CERTIFIED PUBLIC ACCOUNTANT

ADVANCED LEVEL 2 EXAMINATIONS

A2.2: STRATEGIC PERFORMANCE MANAGEMENT

THURSDAY: 03 DECEMBER 2020

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.

SECTION A

QUESTION ONE

Nyanza Company hires out plant and machinery to small firms working in construction industry. Nyanza's senior management including the Chief Executive Officer (CEO), have worked in the business since it was established 30 years ago, and they own the majority shares. During that time, Nyanza has acquired many smaller plant hire businesses. Of these business units, those which have underperformed after acquisition have either been sold on or restructured, for example, to increase their operating margins. Nyanza has recently diversified by hiring out large items of plant to large construction firms working on major infrastructure projects. These projects can last for up to 10 years. Strong growth in the general economy has increased the number of these large projects and has led to a predicted large increase in the bank interest rates.

The Director of finance of Nyanza Company has prepared a budget for the year ending 31 December 2020. The director of finance uses incremental budgeting for his expenditure for the previous year as a starting point and simply adjusting it for inflation as shown below.

Details	**Note**	**Actual cost for Year ended 31 Dec 2019 (Rwf)**	**Inflation adjustment**	**budget cost for year ending 31 Dec 2020 (Rwf)**
Repairs and Maintenance	1	44,000,000	3%	45,320,000
Salaries	2	620,000,000	2%	632,400,000
Capital Expenditure	3	65,000,000	6%	68,900,000
Total Budget Expenditure		729,000,000		746,620,000

Notes:

1. Rwf 30million of the costs for the year ended 31 December 2019 related to standard maintenance checks and repairs that had to be carried out by the Company in order to comply with Government health and safety standards. These are expected to increase by 3% in the coming year. In the year ended 31 December 2019 Rwf 14 million were also spent on redecorating the plants. No redecorating is planned for the coming year.

2. One engineer earning a salary of Rwf 26 million left in the year ended 31 December 2019 and there are no plans to replace her. However, a 2% pay rise will be given to all staff with effect from 1 July 2020.

3. The full Rwf 65 million actual costs for the year ended 31 December 2019 related to improvements made on small plants. This year the large plants will be substantially improved, although the level of improvements is still under discussion. There is a 0.7 probability that the cost will be Rwf 145 million and a 0.3 probability that it will be Rwf 80 million. The costs will be paid in full before the end of the year.

The Board of Directors, who review the budget, are concerned that the budget has been incorrectly calculated. They believe that it should have been calculated using the expected expenditure which should be based on the information provided in notes 1 to 3. They believe that incremental budgeting has not proved reliable tool for budgeting for the last three years as the company have been having shortfalls despite the budget surplus being predicted. The board also recommended the use of time series and estimate the seasonal variations by analysing the sales of each quarter for the last 3 years.

In preparing the Budget of 2020, Nyanza Company assumed that there would be a market demand in Rwanda for 125,000 plants to be hired and the company estimated that it would have a 40% share of this market. The budget also assumed a selling price of Rwf 600,000 per each plant hired. The only variable cost is raw material, which consists of three grades of raw material. The standard costs of the raw materials used in the manufacturing of each 100 plants are as follows:

Raw material	Pieces	Standard price per Piece (Rwf)
Type A	25	200,000
Type B	60	300,000
Type C	40	400,000

Normal loss is 20% of input

However, during 2020 both Nyanza Company and its competitors were adversely affected by the diminishing business demand as a result of Covid-19 which led to lockdown of the country for about three months. The actual market size was only 110,000 plant hired and Nyanza Company only managed to Hire 33,000 plants.

The CEO of Nyanza Company recently explained how his company attempted to respond to the difficulties which it faced in 2020. “First, we reduced our hiring price to Rwf 590,000; this was a modest price reduction in comparison with those of our competitors, secondly we took advantage of the falling market prices for some of the raw materials. With the benefit of hindsight, we should have done more to increase consumers’ confidence in the safety and quality of our plants in particular.

The shareholders objective is for Nyanza to maintain its historic return on capital employed (ROCE). Managers at business units are given objective of maintaining net profit margins of their own business units. Similarly, managers at individual branches of the business units are given the same objective according to their own areas of responsibility.

