CERTIFIED PUBLIC ACCOUNTANT

INTERMEDIATE LEVEL EXAMINATION

I1.1: MANAGERIAL FINANCE

WEDNESDAY: 8 JUNE 2016

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 two to 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

SECTION A

This section has three compulsory questions

QUESTION ONE

WAMANGA (R) Ltd (WRL) deals in the manufacture of steel products. The Chief Executive Officer (CEO), while attending an international conference for Non-finance managers heard one of the presenters emphasizing the need for companies to hold well diversified portfolios in order to minimize risks and maximize returns to their shareholders. Upon his return, he tasked the finance manager to identify and evaluate a project in the broadcasting industry into which WRL can diversify.

The finance manager intimated to the CEO that although diversification may help minimize risks, it has its own problems like the need to identify a risk adjusted cost of capital to evaluate new projects. However, the CEO insisted that despite the problems of diversification, it is the way to go in this era and age. Consequently the finance manager identified a project in the broadcasting industry with the following details:

The project will require Frw1 billion and is expected to generate pre-tax cash flows of Frw700 million in year 1, Frw 800 million in year 2 and Frw 500 million in year 3. The project will have a scrap value of Frw 20 million at the end of its life. These cash flows are expected to increase by 5% every year which is the current inflation rate in the economy. The project will require working capital of Frw100 million in the current year increasing to Frw150 million in year 1.

The project is thought to be able to support borrowings of Frw 400 million at an interest rate of 15%. WRL's current debt to equity ratio is 1:5 market values.

The equity beta is 1.5, the risk free rate of return is 10% and return on market portfolio is 16%.

Corporation tax is 30% and is paid one year in arrears.

Required:

(a) Evaluate the viability of the project using the adjusted present value (APV) method. **(17 Marks)**

(b) Explain to the CEO why the existing cost of capital (weighted average cost of capital WACC) may not be used to evaluate the new project in another industry **(4 Marks)**

(c) Explain why the adjusted present value (APV) method is regarded a better method of evaluating projects than the net present value (NPV) **(4 Marks)**

(Total 25 Marks)

QUESTION TWO

Rwanda Stock Exchange (RSE) organized a seminar for its stakeholders in which it emphasized diversification, capital growth and liquidity as the major objectives of portfolio management.

The seminar was attended by the Chief Executive Officers (CEOs) of all listed companies in Rwanda and those intending to get listed. After the seminar, the CEO of Gasana Holdings Ltd (GHL) is trying to implement what he learnt. In doing so, he is considering either to invest in the stocks of Rwanda Clays Ltd (RCL) or Stalic Bank Limited (SBL) but he is not sure of the best investment that will yield higher returns.

Both RCL and SBL are listed on the RSE although they have different inherent risks due to the nature of their operations.

The following information has been provided about RCL & SBL.

	Expected return (%)	Standard deviation (%)	Beta factor
RCL	22	38	0.86
SBL	24	40	1.24

The correlation coefficient between the return of RCL and SBL is 0.72.

The standard deviation of the market return is 20%.

The risk free rate of return is 17.5% and excess return being 5.26%.

Required:

(a) From the information provided above, show whether GHL should invest in RCL or SBL or both. **(3 Marks)**

(b) If GHL decides to invest 30% in RCL and 70% in SBL; determine the expected return and standard deviation on the portfolio. **(6 Marks)**

(c) Determine the beta factor of the portfolio. **(3 Marks)**

(d) If GHL is to invest in both companies, determine the portfolio's expected rate of return using the capital asset pricing model. **(3 Marks)**

(e) Giving examples, explain how the capital asset pricing model can be applied in a real life scenario. **(5 Marks)**

(Total 20 Marks)

QUESTION THREE

Ruka Company Ltd (RCL) deals in the purchase and distribution of transformers and general heavy duty generators. It supplies the transformers to the power distributor in the country. The total annual demand for the transformers is 1,000 units. The cost of placing an order for transformers from the manufacturer is Frw 1,000,000. The cost of keeping each transformer in the warehouse per annum is Frw 50,000. The normal delay between placing an order and receiving the transformers is 1 month. The manufacturer has offered a discount of 5% to RCL for any orders of 300 transformers or more placed at once.

Required:

(a) The economic order quantity **(2 Marks)**

(b) The frequency at which orders should be placed **(2 Marks)**

(c) The total holding and ordering costs **(4 Marks)**

(d) Total inventory costs. **(3 Marks)**

(e) Explain whether or not the company should take up the discount **(4 Marks)**

(Total 15 Marks)

SECTION B

This section has three questions and two are to be attempted

QUESTION FOUR

Rumour has it that Establishment Industries Ltd (EIL) is interested in buying your company's manufacturing operation. Your company is willing to sell it if at all it can get the full value of this rapidly growing business unit. The result of purchasing the manufacturing operation will be to increase the annual cash flows to Frw 10 million which are expected to increase by 20% per annum for the next 5 years.

