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CERTIFIED PUBLIC ACCOUNTANT INTERMEDIATE LEVEL EXAMINATIONS

II.1: MANAGERIAL FINANCE

DATE: THURSDAY 29, MAY 2025

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

PRIMO Construction Co Ltd, advertises and sells residential properties on behalf of its clients. The company has been in plans for only a short time. Recently, the company has encountered with liquidity problem. In seeking to improve working capital management, the financial controller has gathered the most recent financial information below:

Extracted Statement of Financial Position

	2023	2024
	FRW' 000'	FRW' 000'
Non-current asset		
Machinery	60,000	65,000
Building	90,000	95,000
Furniture and fittings	20,000	25,000
	170,000	185,000
Current asset		
Inventory	35,000	60,000
Receivable	65,000	70,760
Bank	2,000	-
	102,000	130,760
Total asset	272,000	315,760
Equity and liabilities		
Ordinary Share Capital	100,000	100,000
Retained Earnings	44,000	55,760
	144,000	155,760
Long Term Liabilities		
12% Bank Loan	65,000	100,000
	65,000	100,000
Current Liabilities		
Account Payable	35,000	54,000
Bank overdraft	12,000	6,000
Accrued Expenses	16,000	-
	63,000	60,000
Total Liabilities	128,000	160,000
Total Equity and Liabilities	272,000	315,760

Extracted Statement of Profit or loss

	2023	2024
	FRW' 000'	FRW' 000'
Sales	250,000	350,000
Cost of sale	(150,000)	(245,000)
Gross Profit	100,000	105,000
Operating Cost	(50,000)	(60,000)
12% Loan interest	(12,000)	(17,000)
Profit Before Tax	38,000	28,000
Corporate Tax (30%)	(11,400)	(8,400)
Profit after Tax	26,600	19,600
Dividend Paid	(10,640)	(7,840)
Retained Earning	15,960	11,760

All sales are made on credit.

The following information was extracted from the Financial Magazine showing sector industry average data

Current ratio	3: 1
Quick ratio	1: 1
Inventory days	90
Account receivable days	70
Accounts payable days	85

Required:

a) As a financial Analyst, appraise the financial Performance of PRIMO Construction Co Ltd in two comparative periods and against industry ratios based on:

- Current ratio** (1.5 Marks)
- Quick Ratio** (1.5 Marks)
- Working Capital Cycle** (6 Marks)

b) Based on determined data above, advise the management of PRIMO Construction Co Ltd on the ways for improving its working capital management. (3 Marks)

c) Discuss TWO key areas of accounts receivable management. (4 Marks)

d) Outline four key factors to be considered when formulating a working capital Management Policy. (4 Marks)

(Total: 20 Marks)

QUESTION TWO

AMAHORO LTD is a company involved in ticketing by using handbooks at stadium entrance, but due to emerging technology, its management is considering investing in new technology where clients can buy tickets online and pay by using Mobile Money.

The project involves an initial infrastructure investment of FRW 50 million, funded by a five-year loan. Over its five-year lifespan, the assets will depreciate to a scrap value of FRW 10 million upon disposal.

AMAHORO Ltd will have to pay a software licensing fee of FRW 5 million at the end of the first year, with an expected increase of 4% per year in subsequent years.

The new technology is expected to reduce operating cost of FRW 25 million in year one with expected increase of 5% per year up to year five. AMAHORO Ltd can obtain this loan at an annual interest before tax at 8.6% per year.

Alternatively, AMAHORO Ltd could lease the new technology and pay annual lease rental of FRW 15 million per year payable at start of each year. This annual lease rental includes the cost of licencing fee. If AMAHORO Ltd buys the new technology, it can claim a capital allowance on the initial investment at a 25% reducing balance basis. The company pays taxes one year in arrears at an annual rate of 30%.

AMAHORO Ltd has an after-tax weighted average cost of capital of 10%.

Required:

- Using a nominal term approach, calculate the net present value of buying the new technology and advise whether AMAHORO Ltd should undertake the proposed investment. (10 Marks)
- Using discounted cash flow; determine a modified payback period of this proposed investment. (3 Marks)
- Based on the financing cash flow, advise whether AMAHORO Ltd should buy or lease the new technology. (10 Marks)
- As an investment analyst, advise the management of AMAHORO LTD on the effects of taxation on the investment decision. (2 Marks)

(Total: 25 Marks)

QUESTION THREE

The Capital Market Authority (CMA), in collaboration with Rwanda Stock Exchange (RSE), recently organised a seminar for its stakeholders, highlighting diversification, capital growth and liquidity as the major objectives of portfolio management.