Following two years of poor performance, it has been suggested to the CEO that Nyanza would benefit from adopting Value Based Management (VBM) approach.

The CEO requires your advice and has been quoted saying that "the shareholders are unsure that VBM is, or whether it will benefit Nyanza and what changes the business would need to make if it were to adopt it. All the managers in the business are already informed of what their objectives are. For example, one business unit manager recently postponed some expensive staff training on improving customer satisfaction, which I believe was a correct decision. Our recent poor performance has meant we cannot afford this sort of expenditure, especially as we have no information on what levels of customer satisfaction actually are. Personally, I dislike change, but would not object to the adoption of VBM if it was thought to be beneficial for Nyanza. The shareholders have heard that Economic Value Added (EVA) can be used to measure whether Nyanza has created or destroyed value for its shareholders, but this has not yet been calculated."

Details of the company's recent performance are given as follows:

Notes from Nyanza's management accounts for the most recent year end

1. Net profit after tax for the year Rwf 900 million
2. Capital employed at the start of the year Rwf 22.5 billion
3. The interest charge for the year was Rwf 1.35billion on a variable rate loan with an interest rate of 10%. Nyanza is funded 60% by debt and 40% by equity. The cost of equity is 12%. Nyanza pays tax at a rate of 30%.
4. The depreciation charge for non-current assets for the year was Rwf 540 million, the economic depreciation of which was Rwf 1.26 billion. At the beginning of the period, the accumulated economic depreciation of non-current assets exceeded its accounting depreciation by Rwf 1.44billion.
5. Brought forward at the start of the year was a provision of Rwf 432million which was in respect of debt owed by a customer who has since repaid it.
6. Within the current profit or loss account there is an expense of Rwf 54 million for advertising in trade magazines. This led to several enquiries from new customers involving in large infrastructure projects, which has resulted in Nyanza signing at least two contracts after the end of the accounting period.

Required:

a) **i) In consideration of the views of the Board of Directors, Evaluate the expenditure budget for the year ending 31 December 2020.** (8 Marks)
ii) Discuss the extent to which Zero based budgeting could be used by Nyanza Company to improve the budgeting process. (6 Marks)

b) **Explain how value-based management (VBM) could be implemented in Nyanza company and evaluate its impact on the company.** (10 Marks)

c) **Assess the economic value added (EVA) of Nyanza Company.** (10 Marks)

d) **Critically evaluate the performance of Nyanza Company in sales for year 2020 supporting your answer with sales variances clearly showing the market size and market share variances.** (10 Marks)

e) **In the light of the recommendation of the Board of Directors, explain the limitations of time series in forecasting of sales in Nyanza Company.** (6 Marks)

(Total 50 Marks)

SECTION B

QUESTION TWO

Giramata Company sells electronics in the city of Kigali. Due to the economic problems as a result of covid-19 pandemic it is planning to launch a new product which will be more power saving and less costly in the market. It needs to prepare its budget for the new product in the coming year and is trying to decide whether to launch the product at a price of Rwf 27,000 or Rwf 31,500 per unit. The following information has been obtained from a market research which considers that there are three conditions expected in the market of the new product in the coming year.

	Price per unit Rwf 27,000		Price per unit Rwf 31,500	
Condition	**Probability**	**Sales Volume**	**Probability**	**Sales Volume**
A	0.4	60,000	0.3	54,000
B	0.5	55,000	0.3	50,000
C	0.1	70,000	0.4	47,000

The company estimates that the variable cost of production will be Rwf 10,800 per unit for production volumes up to 50,000 units each year. However, if the production exceeds 50,000 units each year, the variable production cost per unit would fall to Rwf 9,900 for all units produced.

The company estimates that the fixed production costs would be Rwf 205 million per annum. The company expects to incur advertising costs amounting to Rwf 410 million per annum when the price is Rwf 27,000 and Rwf 473 million per annum when the price is Rwf 31,500.

The company currently produces two types of electronics, Exye and Wye, which have the following production costs.

	Exye "Rwf"	**Wye "Rwf"**
Direct material cost	14,000	12,000
Direct labour cost	4,000	8,000
Variable overhead	5,000	11,000
Fixed overhead	7,000	11,000
Total product cost	**30,000**	**42,000**

Fixed overheads are absorbed on the basis of direct labour cost. Exye and Wye pass through two processes, grinding and pasting which incur direct labour time as follows.

