skill, high technology and high-status industry. It is compulsory for the people of Rwanda to purchase health insurance where most of its population use Mutuelle de Sante and other insurance scheme and then the insurance companies reimburse the healthcare providers for services delivered.

The insurance companies verify the healthcare providers and grade them for value for money. As there are a number of hospital chains (such as AAH), the insurers will encourage their insured customers to use those which are most efficient. The ultimate sanction for a healthcare provider is for an insurance company to remove them from the list of acceptable providers.

AAH has large amounts of capital tied up in expensive medical equipment and a drug inventory. The existing systems for accounting for these items are traditional ones aimed at avoiding theft and obsolescence. AAH has an inventory system which requires regular (weekly) physical checks of the drugs in inventory in order to update it. It is important that the right drugs must be in easily accessible stores (located throughout the hospital) in order to act quickly in case of a medical emergency. The accounting staff at AAH maintain a non-current asset register which logs the location of all major assets including medical equipment. The problem with the non-current asset register is that it is often out-of-date as doctors will take equipment in time of emergency and not properly log its new location. This often leads to equipment lying unused in one area of the hospital while being searched for in another area, to the detriment of patient care.

AAH has recently instituted a tagging project where radio-frequency identification devices (RFID) will be attached to the most valuable pieces of equipment used in treatment and also to batches of high-value drugs. The hospitals are fitted with WiFi networks which can pick up the RFID signal so that the RFID tags will be detectable throughout a hospital. The tags will identify the object which they are attached to by a unique identification number and will give its location. The identifier number will link to the inventory system which will identify the product, the quantity initially delivered in that batch and the date of delivery. The RFID information will be accessible through the computer terminals throughout the hospitals.

The Director of Finance and Administration (DAF) of AAH has asked you to advise him on the impact of this new system on performance management at AAH. He has suggested that you look at the costs and benefits which will be associated with producing the information from the RFID system, the impact of the nature of the information supplied, the changes to performance management reporting and how the new information could be used for improved control at the hospital. He is keen to be seen to be at the forefront of accounting and management developments and has been reading about cost control techniques. Recently, he has heard about 'lean' systems, so wants to know how the RFID system and its impact on the hospital fit with this concept.

Given the importance of the medical staff in running the hospital, he also wants to know how their behaviour will be affected by the control information from the RFID system. There is a very strict social order among these staff (in increasing order of skills: nurses, general doctors and specialist doctors) which regularly causes friction when one group feels it is not given its

due status. For example, recently, the general doctors agreed to a new method for nurses to record drugs administered to patients but this new system has not been fully implemented due to complaints by the nurses and specialist doctors who were not consulted on the change.

Required:

i) Discuss the impact of the radio-frequency identification devices (RFID) system on the performance management at AAH as suggested by the DAF (4 Marks)

ii) Discuss how the medical staff's attitudes will influence the design and implementation of the RFID system and how it might be used to promote responsibility and accountability at the hospital (3 Marks)

(Total: 25 Marks)

QUESTION THREE

SANEZA Co. is a highly reputed and well-known hairdressing salon which provides both 'cuts' and 'treatments' to its clients in Kigali. SANEZA Co. has opened different branches across the city. All cuts and treatments at the salon are carried out by one of the salon's three senior stylists. The salon also has two salon receptionists and two junior stylists.

Every client coming to the salon is first seen by a salon receptionist, who washes their hair; next, by a senior stylist, who cuts or treats their hair depending on which service the client wants; then finally, a junior stylist who dries their hair. The average length of time spent with each member of staff is as follows:

Details	Cut hours	Treatment hours
Receptionist	0.1	0.3
Senior Stylist	1	1.5
Junior Stylist	0.4	0.5

The salon is open for twenty-four hours each day for seven days per week. It never closes throughout the year. Staff salaries are FRW 40,000 each year for each senior stylist, FRW 28,000 each year for each junior stylist and FRW 12,000 each year for each of the Receptionist. The cost of cleaning products applied when washing clients' hair is FRW 2.50 per client. The cost of all additional products applied during a 'treatment' is FRW 8.40 per client. Other salon costs (excluding labor and raw materials) amount to FRW 106,400 each year. SANEZA Co. charges FRW 80 for each cut and FRW 150 for each treatment. The senior stylists' time has been correctly identified as the bottleneck activity. SANEZA Co. has also calculated the cost per hour to be FRW 52.56

SANEZA Co. operates different salon branches that provide both 'cuts' and 'treatments' across Kigali. Those branches are managed by Salon branch Managers who have little authority over decisions made at branch level. Branch budgets are usually set at central level by the senior Accountant and other senior management team, salon branch managers are never consulted during the budget-setting processes.

During the recent management meeting, the KISIMENTI salon branch manager commented: "The set budget was totally unrealistic in the current economic situation. Our shop has tried all

possible and available means to run several advertisements, improved services and sales promotions which have even been well received by our customers; our salon failed to achieve the budgeted revenues. Now check, the budgeted revenues figure for my branch was the same as last year, but this year the industry as a whole has seen a 12% fall in revenues due to the lockdown and other COVID-19 Pandemic measures.”

The whole inventory of materials purchasing process is fully controlled by a head office purchasing team, and brand marketing is controlled by a head office marketing team. The head office also manages the rent agreements and other property costs for the shops. However, each branch has a small marketing budget of its own with which it can use to run local promotions.

