CERTIFIED PUBLIC ACCOUNTANT

INTERMEDIATE LEVEL EXAMINATIONS

I1.1: MANAGERIAL FINANCE

DATE: THURSDAY, 26 AUGUST 2021

INSTRUCTIONS:

1. **Time Allowed: 3 hours 15 minutes** (15 minutes reading and 3 hours writing).
2. This examination has **two** sections**; A & B.**
3. Section A has **three** Compulsory Questions while B has three questions of which **two** Should be attempted.
4. In summary attempt **Five** 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

(a) Duterimbere Investment Company Ltd (DIC Ltd) is considering whether to purchase a piece of land close to Kigali International Airport. The land will be used to provide 600 car parking spaces. The cost of the land is Frw 60,000,000 but further expenditure of Frw 20,000,000 will be required immediately to develop the land to provide access roads and suitable surfacing for car parking. DIC Ltd is planning to operate the car park for five years after which the land will be sold for Frw 100,000,000 at Year 5 prices. A consultant has prepared a report detailing projected revenues and costs.

Revenues

It is estimated that the car park will operate at 75% capacity during each year of the project. Car parking charges will depend on the prices being charged by competitors. There is a 40% chance that the price will be Frw 6,000 per week, a 25% chance the price will be Frw 5,000 per week and a 35% chance the price will be Frw 7,000 per week.

DIC Ltd expects that it will earn a contribution to sales ratio of 80%.

Fixed operating costs

DIC Ltd will lease a number of vehicles to be used to transport passengers to and from the airport. It is expected that the lease costs will be Frw 5,000,000 per annum. Staff costs are estimated to be Frw 35,000,000 per annum. The company will hire a security system at a cost of Frw 10,000,000 per annum.

Inflation

All of the values above, other than the amount for the sale of the land at the end of the five-year period, have been expressed in terms of current prices. The vehicle leasing costs of Frw 5,000,000 per annum will apply throughout the five years and are not subject to inflation.

Car parking charges and variable costs are expected to increase at a rate of 5% per annum starting in Year 1.

All fixed operating costs excluding the vehicle leasing costs are expected to increase at a rate of 4% per annum starting in Year 1.

Other information

The company uses net present value based on the expected values of cash flow when evaluating projects of this type.DIC Ltd's cost of capital is 8% per annum. . DIC Ltd 's financial director has provided the following taxation information:

- Tax depreciation is not available on either the initial cost of the land or the development costs.

- Taxation rate: 30% of taxable profits. Half of the tax is payable in the year in which it arises, the balance is payable in the following year. All cash flows apart from the initial investment of Frw 80,000,000 should be assumed to occur at the end of the year.

Required:

Evaluate the project from a financial perspective. You should use Net Present Value as the basis of your evaluation and show your workings. (14 Marks)

(b) Kagitumba Manufacturing Ltd (KM Ltd) is interested in measuring its overall cost of capital. The firm is in the 40% tax bracket. Current investigation has gathered the following data:

Debt

The firm can raise debt by selling Frw1,000-par-value, 10% coupon interest rate, 10-year bonds on which *annual interest* payments will be made. To sell the issue, an average discount of Frw30 per bond must be given. The firm must also pay flotation costs of Frw20 per bond.

Preferred stock

The firm can sell 11% (annual dividend) preferred stock at its Frw100-per-share par value. The cost of issuing and selling the preferred stock is expected to be Frw4 per share.

Common stock

The firm's common stock is currently selling for Frw80 per share. The firm expects to pay cash dividends of Frw6 per share next year. The firm's dividends have been growing at an annual rate of 6%, and this rate is expected to continue in the future. The stock will have to be underpriced by Frw4 per share, and flotation costs are expected to amount to Frw4 per share.

Required:

i. **Calculate the individual cost of each source of financing. (Round to the nearest 0.1%.)** (7 Marks)
ii. **Calculate the firm's weighted average cost of capital using the weights shown in the following table, which are based on the firm's target capital structure proportions. (Round to the nearest 0.1%.)** (4 Marks)

Source of capital	**Weight**
Long-term debt	40%
Preferred stock	15%
Common stock equity	45%
Total	**100%**

(Total: 25 Marks)

QUESTION TWO

(a) Working capital management is essentially an accounting strategy with a focus on the maintenance of a sufficient balance between a company's current assets and liabilities. An effective working capital management system helps businesses not only cover their financial obligations but also boost their earnings.

