CERTIFIED PUBLIC ACCOUNTANT

INTERMEDIATE LEVEL EXAMINATIONS

I1.1: MANAGERIAL FINANCE

DATE: TURSDAY 29, FEBRUARY 2024

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.
7. The question paper should not be taken out of the examination room.

SECTION A

QUESTION ONE

(a) Alpha Limited is a company operating in kivu district dealing with motor vehicle assembly and other motor vehicle spare parts. The Managing Director of the company during the Annual General Meeting suggested that the current procurement policy of procuring stock in advance is no longer profitable to the company which according to him (Managing Director) the firm is paying for a cost that can be done away with. Currently the firm has been using economic order quantity model of inventory management which the Procurement Manager is confident that it is the best policy. The Finance Manager has differed with his counterpart and according to him Just In Time (JIT) model should be adopted.

Required:

Explain five advantages that Alpha Limited would enjoy if they adopt the new policy of Just In Time model. (5 Marks)

(b) Phonex Limited is planning to change its current stock management policy. The management currently orders 200,000 units of electrical appliance when their reorder level hits 70,000 units. The company's forecasted annual usage of stock valued FRW 1,250,000,000. The cost of placing an order is FRW 500 and carrying cost of 10% of purchase price. The purchase price is FRW 1,000. The company's lead time is 14 days and operation of the firm is evenly for 52 weeks a year.

Required:

(i)   **Determine the optimal stock level.** (3 Marks)
(ii) **Calculate the relevant cost.** (2 Marks)

(c) Bokasa Limited operates in the Northern province dealing in merchandised products and has been concerned with the current operation of business. The Finance Manager has requested his Accountant to examine the financial data of business because he feels that they are overtrading and has provided the following comparative financial statements of the firm **Bokasa Limited statement of financial position as at 30th December.**

	2022 FRW	**2023 FRW**
Noncurrent asset	140,000	154,000
Inventory	80,000	112,000
Account receivable	40,000	56,000
Cash in hand	12,000	15,000
Total assets	**272,000**	**337,000**
Equity and liabilities		
Equity		
Ordinary shares capital	97,000	97,000
Retain profits	9,520	11,660
Long term liabilities		
10% bank loan	19,840	9,840
Current liabilities		
Account payable	125480	186340

Taxation	6000	8000
Bank overdraft	14160	24160
Total equity and liabilities	**272000**	**337000**

Bakosa Limited comparative income statement for the year ended 31ˢᵗ December

	2022 FRW	2023 FRW
Sales	400,000	500,000
Cost of Sales	300,000	375,000
Gross profit	100,000	125,000
Operating cost	40,000	50,000
Operating profit	60,000	75,000
Loan interest	1,984	984
Corporate tax	5,734	7,026
Profit after tax	52,282	66,990
Dividend paid	42,762	55,330

The firm operates 360 days a year.

Required:

Compute the following ratios
(i)   Current ratio.   (2 Marks)
(ii) Quick ratio.   (1 Mark)
(iii) Debtors' collection period in days.   (1 Mark)
(iv) Inventory days.   (1 Mark)
(v)   Asset turnover ratio.   (2 Marks)
(vi) Comment if the company is overtrading basing on liquidity ratio, turnover ratio and efficiency ratio computed above   (3 Marks)
                                                                        (Total: 20 Marks)

QUESTION TWO

(a) Working capital management is a key factor in an organization's long-term success plan. A business must have a clear policy for the management of each component of working capital. Working capital management is one of the direct responsibilities of the finance managers.

Required:

(i) Briefly discuss three reasons why finance managers should understand the Importance of working capital management in the business. (3 Marks)

(ii) Briefly discuss three types of working capital funding policies. (6 Marks)

(b) Gahunda Investment Ltd (GIL) is a company located in Kigali investment center and its management are interested in holding optimum cash balances during the upcoming period. GIL faces a fixed cost of FRW 5,000 to obtain new funds. There is a requirement for FRW 12,000,000 of cash over each period of one year for the foreseeable future. The annual interest cost of new funds is 15% per annum. The interest rate earned on short term securities is 10% per annum.

Required:

(i) Calculate the optimum cash balance to be raised by the management of Gahunda Investment Ltd? (3 Marks)

(ii) Determine the number of transactions that will arise each year (1 Mark)

(iii) Compute the cost of making those transactions per annum (2 Marks)

(iv) Calculate the opportunity Cost of holding cash per annum (2 Marks)

(c) A minimum cash balance of FRW 200,000 is required at Gahunda Investment Ltd and transferring money to or from the bank costs is FRW 500 per transaction. The Finance Manager performs the inspection of daily cashflow movement over the past few years, and suggests that the standard deviation of cash flows will be FRW 30,000 per day. The interest rate is 0.03% per day.

