INSTITUTE OF CERTIFIED PUBLIC ACCOUNTANTS OF RWANDA
Driving Sustainable Performance

Associate of IFAC

CERTIFIED PUBLIC ACCOUNTANT

ADVANCED LEVEL 2 EXAMINATIONS

A2.2: STRATEGIC PERFORMANCE MANAGEMENT

FRIDAY: 4 DECEMBER 2015

INSTRUCTIONS:

1. **Time Allowed: 3 hours 45 minutes** (15 minutes reading and 3 hours 30 minutes writing).
2. This examination has one case study
3. Show all your workings

CASE STUDY

M&M Associates (MMA), a firm of certified public accountants based in Kigali, offers both auditing and other assurance services. MMA has business development department which carries out advisory services in areas of accounting and business development.

You were appointed as the head of the business development department at MMA effective 1 November 2015. The managing partner, CPA Jean Mabati, has informed you that your office has urgent unfinished assignments from five clients. She has instructed you to immediately work on those files and forward your results to her as soon as possible. Below are the details and requirements of the five clients:

File 1: Kivu Dairies Ltd (KDL)

KDL was incorporated in 2005 to specifically produce yoghurt and pasteurized milk. KDL's reporting date is 31 December. Since its incorporation, the Board of Directors has never been satisfied with the KDL's cost and management accounting systems. The current budgeting system does not show expected profits from each product. It was resolved that a Management Accountant be recruited. However, KDL's budgeting policy requires a new year's budget to be approved by 15 December of the current year. Thus the Board requested the Chief Executive Officer (CEO) to contract competent professionals to prepare the budget for the year ending 31 December 2016.

The CEO contacted MMA in writing on 1 October 2015 to prepare KDL's budget for 2016. CPA Mabati accepted the offer and responded in writing to KDL on 5 October 2015.KDL also provided the following information;

Annually, KDL produces and sells 250,000 litres of yoghurt at Frw 700 per litre and 100,000 litres of pasteurised milk at Frw 425 per litre. KDL expects to have unsold products at 31 December 2015 and 2016 as follows:

	2015	**2016**
Product	(Litres)	(Litres)
Yoghurt	10,500	9,500
Pasteurized milk	5,000	6,000

KDL's materials purchasing policy is based on the just in time philosophy to avoid its limited resources being locked up in inventory. Raw milk as the primary raw material is bought directly from farmers at Frw 250 per litre and packing material costs Frw 62.5 per litre. Unsold products at the end of year are valued at unit cost of production. Cost of production per litre is expected to be Frw 500 for yoghurt and Frw 340 for pasteurized milk as at 31 December 2015.

KDL uses sugar worth Frw 35.75, flavor worth Frw 25.6 and starter culture worth Frw 32.5 to produce a litre of yoghurt.

Direct labour costs Frw 5,000 per machine hour. KDL uses 6 hours to produce 1,000 litres of yoghurt and 4 hours to produce 1,000 litres of pasteurized milk.

KDL expects production overheads to be Frw 20.5 Million; administrative overheads to be Frw 15.65 Million; selling and distribution overheads to be Frw 17.375 Million. The distribution division expects to make 15 trips for yoghurt and 5 trips for pasteurised milk per month. KDL uses activity based costing system to allocate overheads to products as follows;

Overhead	Cost driver
Production	Machine hours
Administrative	Production volume
Selling and distribution	Number of distribution trips

REQUIRED:

(a) Compute the annual budgeted profit or loss per litre for each product. **(20 Marks)**

(b) Advise KDL's management on what actions to take basing on the results in (a) above. **(5 Marks)**

File 2: Byarema Property Consultants (BPC)

BPC deals in real estates and targets corporate entities. BPC constructs and sells buildings for factory, residential and warehousing purposes. National Institute of Statistics of Rwanda (NISR) has forecasted stiff economic conditions in 2016 in the construction sector. Construction materials are expected to be scarce and their prices will hike tremendously. BPC management have contracted their business advisors, M&M Associates, to produce for them an optimal operating position for 2016 that maximizes contribution. The following information relating to the year ending 30 November 2015 has been provided by BPC;

	Type of building		
	Factory	**Residential**	**Warehouses**
Demand (number of buildings)	80	160	40
	Frw '000'	Frw '000'	Frw '000'
Selling price per building	60,000	20,000	45,000
Prime construction cost per building			
Cement	20,625	8,250	14,850
Roofing sheets	12,500	2,500	10,000
Labour	9,937.5	3,225	7,305
Fixed overheads	5,500	5,500	5,500

A bag of cement costs Frw 8,250; a standard roofing sheet costs Frw 10,000 and the labour rate is Frw 2,500 per hour.

BPC management anticipates a maximum demand of 40 warehouses in 2016. The rest of the information is estimated to remain as per the standard cost card. Due to scarce resources of skilled labour hours, management anticipates to have a maximum capacity of 600,000 labour hours. There are 320,000 bags of cement and 200,000 roofing sheets available.

Hint, **Let:**

1. X_1, X_2 and X_3 represent factory, residential and warehouse buildings respectively.
2. X_4, X_5, X_6 and X_7 represent slack variables for cement, roofing sheets, labour and demand for warehouses respectively.