Required:

Examine Five factors which determine a firm's working capital needs. (5 Marks)

(b) Consider the following financial statements for Nyarugunga Company Ltd for the year ended 31 December 2020, a Kigali based company producing and selling consumables. The statement of financial position is accompanied by a comparative statement as at 31 December 2019:

Nyarugunga Company Ltd's Statement of Comprehensive Income for the year ended 31 December 2020:

Particulars	**2020 (Frw 'million')**
Sales	4,053
Cost goods sold	2,780
Depreciation	550
Earnings before interest and taxes	**723**
Interest paid	502
Taxable income	**221**
Taxes (30%)	66
Net income	**155**

Nyarugunga Company Ltd's

Statement of Financial Position as at 31 December 2020:

	2020 (Frw 'million')	**2019 (Frw 'million')**
Assets		
Non-Current Assets		
Net plant and equipment	6,527	6,085
Current Assets		
Cash	215	210
Accounts receivable	310	355
Inventory	328	507
Total Current assets	**853**	**1,072**
Total assets	**7,380**	**7,157**
Liabilities and Owners' Equity		
Owners' equity		
Common stock and paid-in surplus	1,000	1,000

Retained earnings	2,347	2,248
Total Owners' equity	**3,347**	**3,248**
Long-term debt	2,308	1,987
Current liabilities		
Accounts payable	298	207
Notes payable	1,427	1,715
Total Current liabilities	**1,725**	**1,922**
Total liabilities and owners' equity	**7,380**	**7,157**

Additional Information:

- Assume 365 days in a year.

Required:

i. **Calculate the changes from 2019 to 2020 in the following items in the statement of financial position and identify the change as either a source or use of cash:**
   a. **Accounts receivable.** (1 Mark)
   b. **Inventory.** (1 Mark)
   c. **Net plant and equipment.** (1 Mark)
   d. **Notes payable.** (1 Mark)
   e. **Long-term debt.** (1 Mark)

ii. Based on the information presented in the statement of comprehensive income for the year ended 31 December 2020 and the statement of financial performance as at 31 December 2020, calculate the following ratios for 2020:
   a. **Current ratio**. (1 Mark)
   b. **Cash ratio.** (1 Mark)
   c. **Inventory turnover.** (1 Mark)
   d. **Days' sales in receivables.** (1 Mark)
   e. **Cash coverage ratio.** (1 Mark)

iii. **Calculate the 2020 Return on Equity (ROE) for Nyarugunga Company Ltd and then break down your answer into its component parts using the Du Pont identity.** (5 Marks)

(Total: 20 Marks)

QUESTION THREE

ISUME Ltd is a start-up company located in Special Economic Zone in Kigali. The company specializes in the manufacture of innovative eco-friendly sanitary pads. Analysts across Africa have predicted that ISUME Ltd's business model is likely to be the future of sustainable sanitary pads. The company's investment committee has recently advised that the company considers listing on the Rwanda Stock Exchange (RSE) in order to attract affordable finance from the public. However, the company's Chief Investment Officer has instead advised that it is still too early to list the company. She advised that the company should first source funding through venture capitalists at this stage as this route has less regulatory scrutiny.

The Chief Executive Officer of ISUME Ltd, Mrs. Irakaza, is a University of Rwanda graduate in technology and has little experience in finance. During the recent senior management meeting, it was advised that the office of the Chief Investment Officer should advise Mrs. Irakaza on sources of finance.

Required:

You are an Investment Analyst in ISUME Ltd and the Chief Investment Officer has requested to prepare briefing notes to Mrs. Irakaza highlighting the following:

a) **Explain two types of share capital clearly indicating two advantages of each.** (6 Marks)

b) **Examine the following aspects relating to Venture Capital:**

i. **Five stages of investment by a venture capitalist.** (5 Marks)

ii. **Four risks associated with venture capital financing.** (4 Marks)

(Total: 15 Marks)

SECTION B

QUESTION FOUR

Gashumba Ltd is a Kayonza-based company dealing in the production and sale of fresh flowers. The company has recently published its financial statements for the year ended 31 December 2020. During the recent Annual General Meeting held in EPIC Hotel Nyagatare, shareholders agreed in an ordinary resolution to a dividend pay out to its shareholders. However, the Managing Director is a University of Rwanda master's degree holder in agriculture and has little experience in finance.