Required:

By using Miller-Orr Model of cash management, **formulate a decision rule for Gahunda Investment Ltd by showing the following:**

(i) The spread between the upper and lower limits. (4 Marks)

(ii) Upper limit. (2 Marks)

(iii) Return Point. (2 Marks)

(Total: 25 Marks)

QUESTION THREE

(a) Tujyanemwo Partners Ltd is a company incorporated in Rwanda under Rwanda Development Board. The company should be Corporate Socially Responsible in accordance with Rwandan regulatory authority by acting as a good corporate citizen.

Required:

As a CPA Candidate, **advise the Management of Tujyanemwo Partners Ltd on the benefit of acting as a good citizen.** (3 Marks)

(b) Tujyanemwo Partners Ltd is engaged in providing different services including, but not limited to, foreign exchange services, brokerage and commission services, and investment advisory among others.

Required:

Briefly discuss how the government can influence financial institutions like Tujyanemwo Partners Ltd. (3 Marks)

(c) Tujyanemwo Partners Ltd is considering two investments, A and B, each project has the following Expected return and chances of getting that return. Each project lasts for one year, and the project returns will depend on next year's state of the economy.

The estimated rates of return are shown below:

State of the economy	Probability of Occurrence	Rate of return for Project A	Rate of return for Project B
Recession	0.25	10%	9%
Average	0.5	14%	13%
Boom	0.25	16%	18/%

Required:

(i) **Find each project expected rate of return and the standard deviation for each project.** (2 Marks)
(ii) **Compute the expected return on a portfolio if the firm invests equal wealth on each Project.** (1 Mark)
(iii) **Compute the covariance and correlation coefficient between the two projects A and B.** (4 Marks)
(iv) **Compute the standard deviation of the portfolio.** (2 Marks)

(Total: 15 Marks)

SECTION B

QUESTION FOUR

(a) Duterimbere Investment Limited (DIL) is a firm established to undertake investment in other company's shares. Its base is in the City of Kigali and specializes in buying and selling securities at a profit. The firm expects with some degree of certainty to generate the following net income and capital expenditures during the next 5 years.

Years	Earnings after tax	Investment capital outlay
	FRW Million	FRW Million
1	20	10
2	12	12
3	18	20
4	25	20
5	23	15

The firm has 1,0000,000 issued and fully paid ordinary shares of FRW 1,000 nominal value and distribute its earnings of FRW 10 per share.

During the year end meeting, the directors declared dividends for the year but not sure if the current policy will be attractive to potential investors.

Required:

Compute the dividend per share and external borrowings under each of the following policies:
(i) Residual policy. (2.5 Marks)
(ii) Constant amount policy for year 1 and 2 only. (2.5 Marks)
(iii) Constant payout ratio of 50% for year 3 and 4 only. (2.5 Marks)
(iv) Under which policy under are aggregate dividends maximized and external borrowings minimized (2 Marks)

Isume Limited is a firm located in Kigali and offers consultancy service to many companies in the country. One of the professional services is valuation of companies, financial consultancy, and auditing and tax consultancy among others. One of its clients is Rolling Mills of Kigali which deals in iron sheet manufacturing and wishes to acquire a competitor firm located in the city

The firm wanted to know their worth Chief Executive Officer of Isume Limited has been using Gordon dividend model to value companies, the client has not agreed with CEO on the model to use and he prefers to use Walter's model to determine its worth. The CEO has approached you for more clarification on the model.

Required:

b) Explain the meaning of Walters Valuation Model. (2.5 Marks)
c) Discuss with the CEO three assumptions that are applied by the model. (6 Marks)

d) List four critics of the model. (2 Marks)
(Total: 20 Marks)

QUESTION FIVE

You are an investment analyst at GS partners Ltd. During last meeting of senior management team held last month, the Chief Executive Officer raised issues on capital structure of the company and suggested that the optimum capital structure exists where the company's cost of capital is minimized for any mix of finance in capital structure.

Your managers have asked you to do a presentation during management team meeting scheduled for the next three weeks. Your presentation will be focus on how company can achieve on the optimum capital structure.