The event was attended by Chief Executive Officers (CEOs) of all listed companies in Rwanda, as well as those intending to get listed. Following the seminar, the CEO of Golf Club Ltd decided to apply the insights gained by investing FRW 100 million across two securities:

- A fixed term deposit (A) with an investment of FRW 40 million, and
- A Remuneration account (B) with a deposit of FRW 60 million.

The return of the two securities depends on the state of the economy as follows:

State of Economy	Probability	Return of Fixed deposit (A)	Return on Remuneration Account (B)
Boom	0.4	20%	25%
Normal	0.3	12%	14%
Recession	0.3	11%	10.5%

Below are the key market parameters:

- The market return volatility or standard deviation is 8%
- The risk-free rate of return is 10%

Note: Take all your decimals by doing this question

Required:

- a) From the information provided above, **show whether Golf Club Ltd should invest in a fixed-term deposit or remuneration account as an individual investment by comparing relative variability using coefficient of variation.** (6 Marks)
 - b) If Golf Club Ltd chooses to invest in both investments as a portfolio, **determine the expected portfolio return.** (2 Marks)
 - c) **Assess the level of risk diversification using the correlation coefficient between the two investments.** (3 Marks)
 - d) **Determine portfolio risk and comment on your findings.** (2 Marks)
 - e) Based on the results above, **plot your result on capital market line.** (2 Marks)
- (Total: 15 Marks)**

SECTION B

QUESTION FOUR

After the COVID 19 pandemic, Rwanda initiated different campaigns to boost its Economy Like “Visit Rwanda” program by attracting more tourists to visit Rwanda. Mugisha, a young Entrepreneur with expertise in business management, co-founded a business related to made in Rwanda products called ISHEMA RYACU. The company is located in MUSANZE District in Northern Province and its target customers are the tourists who come to visit Gorillas in IBIRUNGA Mountain.

Recently, the Company has been registered on Rwanda Stock Exchange as a way to boost their capital for helping them to expand, where they invite different investors to provide funds through either venture capital or by subscription of shares via an Initial Public Offering (IPO). The investor was interested in buying shares issued by the company based on its share price on the market. They believe that the market price of shares reflects all the information regarding the performance of the company and that would enable them to invest.

The total capital required is FRW 50 million, with 30% raised through Rwanda Stock Exchange (RSE) share issuance and 70% from venture capital. But they require Mugisha to provide them with a business plan of the Company showing how the business is going to grow in the medium- and long-term period.

Required:

a) **Briefly, highlight and explain the key features of the Business Plan that would be considered relevant by MUGISHA for attracting investors in the Company.**

(12 Marks)

b) **Outline to the investor conditions required for the Capital Market as efficient market and describe the THREE forms of efficiency used in Efficient Market Hypothesis to test degrees of efficiency.**

(8 Marks)

(Total: 20 Marks)

QUESTION FIVE

ZIRAKAMWA Ltd and AYIWACU Ltd

ZIRAKAMWA Ltd and AYIWACU Ltd are companies incorporated in Rwanda involved in the agricultural and livestock especially in dairy processing. The two firms are identical in every other respect and in their business risk except for their capital structure.

The following are extracted financial information for both companies related to their capital structure.

	FRW (ZIRAKAMWA Ltd)	FRW (AYIWACU Ltd)
Ordinary share FRW 100	5,000,000	4,000,000
10% Long-term debt FRW 100	-	1,000,000

Both companies are expecting annual profit before interest and tax of FRW 1,000,000 and the market required rate of return of 20% for ungeared company. Each company pays corporate income tax at 30%.

KK Ltd

KK Ltd is a rapidly-growing start-up company involved in the fashion business whereby they prepare different events such as one called KIGALI Fashion Week. The CEO of KK Ltd recently attended the 1st CFOs forum organised by ICPAR in MUSANZE and gained valuable insights into strategic decision-making as a leader. One of the key topics discussed is how a company can achieve the optimum capital structure by combining debt and equity in its capital structure without exposing shareholders to high financial risk.

One of the key topics discussed was one related to capital structure theory such as Net Income Approach, Net Operating Income Approach and Miller and Modigliani Theory.