Required:

You are the company's Financial Analyst and the Managing Director of Gashumba Ltd has requested you to prepare a report examining the following:

a) **Practical considerations which Gashumba Ltd must take into account in setting its particular dividend policy.** (8 Marks)
b) **The concept of Dividend-Irrelevance Theory that is sometimes used in determining dividend policies and outline its limitations.** (7 Marks)
c) **Factors affecting dividend payouts.** (5 Marks)

(Total: 20 Marks)

QUESTION FIVE

(a) As the newly appointed financial manager of Terimbere Industries, you are about to analyze a proposal for mining and selling a small deposit of iron ore. You are given the forecasts shown in the table below:

Year:	**0**	**1**	**2**	**3**	**4**	**5**	**6**
Capital investment	10,000						
Working capital	1,500	4,075	4,279	4,493	4,717	3,039	-
Change in working capital	1,500	2,575	204	214	225	(1,678)	(3,039)
Revenues		15,000	15,750	16,538	17,364	18,233	
Expenses		10,000	10,500	11,025	11,576	12,155	
Depreciation of mining equipment		2,000	2,000	2,000	2,000	2,000	
Pretax profit	-	3,000	3,250	3,513	3,788	4,078	
Tax (30%)	-	900	975	1,054	1,136	1,223	
Profit after tax	**-**	**2,100**	**2,275**	**2,459**	**2,652**	**2,855**	

Consider the following **additional information**:

- All amounts are Frw '000'
- The project requires an investment of Frw 10 million in mining machinery. At the end of 5 years the machinery has no further value.
- The company applies straight-line depreciation to the mining equipment over 5 years.
- Assume that investors expect a return of 12% per annum from investments in the capital market with the same risk as the iron ore project.

Required:

Using the information provided in the table and additional information, calculate the:

i. **Project cash flows.** (3.5 Marks)

ii. **Project present values** (3.5 Marks)

(b) Discuss THREE advantages and TWO disadvantages of using Discounted Cash Flow (DCF) analysis to making investment decisions (5 Marks)

(c) Ganza Ltd is a public limited company established in 1998 in Kigali. The company's financial statements for subsequent years indicate that the company performed well financially until it came to light in 2018 that Ganza Ltd's financial statements were complex and confusing to shareholders and analysts. In addition, it was discovered that the directors of the company were involved in unethical practices, which they covered by misrepresenting earnings and modifying the balance sheet to indicate favorable performance. Further, some speculative business ventures proved disastrous. Eventually, the combination of these issues later resulted in the bankruptcy of Ganza Ltd and its directors were sued in courts of law for squandering shareholder's funds. Ganza Ltd's story unveils agency principal problem often referred to as the Agency Theory.

Required:

i. **Discuss Four reasons why actions of the managers are in conflict with the interest of shareholders** (4 Marks)

ii. **Recommend Four solutions to shareholders and management conflict of interest.** (4 Marks)

(Total: 20 Marks)

QUESTION SIX

(a) You are a financial analyst for your company, Shora Wunguke Ltd. You have been asked for your advice in selecting a portfolio of assets by your supervisor and have been given the following data about three assets A, B, and C:

	Expected Return		
Year	**Asset A**	**Asset B**	**Asset C**
2018	12%	16%	12%
2019	14%	14%	14%
2020	16%	12%	16%

Additional Information:

You have been told that you can create two portfolios—one consisting of assets A and B and the other consisting of assets A and C—by investing equal proportions (50%) in each of the two component assets.

Required:

Using the information provided about the three assets as well as additional information:

i. **Calculate the expected return for each asset over the 3-year period**. (4 Marks)

ii. **Compute the expected return for each of the two portfolios for the 3-year period.** (5 Marks)

iii. **How would you characterize the correlations of returns of the two assets making up each of the two portfolios identified in part (i)?** **(**2 Marks)

iv. **Compute the standard deviation for each portfolio** (2 Marks)

v. **Which portfolio do you recommend and why?** (2 Marks)

(b) With respect to portfolio diversification, explain the following:

i. **Non-diversifiable risk** (2 Marks)

ii. **Unsystematic risk** (2 Marks)

iii. **What is the primary importance in selecting assets with the most desired risk–return characteristics?** (1 Marks)

(Total: 20 Marks)

End of question paper