Required:

Present the content by answering the following question:
a)   **Briefly explain five factors affecting the capital structure of the company.** (5 Marks)

b)   **Briefly explain the below capital structure theories:**
(i)   **The traditional view Theory** (2 Marks)
(ii) **The net income approaches** (2 Marks)
(iii) **Net operating income approach** (2 Marks)
(iv) **Miller and Modigliani theory after tax** (2 Marks)

c)   **Describe the following trends:**
(i)   **Crypto currency.** (2 Marks)
(ii) **Fintech.** (2 Marks)

d)   **Define the following terms:**
(i)   **Altman's Z-Scores.** (2 Marks)
(ii) **Corporate Raider.** (1 Mark)
(Total: 20 Marks)

QUESTION SIX

Kamo Ltd is a family-owned business based in Kamonyi District. The company deals in manufacturing of wine from bananas and has been in operation since 2015. The company has applied for listing on Rwanda Stock Exchange. One of the requirements to list on the stock exchange is to have a wide range of shareholders. For the Initial public offering (IPO) to be successful, a realistic and fair price must be used to issue shares to the public. Since the company was unlisted, the share price is not known.

You have been identified as an expert in investment analysis to help them to identify the share price and you have been provided with financial statements of the company for the most recent year.

Statement of financial position as at 31 December 2023

	FRW (000)
Non-current asset	
Property, Plant, and equipment	250,000
Motor-vehicles	120,000
Goodwill	30,000
	400,000
Current asset	
Inventory	50,000
Receivables	30,000
Bank	20,000
	100,000
Total asset	**500,000**
Equity and liability	
Share capital @ FRW 300	400,000
Reserves	50,000
	450,000
Noncurrent liabilities	
10% Debentures	**40,000**
Current liabilities	
Payables	10,000
Total equity and liabilities	**500,000**

Statement of profit or loss for year ended at 31 December 2023

	FRW (000)
Sales revenue	250,000
Gross profit	180,000
Operating expenses	50,000
Interest	30,000
Profit before tax	100,000

Tax (30%)	30,000
Profit after tax	70,000
Dividend	26,235

The finance director of Kamo Ltd has advised management that they need to hire an actuary or valuer to revalue the assets of the company before determination of its value. The valuer provided the following information:

1. The company has 10,000 shares in issue.
2. Property, plant, and equipment revalued to FRW 300 million.
3. Motor vehicles are revalued to FWR 100 million.
4. The valuer failed to determine the market value of Goodwill because it was internal generated.
5. Among receivables, there is a client who owed to the company FRW 5 million declared bankrupt.
6. The dividends have grown from FRW 15 million in 2019 to FRW 26.235 million in 2023 and the growth rate is expected to remain the same even in the future.
7. The appropriate Price Earnings ratio of similar quoted companies is 12 but due to different risk profile have to be adjusted to 2/3
8. The company's cost of capital is 20%.

Required:

(a) **Calculate the growth in Dividend.** (2 Marks)

(b) **Determine the value per share of Kamo Ltd using the following methods:**

(i) **Asset based model.** (4 Marks)

(ii) **Dividend valuation model.** (3 Marks)

(iii) **Price earning (P/E) ratio** (3 Marks)

(c) When there is hostile takeover bid received from another company**, what are four defense tactics companies can use to ovoid that unwelcome take over?** (4 Marks)

(d) **Briefly discuss four key considerations in performing financial due diligence in making investment decisions like mergers and acquisitions.** (4 Marks)

(Total: 20 Marks)

End of question paper

Present value interest factor of FRW1 per period at i% for n periods, PVIF(i,n)

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909
2	0.980	0.961	0.943	0.925	0.907	0.890	0.873	0.857	0.842	0.826
3	0.971	0.942	0.915	0.889	0.864	0.840	0.816	0.794	0.772	0.751
4	0.961	0.924	0.888	0.855	0.823	0.792	0.763	0.735	0.708	0.683
5	0.951	0.906	0.863	0.822	0.784	0.747	0.713	0.681	0.650	0.621
6	0.942	0.888	0.837	0.790	0.746	0.705	0.666	0.630	0.596	0.564
7	0.933	0.871	0.813	0.760	0.711	0.665	0.623	0.583	0.547	0.513
8	0.923	0.853	0.789	0.731	0.677	0.627	0.582	0.540	0.502	0.467
9	0.914	0.837	0.766	0.703	0.645	0.592	0.544	0.500	0.460	0.424
10	0.905	0.820	0.744	0.676	0.614	0.558	0.508	0.463	0.422	0.386
11	0.896	0.804	0.722	0.650	0.585	0.527	0.475	0.429	0.388	0.350
12	0.887	0.788	0.701	0.625	0.557	0.497	0.444	0.397	0.356	0.319
13	0.879	0.773	0.681	0.601	0.530	0.469	0.415	0.368	0.326	0.290
14	0.870	0.758	0.661	0.577	0.505	0.442	0.388	0.340	0.299	0.263
15	0.861	0.743	0.642	0.555	0.481	0.417	0.362	0.315	0.275	0.239

Present value interest factor of FRW1 per period at i% for n periods, PVIF(i,n)