To achieve the optimum capital structure, the CFO of KK Ltd submitted a proposal to the CEO for decreasing the Weighted Average Cost of Capital of KK Ltd, and hence increase its market value, by issuing bonds at par value of FRW 100 Per Bond. The cost of new bonds was 6% and would pay annual interest of 8% before tax and would be redeemed at a premium of FRW 110 after 5 Years.

The current weighted average cost of Capital is equal to 15%.

Required:

- According to MM Theory with tax implications, **determine the respective Market Value of Geared Company.** (5 Marks)
- Determine the required rate of return to shareholders of geared company.** (5 Marks)
- With the help of a Graph, **briefly explain the following theories of Capital Structure:**
 - Net Income Approach.** (2.5 Marks)
 - Net Operating Income Approach.** (2.5 Marks)

- d) Discuss according to Miller and Modigliani theory with or without Taxation, the effects of issuing these bonds on their Capital Structure and on the Market Value of KK Ltd. (5 Marks)
(Total: 20 Marks)

QUESTION SIX

WANZAMBE Ltd operates airline ticketing services. Most of the company shares are held mainly by private equity companies in Rwanda such as insurance companies. Recently, the Finance Manager provided an investment proposal to shareholders, but it is still at the analysis stage. This Project will be financed by internally generated revenue.

This was an extracted Statement of Profit or Loss as follows:

Year	2020	2021	2022	2023	2024
Profit After Tax attributable to ordinary shareholders (FRW)	3,000,000	3,840,000	4,120,000	4,900,000	5,240,000

The following is the Extracted Statement of Financial Position for the year ended 2024:

	FRW
Ordinary share capital (FRW 1,000)	10,000,000
10% redeemable debentures (FRW 1,000)	3,000,000
8% Convertible loan note (FRW 10,000)	6,500,000
11% Preference share (FRW 1,000)	3,500,000

Additional information:

1. WANZAMBE Ltd's past dividend payout ratio, which is expected to be maintained in the future, is 50% of earnings.
2. Equity shares, currently priced at FRW 3,350 per share ex-div.
3. 10% redeemable debentures with a face value of FRW 1,000, currently trading at FRW 800, redeemable in five years at par value.
4. 8% Convertible Loan notes which are due to be redeemed in five years' time from now at par value. They are currently quoted at FRW 8,200 per share, FRW 10,000 face value per share. The loan note can be converted into 2 shares in five years' time. Equity share prices are expected to grow by 10% per annum.
5. Preference shares with a nominal value of FRW 1,000, paying an annual dividend of 11%, and currently traded ex-dividend price at FRW 1,200 per share.
6. The company pays corporate income tax of 30%.

The Finance Manager has approached you as a Financial Advisor to help him generate the required rate of return to be used to discount the cash flow for the upcoming project.

Required:

- a) Using relevant data above with their respective market values as weighting factors, calculate:
- i) Cost of equity. (3 Marks)
 - ii) Cost of redeemable debentures. (4 Marks)
 - iii) Cost of convertible debentures. (3 Marks)
 - iv) Cost of preferred stock. (2 Marks)
 - v) Weighted Average Cost of Capital. (3 Marks)
 - vi) The maximum amount that the company could spend on the incoming project without the need to obtain additional equity or debt. (1 Mark)
- b) The Weighted Average Cost of Capital of a company is used in different areas of the business as an appropriate discounting factor. Briefly discuss two areas where and how WACC plays a pivotal role in making financial decisions. (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%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909	0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833
2	0.980	0.961	0.943	0.925	0.907	0.890	0.873	0.857	0.842	0.826	0.812	0.797	0.783	0.769	0.756	0.743	0.731	0.718	0.706	0.694
3	0.971	0.942	0.915	0.889	0.864	0.840	0.816	0.794	0.772	0.751	0.731	0.712	0.693	0.675	0.658	0.641	0.624	0.609	0.593	0.579
4	0.961	0.924	0.888	0.855	0.823	0.792	0.763	0.735	0.708	0.683	0.659	0.636	0.613	0.592	0.572	0.552	0.534	0.516	0.499	0.482
5	0.951	0.906	0.863	0.822	0.784	0.747	0.713	0.681	0.650	0.621	0.593	0.567	0.543	0.519	0.497	0.476	0.456	0.437	0.419	0.402
6	0.942	0.888	0.837	0.790	0.746	0.705	0.666	0.630	0.596	0.564	0.535	0.507	0.480	0.456	0.432	0.410	0.390	0.370	0.352	0.335
7	0.933	0.871	0.813	0.760	0.711	0.665	0.623	0.583	0.547	0.513	0.482	0.452	0.425	0.400	0.376	0.354	0.333	0.314	0.296	0.279
8	0.923	0.853	0.789	0.731	0.677	0.627	0.582	0.540	0.502	0.467	0.434	0.404	0.376	0.351	0.327	0.305	0.285	0.266	0.249	0.233
9	0.914	0.837	0.766	0.703	0.645	0.592	0.544	0.500	0.460	0.424	0.391	0.361	0.333	0.308	0.284	0.263	0.243	0.225	0.209	0.194
10	0.905	0.820	0.744	0.676	0.614	0.558	0.508	0.463	0.422	0.386	0.352	0.322	0.295	0.270	0.247	0.227	0.208	0.191	0.176	0.162
11	0.896	0.804	0.722	0.650	0.585	0.527	0.475	0.429	0.388	0.350	0.317	0.287	0.261	0.237	0.215	0.195	0.178	0.162	0.148	0.135
12	0.887	0.788	0.701	0.625	0.557	0.497	0.444	0.397	0.356	0.319	0.286	0.257	0.231	0.208	0.187	0.168	0.152	0.137	0.124	0.112
13	0.879	0.773	0.681	0.601	0.530	0.469	0.415	0.368	0.326	0.290	0.258	0.229	0.204	0.182	0.163	0.145	0.130	0.116	0.104	0.093
14	0.870	0.758	0.661	0.577	0.505	0.442	0.388	0.340	0.299	0.263	0.232	0.205	0.181	0.160	0.141	0.125	0.111	0.099	0.088	0.078
15	0.861	0.743	0.642	0.555	0.481	0.417	0.362	0.315	0.275	0.239	0.209	0.183	0.160	0.140	0.123	0.108	0.095	0.084	0.074	0.065
16	0.853	0.728	0.623	0.534	0.458	0.394	0.339	0.292	0.252	0.218	0.188	0.163	0.141	0.123	0.107	0.093	0.081	0.071	0.062	0.054
17	0.844	0.714	0.605	0.513	0.436	0.371	0.317	0.270	0.231	0.198	0.170	0.146	0.125	0.108	0.093	0.080	0.069	0.060	0.052	0.045
18	0.836	0.700	0.587	0.494	0.416	0.350	0.296	0.250	0.212	0.180	0.153	0.130	0.111	0.095	0.081	0.069	0.059	0.051	0.044	0.038
19	0.828	0.686	0.570	0.475	0.396	0.331	0.277	0.232	0.194	0.164	0.138	0.116	0.098	0.083	0.070	0.060	0.051	0.043	0.037	0.031
20	0.820	0.673	0.554	0.456	0.377	0.312	0.258	0.215	0.178	0.149	0.124	0.104	0.087	0.073	0.061	0.051	0.043	0.037	0.031	0.026
25	0.780	0.610	0.478	0.375	0.295	0.233	0.184	0.146	0.116	0.092	0.074	0.059	0.047	0.038	0.030	0.024	0.020	0.016	0.013	0.010
30	0.742	0.552	0.412	0.308	0.231	0.174	0.131	0.099	0.075	0.057	0.044	0.033	0.026	0.020	0.015	0.012	0.009	0.007	0.005	0.004
35	0.706	0.500	0.355	0.253	0.181	0.130	0.094	0.068	0.049	0.036	0.026	0.019	0.014	0.010	0.008	0.006	0.004	0.003	0.002	0.002
40	0.672	0.453	0.307	0.208	0.142	0.097	0.067	0.046	0.032	0.022	0.015	0.011	0.008	0.005	0.004	0.003	0.002	0.001	0.001	0.001
50	0.608	0.372	0.228	0.141	0.087	0.054	0.034	0.021	0.013	0.009	0.005	0.003	0.002	0.001	0.001	0.001	0.000	0.000	0.000	0.000