In addition, salon branch managers have rights to recruit and manage the staff within their branches. Although, the wage rates they can offer their new hired staff are fixed by head office, and are not subject to change. SANEZA Co. produces a standard list of selling prices for all levels based on age across all services. Shop managers have some degree to change the set prices, but can't go up more than 5% from the set (standard) prices.

It is the SANEZA Co. policy to remunerate salon branch managers a basic salary with bonuses of up to 15%. For a manager to qualify for a bonus, their shop's profit has to be above budget. Many salon branch managers have recently complained about this, because they feel that the current remuneration scheme doesn't reflect the effort they are putting in.

Below are the results for the manager's branch for the last year. These are the figures used as the basis for any bonus calculations.

	Actual	Budget	Variance
	FRW	FRW	FRW
Revenues	522,000	592,400	(70,400)
Cost of Sales	208,800	248,000	(39,200)
Gross Profit	313,200	344,400	(31,200)
Operating Costs			
Manager's Salaries	55,000	55,000	-
Sales and Promotion Costs	26,000	25,000	(1,000)
Other Staff's Costs	80,000	76,650	(3,350)
Other salon running Costs	62,500	65,000	2,500
Total Operating Costs	221,650	223,500	(1,850)
Shop Profit	91,550	120,900	(29,350)

Note:

Other salon running costs includes rent, heat, water and light.

Required:

- Using relevant calculations, show the Managing Director of SANEZA Co. the annual capacity of the bottleneck activity (The senior stylist) (3 Marks)
- Calculate the throughput accounting ratio (TPAR) for both services and outline at least three activities that could be used to improve the TPAR (4 Marks)

iii) Discuss what would be the effect on the bottleneck if the salon hired another senior stylist? (3 Marks)

iv) Using relevant calculations where applicable, critically discuss the problems with using this salon performance information as the basis for assessing the salon branch manager's performance? (15 Marks)

(Total: 25 Marks)

QUESTION FOUR

a) Just-in-time is an approach to operations planning and control based on the idea that goods and services should be produced only when they are needed, and neither too early (so that inventories build up) nor too late (so that the customer has to wait). Just-in-time is a system whose objective is to produce or procure products or components as they are required rather than for inventory.

Required:

As a Management Accountant write a memo to the CEO briefly discussing how the JIT works, key features of operating in a JIT environment and what to be considered before implementing the JIT system (7 Marks)

b) Bugesera Manufacturing Ltd is a well-established company that manufactures several high-quality consumer durables. The company has recently developed sofa (Bugesera Sofa) manufactured from wood (WX1), which gives it superior strength. The marketing director believes that the fact the “sofa” is best quality for all currently available sofa in market give the company a considerable competitive advantage. The following information is available in respect of the year ending 31 December 2021:

- i. Each Bugesera sofa requires 20 kilograms of WX1.
 - ii. Bugesera Manufacturing Ltd has access to a maximum of 990 tonnes of WX1 during the year. Each kilogram of WX1 costs FRW 8,400. NB 1 tonne = 1,000 kilogram.
 - iii. The labour cost of manufacturing a “Bugesera Sofa” is estimated at FRW 56,000 per unit.
 - iv. Variable overheads are estimated to be FRW 28,000 per unit.
 - v. Incremental fixed costs relating to the “Bugesera Sofa” are estimated to be FRW 44.1 billion.
 - vi. The marketing director has estimated that at a selling price of FRW 700,000 per Bugesera Sofa, an annual sales volume of 500,000 would be achieved. He has further estimated that an increase/decrease in price of FRW 28,000 will cause quantity demanded to decrease/increase by 25,000 units. He has provided you with then following formulae:
 - vii. Price function: $P_q = P_0 - bq$, Total revenue (TR) function: $P_0q - bq^2$ and Marginal revenue (MR) function: $P_0 - 2bq$
- Where;
- P_0 = Price at zero units of demand, P_q = Price at q unit of demand
- b = price: demand relationship, q = Units of demand
- viii. Where the relevant matching of total revenue and total cost functions is expressed as the quadratic equation $ax^2 + bx + c = 0$, the break-even point(s) in units may be calculated using the formula:

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Required:

Calculate the profit maximizing output level for sales of the “Bugesera sofa” and the profit that would arise from those sales during the period ending 31 December 2021, and the output level(s) of “Bugesera sofa” and associated selling prices at which Bugesera Manufacturing Ltd will breakeven. (13 Marks)

c) BSK Ltd. is an electronics company specializing in the manufacture of home television. Historically, the company has used solely financial measures to assess the performance of the company as a whole. Kubwimana, the company’s shareholder and Managing Director recently visited all branches in order to promote corporate identity and inspect performance at each branch. He returned dismayed at the condition of some branch premises and feels overall that, although recent financial performance has been consistent with previous years, the company does not seem to have changed or developed since he last visited branches three years ago.

Kubwimana believes that he needs to change the appraisal methods for branches so that they fit more closely with what he expects from the company. He wants the business to develop and grow and become the leading electronics manufacturer in Rwanda. Kubwimana has recently heard of the “balanced scorecard approach” and is keen to learn more.

Required

Describe the balance scorecard approach to performance measurement and how it might help rectify these problems. (5 Marks)

(Total: 25 Marks)

End of question paper