Standard Time Taken		
Process	**Exye**	**Wye**
Grinding	15 minutes	25 minutes
Pasting	25 minutes	20 minutes

The current market price for Exye is Rwf 72,000 and for Wye Rwf 60,000 and, at these prices, customers will buy as many units as are available. The capacity of the two processes limits the number of units of products that can be produced. Grinding can be carried out for 12 hours per day but pasting can only operate for 6 hours per day.

Giramata currently have a contract of supplies for electronics to Nadia and Kalisa. Each of the contracts for electronics has a contract price of Rwf 42,000 and Rwf 50,000 per each electronic respectively. Each electronic cost Rwf 25,000 and Rwf 21,000 to supply Kalisa and Nadia respectively. As Kalisa buys in bulk he receives a 10% trade discount for every order of 100 electronics or more. Nadia receives a 15% discount irrespective of order size, because that company collects the electronics, thereby saving Giramata any distribution costs. The cost of administering each order is Rwf 100,000 and the distribution cost is Rwf 1,000,000 per order. Nadia makes 10 orders in the year, totalling 420 electronics and Kalisa places 5 orders for 100 electronics each.

Required:

a) **Evaluate the expected profit for the two proposed prices for the new product for Giramata and advise which price should be used for the product launch.** (9 Marks)
b) **Explain the use of sensitivity analysis and suggest how Giramata Company could make use of this technique.** (4 Marks)
c) **Evaluate Giramata's current two contracts and advise on which is the most profitable customer.** (6 Marks)
d) **Advise on what production plan should the company follow in order to maximise profits using contribution per minute and throughput per minute.** (6 Marks)

(Total 25 Marks)

QUESTION THREE

Mapesa Company assembles and sells many types of radio. The company has well established accounting system. The management accountant of the company is pleased with the management information system which is in place and is particularly proud of the budgetary control reporting system which provides monthly control reports to the board within one week of the end of each month.

The company is considering extending the product range to include digital radio. The radios are expected to produce better sound quality than traditional radios and have large potential additional features not possible with the previous technologies. It expects the new product to have the following costs to the end of its lifetime.

	Year 1	Year 2	Year 3	Year 4
Production & sales volume	2,000	15,000	20,000	5,000
	Rwf '000	Rwf '000'	Rwf '000'	Rwf '000'
R&D costs	38,000	2,000	–	
Marketing costs	2,000	1,500	1,000	200
Production cost per unit	10	9	8	9
Customer service costs per unit	1	0.8	0.8	0.8
Disposal of specialist equipment				6,000

The Chief Executive Officer (CEO) believes that customers will be prepared to pay Rwf 10,000 for a Digital radio but the Financial Director believes this will not cover all of the costs throughout the lifecycle.

The new radio is to be produced by assembly workers assembling a variety of components. Production costs are currently absorbed into the product cost on assembly labour hour basis. Mapesa Company is considering using target costing approach for its new digital radio product.

The cost information of the new digital radio is as follows:

Circuit board: this is a bought in and the cost per unit is Rwf 3,690. They are bought in batches of 4,000 units and an additional delivery cost per batch are Rwf 2,160,000.

Wiring: on an ideal situation each complete radio requires 25cm of wire. However, there are wastages expected in the assembly process and the company estimates that 2% of the wire purchased will be wasted in the assembly process. The wire cost Rwf 450.8 per metre to buy.

Cover material: The material for cover of the radio cost Rwf 7,290.

Assembly labour: These are skilled people who are difficult to recruit and retain. However, Mapesa Company has more of these staff but is prepared to carry this extra cost for the security of the business. It takes 30 minutes to assemble one radio and the assembly workers are paid Rwf11,340 per hour. It is also estimated that 10% of the hours paid to the assembly workers are for idle time.

Production overhead: Recent historic cost analysis has revealed the following production overhead data:

Total production overhead (in ‘’000’’Rwf)

Month 1	558,000	Month 2	630,000

Total assembly labour hours

Month 1	19,000	Month 2	23,000

Fixed production overheads are absorbed on an assembly labour hour basis based on normal annual activity levels. In a typical year 240,000 assembly labour hours will be worked by Mapesa Company.