REQUIRED:

(a) With help of linear programming approach:

(i) Formulate a linear programming model. **(6 Marks)**

(ii) Formulate an initial simplex tableaux. **(4 Marks)**

(iii) Interpret the final simplex tableaux given below:

Solution variables	Buildings			Slack Variables				Solution Quantity
	X_1	X_2	X_3	X_4	X_5	X_6	X_7	
X_1	1	$^{2}/_{5}$	0	$^{1}/_{2,500}$	0	0	$^{-18}/_{25}$	99.2
X_5	0	-250	0	$^{-1}/_{2}$	1	0	-100	36,000
X_6	0	-300	0	$^{-159}/_{100}$	0	1	-60	88,800
X_3	0	0	1	0	0	0	1	40
Z	0	-750	0	$^{-271}/_{40}$	0	0	-650	-2,194,000

(5 Marks)

(b) Explain other approaches BPC would use to establish its optimum operating capacity. **(5 Marks)**

File 3: Kitel Rwanda Ltd (KRL)

KRL is a private owned company located in Kigali, with a reporting date of 30 September. KRL is a fast growing telecommunications company in the East African Community. KRL owns two subsidiaries, Kitel Uganda Limited (KUL) in Uganda and Kitel Kenya Limited (KKL) in Kenya. KRL is headed by a Managing Director and the subsidiaries are headed by General Managers.

KRL is overwhelmed by the rapid growth of KUL and KKL. The Managing Director has proposed to the Board of Directors, a bonus scheme which will make the general managers more innovative to maintain this level of growth. The proposed bonus scheme involves giving the general manager who has performed above the budgeted sales, an annual bonus equivalent to three (3) months' salary. Board members unanimously rejected the proposal because it was going to discourage general managers to work hard and concentrate on realizing the sales budgets.

Board members suggested that the General Manager's performance should be measured using either return on investment (ROI) or residual income (RI). This bonus scheme requires the General Manager to attain ROI or RI above that set by KRL as targets. When managerial ROI exceeds the target, the annual bonus will be equivalent to 10% of the subsidiary's net profit and when managerial RI exceeds the target, the annual bonus will be equivalent to 10% of the excess.

Board members also resolved to seek an independent opinion from MMA in regard to the three alternatives of bonus scheme. The Managing Director provided the following accounting information relating to the financial year ended 30 September 2015 to MMA;

Particulars	**KUL**	**KKL**
	Frw '000'	**Frw '000'**
Sales	712,500	850,000
Airtime purchase costs	235,000	287,000
Direct labour costs	105,500	136,500
Satellite and towers hiring costs	90,000	96,000
Other variable costs	40,000	65,000
Depreciation	105,000	86,000
Operating costs	112,300	131,200
Net profit	24,700	48,300

The investments of KUL and KKL are Frw 715,000,000 and Frw 685,000,000 respectively. The General Manager earns a monthly gross salary of Frw 5,000,000. KUL budgeted to generate sales of Frw 700,000,000 and KKL budgeted sales of Frw 800,000,000 for the year ending 30 September 2015. Operating costs for subsidiaries constitute 30% of KRL's administration expenditure. KRL has the authority to acquire fixed assets for all subsidiaries. KRL's target return on investment (ROI) is 25% and residual income (RI) is Frw 20,000,000. KRL's cost of capital is 20%.

REQUIRED:

(a) Advise KRL's Board of Directors on the best bonus scheme among the three alternatives (Justify your answer). **(16 Marks)**

(b) Comment, with reasons, on the Board's decision to reject the Managing Director's proposed bonus scheme. **(4 Marks)**

File 4: Karekezi Bus Company Limited (KBCL)

KBCL is a Rwandan based transport company operating within the East African Community and the neighboring countries. KBCL wishes to purchase either Model 2010 or Model 2015 of the classic buses. Model 2015 has a high fixed cost and low unit marginal cost while Model 2010 has low fixed costs and high unit marginal cost. Consequently Model 2015 is suited to high level demand whereas Model 2010 is suited to low level demand with estimated probabilities of 0.5 each respectively. Below are the estimated costs for each demand level;

Model	Profits from Low demand	Profits from High demand
	Frw'000'	Frw'000'
2010	200,000	320,000
2015	20,000	400,000

There is a possibility that M&M Associates can provide a perfect estimate of demand levels.

REQUIRED:

(a) With relevant explanations, advise KBC on the bus model to purchase using any of the following decision rules:

	Expected value.	**(7 Marks)**
	Maximin.	**(4 Marks)**
	Maximax.	**(4 Marks)**

(b) Compute the maximum amount to be paid to M&M Associates for providing perfect estimate of the demand levels. **(5 Marks)**

File 5: Kigali Orphans Center (KOC)

KOC is a non-government organization (NGO) that looks after orphans and other vulnerable children. KOC runs a number of projects funded by both European countries and the United States. The Executive Director of KOC, Mr. Jerome Twagirayesu, attended an international summit in Germany with the theme: "developing a sustainable non-profit making organization". The keynote speaker emphasised that NGOs' services are needed more than ever before whereas the donor funds are reducing day by day which requires immediate attention.

Facilitators of the summit advised NGOs to change their strategies, missions and objectives to suit the current world of scarce resources. Facilitators told participants to benchmark those NGOs that have started to establish local income generating projects to avoid overreliance on donor funds. Heads of NGOs were also reminded to minimize costs as low as possible by employing just in time (JIT) systems to ensure efficient service delivery.

When the Executive Director returned home he resolved that KOC should have strategies, mission and objectives in place. He set in motion ideas on how to apply benchmarking and JIT systems in the running of the organization activities. He has approached you for advice about these issues.

REQUIRED:

Write a report to the Executive Director of KOC explaining:

(a) The application of benchmarking and JIT system in NGOs. **(15 Marks)**

(Total 100 Marks)

End of question paper

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