



CERTIFIED PUBLIC ACCOUNTANTS
INTERMEDIATE LEVEL EXAMINATIONS

II.1: MANAGERIAL FINANCE

DATE: THURSDAY 29, AUGUST 2024

INSTRUCTIONS:

1. **Time Allowed: 3hours 15minutes** (15minutes 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) Kigali Multi - business Group (KMG) is a small and medium enterprise based in Kigali City, facing financial challenges in accessing new capital due to its non-listed status on Rwanda Stock Exchange. The Finance manager has proposed a strategy of utilizing leaseback arrangement by selling its owned building and leasing it back to raise funds for upcoming projects.

Required:

- i) **Briefly differentiate finance lease from sale and leaseback.** (4 Marks)
 - ii) **Outline four benefits of choosing sale and leaseback as finance option to Kigali Multi-business Group.** (4 Marks)
 - iii) **Discuss the advantages of leasing as sources of both short term and long-term finance.** (4 Marks)
- b) TUGENDANE TRANSPORT AGENCY (TTA) Ltd is considering how to finance the acquisition of new buses for replacing the old ones. TTA Ltd has two financing options available:

Option one: The buses could be bought for FRW 75,000,000 using bank loan at a rate of 15.7% per year before tax.

Option two: The Company could lease the buses from AKAGEGA Motors for an annual lease payment FRW 20,000,000 at the end of each year for next five years.

TUGENDANE TRANSPORT AGENCY (TTA) Ltd pays corporate income tax at 30% one year in arrears. If the buses are purchased, the company will be able to claim tax allowable depreciation of 25% reducing balance. The expected resale value at end of year five was FRW 15,000,000

Required:

Advice whether TUGENDANE TRANSPORT AGENCY (TTA) Ltd should use lease or buy for financing the acquisition of the new buses and clearly show all the workings

(8 Marks)

(Total: 20 Marks)

QUESTION TWO

CYUMUHIRE Co LTD is a company located in GAKIRIRO at NYABIHU District which is involved in the production of home appliances. Due to its physical location in cold area of the Country, its management has come up with a business idea of producing a water heater to meet its customer expectations. The company has a before tax target return on capital employed of 25 % for its capital investments and is now considering the following project with expected cashflow as follows:

Year	1	2	3	4	5
Expected Sale Volume (Units)	1,000	1,200	1,500	1,200	1,200
Saling price/Unit (FRW/unit)	45,000	47,500	50,000	57,500	60,000
Variable cost/ Unit (FRW/unit)	25,000	30,000	45,000	40,000	45,000
Operating Expenses in Nominal terms (FRW)	12,500,000	12,500,000	12,500,000	12,500,000	12,500,000

For CYUMUHIRE Co Ltd to be able produce water heaters, it will require a specialised machine that costs FRW 50,000,000 with a useful life of 5 years. At the end of its useful life the machine will be sold at FRW 5,000,000. The company pays a corporate tax of 30% per year, one year in arrears. When the machine is purchased, the company will be able to claim for tax allowable depreciation on the initial investment at 25% reducing balance.

Working capital of FRW 15,000,000 will be required at the start of year 1 with an increase of 5% per annum in subsequent years and working capital has to be released at the end of time horizon.

This forecasting is before taking into consideration the selling price inflation of 5% per annum and variable cost of 3% per annum. Company uses straight line method to depreciate their assets and operating expenses included annual depreciation of FRW 9,000,000 per annum

CYUMUHIRE Co Ltd. has a nominal after tax cost of capital of 15%.

Required:

- Calculate the net present value of investing in that project and advise whether the project is Viable.** (20 Marks)
- ROCE (Accounting rate of return) before tax is measured as estimated average accounting profit before tax, divided by estimated initial investment. **Assess whether this project should be undertaken.** (5 Marks)

(Total: 25 Marks)

QUESTION THREE

URUNIGI Ltd, a company based in Kigali City, was incorporated in December 2020. It specializes in manufacturing Made in Rwanda products. Currently, the company is aiming to enhance its profitability by establishing a new showroom in Musanze District, a prominent tourist region. To evaluate the feasibility of this potential project, URUNIGI Ltd is in the process of determining the appropriate cost of capital.

The capital structure of URUNIGI Ltd comprises the following:

	FRW
Ordinary share capital (FRW 100)	15,000,000
10% redeemable debentures (FRW 1,000)	6,000,000
11% Preference share (FRW 1,000)	2,500,000

Addition information

1. Equity shares, currently priced at FRW 450 per share cum-div, URUNIGI Ltd expected to pay a dividend of FRW 50 per share, growing annually at 6%.
2. 10% redeemable debentures with a face value of FRW 1,000, currently trading at FRW 900, redeemable in five years at a premium of 10%.
3. Preference shares with a nominal value of FRW 1,000, paying an annual dividend of 11%, and currently traded ex-dividend at FRW 1,200 per share.
4. The company pays corporate income tax of 30%.