Period	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1	0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833
2	0.812	0.797	0.783	0.769	0.756	0.743	0.731	0.718	0.706	0.694
3	0.731	0.712	0.693	0.675	0.658	0.641	0.624	0.609	0.593	0.579
4	0.659	0.636	0.613	0.592	0.572	0.552	0.534	0.516	0.499	0.482
5	0.593	0.567	0.543	0.519	0.497	0.476	0.456	0.437	0.419	0.402
6	0.535	0.507	0.480	0.456	0.432	0.410	0.390	0.370	0.352	0.335
7	0.482	0.452	0.425	0.400	0.376	0.354	0.333	0.314	0.296	0.279
8	0.434	0.404	0.376	0.351	0.327	0.305	0.285	0.266	0.249	0.233
9	0.391	0.361	0.333	0.308	0.284	0.263	0.243	0.225	0.209	0.194
10	0.352	0.322	0.295	0.270	0.247	0.227	0.208	0.191	0.176	0.162
11	0.317	0.287	0.261	0.237	0.215	0.195	0.178	0.162	0.148	0.135
12	0.286	0.257	0.231	0.208	0.187	0.168	0.152	0.137	0.124	0.112
13	0.258	0.229	0.204	0.182	0.163	0.145	0.130	0.116	0.104	0.093
14	0.232	0.205	0.181	0.160	0.141	0.125	0.111	0.099	0.088	0.078
15	0.209	0.183	0.160	0.140	0.123	0.108	0.095	0.084	0.074	0.065

Present value interest factor of an (ordinary) annuity of FRW1 per period at i% for n periods, PVIFA(i,n).

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909
2	1.970	1.942	1.913	1.886	1.859	1.833	1.808	1.783	1.759	1.736
3	2.941	2.884	2.829	2.775	2.723	2.673	2.624	2.577	2.531	2.487
4	3.902	3.808	3.717	3.630	3.546	3.465	3.387	3.312	3.240	3.170
5	4.853	4.713	4.580	4.452	4.329	4.212	4.100	3.993	3.890	3.791
6	5.795	5.601	5.417	5.242	5.076	4.917	4.767	4.623	4.486	4.355
7	6.728	6.472	6.230	6.002	5.786	5.582	5.389	5.206	5.033	4.868
8	7.652	7.325	7.020	6.733	6.463	6.210	5.971	5.747	5.535	5.335
9	8.566	8.162	7.786	7.435	7.108	6.802	6.515	6.247	5.995	5.759
10	9.471	8.983	8.530	8.111	7.722	7.360	7.024	6.710	6.418	6.145
11	10.368	9.787	9.253	8.760	8.306	7.887	7.499	7.139	6.805	6.495
12	11.255	10.575	9.954	9.385	8.863	8.384	7.943	7.536	7.161	6.814
13	12.134	11.348	10.635	9.986	9.394	8.853	8.358	7.904	7.487	7.103
14	13.004	12.106	11.296	10.563	9.899	9.295	8.745	8.244	7.786	7.367
15	13.865	12.849	11.938	11.118	10.380	9.712	9.108	8.559	8.061	7.606

Present value interest factor of an (ordinary) annuity of FRW1 per period at i% for n periods, PVIFA(i,n).

Period	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1	0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833
2	1.713	1.690	1.668	1.647	1.626	1.605	1.585	1.566	1.547	1.528
3	2.444	2.402	2.361	2.322	2.283	2.246	2.210	2.174	2.140	2.106
4	3.102	3.037	2.974	2.914	2.855	2.798	2.743	2.690	2.639	2.589
5	3.696	3.605	3.517	3.433	3.352	3.274	3.199	3.127	3.058	2.991
6	4.231	4.111	3.998	3.889	3.784	3.685	3.589	3.498	3.410	3.326
7	4.712	4.564	4.423	4.288	4.160	4.039	3.922	3.812	3.706	3.605
8	5.146	4.968	4.799	4.639	4.487	4.344	4.207	4.078	3.954	3.837
9	5.537	5.328	5.132	4.946	4.772	4.607	4.451	4.303	4.163	4.031
10	5.889	5.650	5.426	5.216	5.019	4.833	4.659	4.494	4.339	4.192
11	6.207	5.938	5.687	5.453	5.234	5.029	4.836	4.656	4.486	4.327
12	6.492	6.194	5.918	5.660	5.421	5.197	4.988	4.793	4.611	4.439
13	6.750	6.424	6.122	5.842	5.583	5.342	5.118	4.910	4.715	4.533
14	6.982	6.628	6.302	6.002	5.724	5.468	5.229	5.008	4.802	4.611
15	7.191	6.811	6.462	6.142	5.847	5.575	5.324	5.092	4.876	4.675