The company estimates the terminal value in the fifth year will be Frw 20 million and the certainty equivalent factors to address the issue of uncertainty of cash flows and operational expenses expected to be incurred by the manufacturing unit are summarized below.

Year	1	2	3	4	5
Personnel (Frw million)	3	5	2	6	4
Marketing (Frw million)	2	1	3	2	2
IT (Frw million)	1	1	1	1	1
Certainty equivalent factors (%)	50	40	30	25	20

Notes:

(i) Ignore depreciation and amortisation charges

(ii) 10% discount rate will be used

Required:

(a) As the financial controller of EIL, compute the values of the manufacturing operation using the discounted cash flow method of business valuation. **(10 Marks)**

(b) Explain five reasons why a company may decide to value its shares. **(10 Marks)**

(Total 20 Marks)

QUESTION FIVE

Nyamwamba (R) Ltd is in the process of determining the appropriate cost of capital to evaluate the viability of alternative investment projects. The following data is available to help the finance manager in this process.

1. The company currently pays dividends at Frw 300 per share. Five years ago the dividend was Frw 100 per share.
2. The company has in its capital structure 3,000 ordinary shares valued at Frw 15 Million nominal and a redeemable long term debt stock with a coupon rate of 12% valued at Frw 5.6 million nominal, redeemable in five years' time at par.
3. The market prices are as follows:
   - Ordinary shares Frw 10,000.
   - Long-term debt stock Frw 80
4. Corporation tax is at 30%.

Required:

(a) State the assumptions of Capital Asset Pricing Model (CAPM) **(4 Marks)**

(b) Using the information above, calculate the:

(i) Growth rate in dividends **(3 Marks)**

(ii) Cost of equity **(3 Marks)**

(iii) Cost of debt **(4 Marks)**

(iv) Weighted average cost of capital **(6 Marks)**

(Total 20 Marks)

QUESTION SIX

Nyamirima Traders and Contractors Ltd (NTCL) deals in importation of textile fabrics, which it distributes to almost all outlets in major towns in the republic of Rwanda.

Since its incorporation in 2010, NTCL has not generated sufficient profits to effectively reward its shareholders for their investment although its company policy to declare and pay cash dividends by 31 January each year.

In the recent board meeting, it was resolved to either issue stock dividends or carry out a stock split to avoid frustrating the shareholders by not paying any form of dividends.

NTCL has the following capital structure:

Particulars	**Amount Frw '000'**
Share capital 1,000 shares at Frw30,000 per share	30,000
Share premium	5,000
Reserves and surpluses	15,000
Total capitalization	50,000

The shares of NTCL are currently selling at Frw 40,000 per share.

Required:

(a) Show the change in the total net worth (total capitalization) of NTCL after a stock dividend of 10% was declared. **(4 Marks)**

(b) Show the change in the total net worth (total capitalization) if the company carried out a 2 for 1 share split instead of a stock dividend and comment on both results. **(4 Marks)**

(c) Discuss the three major dividend policies. **(7 Marks)**

(d) Explain the factors that affect dividends policy. **(5 Marks)**

(Total 20 Marks)

End of question paper

Present value interest factor of $1 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
16	14.718	13.578	12.561	11.652	10.838	10.106	9.447	8.851	8.313	7.824
17	15.562	14.292	13.166	12.166	11.274	10.477	9.763	9.122	8.544	8.022
18	16.398	14.992	13.754	12.659	11.690	10.828	10.059	9.372	8.756	8.201
19	17.226	15.678	14.324	13.134	12.085	11.158	10.336	9.604	8.950	8.365
20	18.046	16.351	14.877	13.590	12.462	11.470	10.594	9.818	9.129	8.514

Present value interest factor of $1 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
16	7.379	6.974	6.604	6.265	5.954	5.668	5.405	5.162	4.938	4.730
17	7.549	7.120	6.729	6.373	6.047	5.749	5.475	5.222	4.990	4.775
18	7.702	7.250	6.840	6.467	6.128	5.818	5.534	5.273	5.033	4.812
19	7.839	7.366	6.938	6.550	6.198	5.877	5.584	5.316	5.070	4.843
20	7.963	7.469	7.025	6.623	6.259	5.929	5.628	5.353	5.101	4.870

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