The marketing director has suggested that they should set selling price of the new digital radio at Rwf39,600 in order to compete with similar radio on the market that has comparable features to the company intended product. The board has agreed that the acceptable margin should be 20%.

The market of digital radio is growing at a reasonable rate, but there are three competitors in the market. Competition is strong and consequently profit margins are going down. The marketing director is certain that although low prices are one factor in buying decisions of customers, customers are much more concerned about the quality, reliability and functional features of the digital radio that Mapesa Company will produce.

At the recent board meeting, the board made two important decisions. The first decision was not to invest in a new equipment that would significantly reduce the water and energy consumption in the production process. The decision was based on discounted cashflow return on investment which was considered insufficient. The second decision was an agreement that costs needed to be reduced to improve profitability. In relation to this the board decided that employees in production should be empowered more, and should be given some authority to take decisions affecting production operations.

Required:

a) **Examine the whole life cycle of the digital radio and comment on the suggested price by the CEO and the comment of the Financial Director.** (6 Marks)

b) **Using the target costing approach assess whether there will be any cost gap that may exist based on the price suggested by the Marketing Director.** (11 Marks)

c) **Discuss why it will be important for Mapesa Company to monitor non-financial aspects of the performance as well as financial performance.** (8 Marks)

(Total 25 Marks)

QUESTION FOUR

Bima insurance company is one of the several insurance companies which offer insurance policies covering general risks relating to individuals and families. Cost efficiency is a major factor in the success of the companies in this industry, because competition within the industry is stiff. Over the last five years the company has seen the volume of the business increase but profits have declined due to declining margins.

The company has begun to computerise some of the processes but most of the processes which involve communication with customers are still paper based. Responses to telephone enquiries from customers involve paper-based communications, both with the enquirers and internally within Bima. Staff have to physically visit the home and possessions of potential customers so as to sell insurance policies. These transactions are paper based and the process is often slow and has led to complaints from both customers and sales staff.

Bima insurance company has also been receiving a regular and increasing number of complaints from the current and potential customers about the errors in the paperwork they receive.

The board of Directors of Bima has announced that there is need for a business re-engineering program to be conducted with the intention of modernising the business, and has asked the management accountant to help with the planning and implementation of the program. The main intention is to streamline the business model and increase the profitability of the company.

Bima currently owns a land parcel which is unused and the Chief Finance Officer (CFO) is proposing two project opportunities. The first is a restaurant and the second is a sports facility. The projected cash flow of the restaurant is an initial cost of Rwf 15 million with cashflows over the next six years of Rwf 2m (year 1), Rwf 2.5m (year 2), Rwf 3m (year3-5) and Rwf 17.5m in year 6 when they sell the restaurant. The sport facility has the following cash flow: initial cost of Rwf 24m with cash flow over the next three years of Rwf 4m each year and Rwf 30m in year 4 when they sell the facility. The appropriate discounting rate for restaurant is 11% p.a and sports facility is 13% p.a.

Fred is an employee in Bima insurance in the accounts department and one day as he was working late in the evening, as he was going out of the office, he overheard the following discussion:

"CEO: I am deeply concerned that if the fall in profit figures is disclosed in the next annual report, there will be all sorts of problems with the shareholders. we may even loose a number of big investors.

Non-executive director (also a cousin to CEO) : Well, I suppose we could always find a way of making them look better.

CEO: How? I can't see it at all

Non-executive director: well, we could make them slightly higher than last year's figures by including the proceeds of the sale of our medical insurance division.

CEO: But sale doesn't go through until March.

Non-executive director: No, but it will…. I don't see why… it's just a matter of manipulation of timing rather than numbers.

CEO: Ok. That's sounds good to me. Let's sort it out now"

Fred left work and spent the evening worrying about what he should do. He decided he would anonymously ask the company secretary how he could deal with this situation. The company secretary receives the report from the employee about the overheard conversation and decides to write a report to the Board members.

Required:

a) **Critically assess the CFO's proposal and advice which investment Bima should undertake in maximising the annual profitability.** (6 Marks)

b) **Discuss the improvements the Board of Directors might expect from introducing Business Process Re-engineering (BPR) in Bima insurance company's business model.** (10 Marks)

c) **In regard to the report of the company secretary write a brief summary to the board members of the corporate governance problems and the weaknesses of the company's corporate governance.** (9 Marks)

(Total 25 Marks)