Required:

- a) Using relevant data above with their respective market values as weighting factors,

Calculate the:

- i) **Cost of Equity.** (1.5 Marks)
- ii) **Cost of redeemable debt.** (3 Marks)
- iii) **Cost of preferred stock.** (1.5 Marks)
- iv) **Weighted average Cost of Capital.** (2 Marks)

- b) Weighted average cost of capital is widely used as financial metric that is used as the minimum rate of return a company needs to generate to satisfy its investors. **Briefly describe the shortfall of WACC in investment appraisal** (3 Marks)

- c) **Briefly discuss the logic required to apply the weighted average cost of capital of a company as an appropriate discounting factor in evaluating investment businesses.** (4 Marks)

(Total: 15 Marks)

SECTION B

QUESTION FOUR

- a) JUGUMIRA Ltd is company involved in event management and is considering making a new investment in potential investment opportunities available but the company has a limited amount of capital to invest, the Finance Manager has approached you as a CPA candidate seeking an advice on how to allocate the capital available most effectively by considering primary objective of company of shareholders health maximization.

You are provided with the following investment proposal:

Proposal 1: The project will have expected life time of 5 years with initial investment of FRW 4,000,000 in new ticket machine that has to be installed at the event place and the net cash savings of FRW 1,300,000 are expected in year one and are expected to increase by 5% per annum in the next four year.

Proposal 2: The project is a long-term investment involving an immediate outlay of FRW 2,500,000 and an annual cash profit of FRW 300,000 in perpetuity.

Proposal 3: The project will have expected lifetime of 4 years and would involve initial investment of FRW 5,000,000 on acquiring the new equipment and FRW 1,000,000 of working capital would be required at start of year 1 with a subsequent increase of 10% in next 2 years, working capital will have to be released at the end of the project time horizon. The equipment is expected to be sold at FRW 500,000 at end of its useful life.

The profit of the project would be as follows in money terms:

	Year 1 (FRW)	Year 2 (FRW)	Year 3 (FRW)	Year 4 (FRW)
Profit after tax	1,600,000	1,850,000	2,780,000	1,950,000

Proposal 4: The project involves enhancing the competencies of their employees and will require an initial investment of FRW 3,500,000. This will expect to reduce administrative costs of FRW 1,200,000 per annum in monetary terms for the next five years.

The investment funds of JUGUMIRA Ltd are limited to FRW 12 million and none of the project can be delayed. The Nominal cost of capital of the company is 10%.

Required:

Determine the best way for Finance manager of JUGUMIRA Ltd has to use in investing the available funds:

- i) **On the assumption that each of the projects is divisible.** (14 Marks)
- ii) **On the assumption that none of the projects are divisible.** (2 Marks)

- b) **Identify and explain two sources of equity finance available for business financing.** (2 Marks)
- c) The government of Rwanda established the stock exchange market” Rwanda stock Exchange’

Explain briefly the four benefit of Investing through the capital market. (2 Marks)
(Total: 20 Marks)

QUESTION FIVE

DISMAS Co Ltd usually sells its products on credit; the credit controller is considering changing its credit policy

They suggestions are:

1. Extension of credit terms from one to two month. This relaxation in credit terms will result an increase in sales each year amounting to 25% of the current sales volume. Current annual sales of FRW 4,800,000 with a contribution to sale ratio of 15%. Increase in sales would result in addition of inventory of FRW 200,000 and Addition account payable of FRW 40,000.
2. Introducing the invoice discounting as better way of increasing the liquidity as well as profitability of the business

The required rate of return on investment is 20%.

Required:

- a) Advice DISMAS Co Ltd on whether or not to extend the credit period offered to customer
 - i) **If all account receivable takes two month of credit term.** (5 Marks)
 - ii) **If the existing customers do not change their habits and only new customers take a full two-month credit term.** (4 Marks)
- b) **Define the term invoice Discounting as used in working capital management.** (2 Marks)
- c) **Explain four factors a credit controller would consider when assessing the credit worthiness of his/her potential customer.** (4 Marks)
- d) **Outline four factors required to formulate working capital management policies.** (2 Marks)

- e) **Explain the three possible motives for holding cash by a business enterprise like DISMAS Co Ltd.** (3 Marks)

(Total: 20 Marks)

QUESTION SIX

High Technology Solutions (HTS), a rapidly-growing start-up company located in NYARUGENGE District, The CEO of HTS recently attended the 1st CFOs forum organised by ICPAR in MUSANZE gained valuable insights into strategic decision making as a leader. One of the key topics discussed was dividend policies such as Residual dividend theory, MM Dividend Irrelevance Theory, Bird-in-hand theory, Information signaling effect theory, Clientele effect theory.

At the last Annual General Meeting (AGM), some shareholders Expressed a concern that High Technology Solutions (HTS) Ltd was retaining more money and suggested that the company needs to increase the dividend to satisfy shareholder and this will make them happy.

To solve those issues, the CEO assigned Finance Manager to recommend a dividend strategy that balances the company's goal for growth with meeting shareholder expectations.

Required:

- a) **Explain to the CEO of HTS Ltd five factors that will take into account in formulating its dividend Policies.** (5 Marks)
- b) Briefly Explain each of mentioned dividend Theory as follow:
- i) **Residual Dividend Theory.** (3 Marks)
 - ii) **MM Dividend Irrelevance Theory.** (3 Marks)
 - iii) **Bird-in-hand Theory.** (3 Marks)
 - iv) **Information Signaling Effect Theory.** (3 Marks)
 - v) **Clientele Effect Theory.** (3 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

BLANK PAGE