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%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909	0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833
2	1.970	1.942	1.913	1.886	1.859	1.833	1.808	1.783	1.759	1.736	1.713	1.690	1.668	1.647	1.626	1.605	1.585	1.566	1.547	1.528
3	2.941	2.884	2.829	2.775	2.723	2.673	2.624	2.577	2.531	2.487	2.444	2.402	2.361	2.322	2.283	2.246	2.210	2.174	2.140	2.106
4	3.902	3.808	3.717	3.630	3.546	3.465	3.387	3.312	3.240	3.170	3.102	3.037	2.974	2.914	2.855	2.798	2.743	2.690	2.639	2.589
5	4.853	4.713	4.580	4.452	4.329	4.212	4.100	3.993	3.890	3.791	3.696	3.605	3.517	3.433	3.352	3.274	3.199	3.127	3.058	2.991
6	5.795	5.601	5.417	5.242	5.076	4.917	4.767	4.623	4.486	4.355	4.231	4.111	3.998	3.889	3.784	3.685	3.589	3.498	3.410	3.326
7	6.728	6.472	6.230	6.002	5.786	5.582	5.389	5.206	5.033	4.868	4.712	4.564	4.423	4.288	4.160	4.039	3.922	3.812	3.706	3.605
8	7.652	7.325	7.020	6.733	6.463	6.210	5.971	5.747	5.535	5.335	5.146	4.968	4.799	4.639	4.487	4.344	4.207	4.078	3.954	3.837
9	8.566	8.162	7.786	7.435	7.108	6.802	6.515	6.247	5.995	5.759	5.537	5.328	5.132	4.946	4.772	4.607	4.451	4.303	4.163	4.031
10	9.471	8.983	8.530	8.111	7.722	7.360	7.024	6.710	6.418	6.145	5.889	5.650	5.426	5.216	5.019	4.833	4.659	4.494	4.339	4.192
11	10.368	9.787	9.253	8.760	8.306	7.887	7.499	7.139	6.805	6.495	6.207	5.938	5.687	5.453	5.234	5.029	4.836	4.656	4.486	4.327
12	11.255	10.575	9.954	9.385	8.863	8.384	7.943	7.536	7.161	6.814	6.492	6.194	5.918	5.660	5.421	5.197	4.988	4.793	4.611	4.439
13	12.134	11.348	10.635	9.986	9.394	8.853	8.358	7.904	7.487	7.103	6.750	6.424	6.122	5.842	5.583	5.342	5.118	4.910	4.715	4.533
14	13.004	12.106	11.296	10.563	9.899	9.295	8.745	8.244	7.786	7.367	6.982	6.628	6.302	6.002	5.724	5.468	5.229	5.008	4.802	4.611
15	13.865	12.849	11.938	11.118	10.380	9.712	9.108	8.559	8.061	7.606	7.191	6.811	6.462	6.142	5.847	5.575	5.324	5.092	4.876	4.675
16	14.718	13.578	12.561	11.652	10.838	10.106	9.447	8.851	8.313	7.824	7.379	6.974	6.604	6.265	5.954	5.668	5.405	5.162	4.938	4.730
17	15.562	14.292	13.166	12.166	11.274	10.477	9.763	9.122	8.544	8.022	7.549	7.120	6.729	6.373	6.047	5.749	5.475	5.222	4.990	4.775
18	16.398	14.992	13.754	12.659	11.690	10.828	10.059	9.372	8.756	8.201	7.702	7.250	6.840	6.467	6.128	5.818	5.534	5.273	5.033	4.812
19	17.226	15.678	14.324	13.134	12.085	11.158	10.336	9.604	8.950	8.365	7.839	7.366	6.938	6.550	6.198	5.877	5.584	5.316	5.070	4.843
20	18.046	16.351	14.877	13.590	12.462	11.470	10.594	9.818	9.129	8.514	7.963	7.469	7.025	6.623	6.259	5.929	5.628	5.353	5.101	4.870
25	22.023	19.523	17.413	15.622	14.094	12.783	11.654	10.675	9.823	9.077	8.422	7.843	7.330	6.873	6.464	6.097	5.766	5.467	5.195	4.948
30	25.808	22.396	19.600	17.292	15.372	13.765	12.409	11.258	10.274	9.427	8.694	8.055	7.496	7.003	6.566	6.177	5.829	5.517	5.235	4.979
35	29.409	24.999	21.487	18.665	16.374	14.498	12.948	11.655	10.567	9.644	8.855	8.176	7.586	7.070	6.617	6.215	5.858	5.539	5.251	4.992
40	32.835	27.355	23.115	19.793	17.159	15.046	13.332	11.925	10.757	9.779	8.951	8.244	7.634	7.105	6.642	6.233	5.871	5.548	5.258	4.997
50	39.196	31.424	25.730	21.482	18.256	15.762	13.801	12.233	10.962	9.915	9.042	8.304	7.675	7.133	6.661	6.246	5.880	5.554	5.262	4.999

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