CERTIFIED PUBLIC ACCOUNTANT

ADVANCED LEVEL 2 EXAMINATIONS

A2.1: STRATEGIC CORPORATE FINANCE

DATE: WEDNESDAY 29, NOVEMBER 2023

INSTRUCTIONS:

1. **Time Allowed: 3 hours 45 minutes** (15 minutes reading and 3 hours 30 Minutes writing).
2. This examination has **two** sections**: A & B.**
3. Section A has one Compulsory Question while section B has three optional questions to choose any **two**.
4. In summary attempt three 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

Instant Power Limited (IPL):

Instant Power Limited (IPL) is hydroelectric power plant with an impoundment facility. The company has established a project to build a hydroelectric power plant in Bugesera. The company intends to purchase an initial crucial machinery for FRW 100,000,000. The machine is expected to operate for 25 years only and get fully depreciated. IPL predicts that it will earn earnings before interest, taxes, and depreciation amounting to FRW 14,000,000 per annum for 25 years with effect from the end of the first year.

The company pays corporate tax rate of 30%. The company's investors require a 12% rate of return for the project under all-equity financing and the pretax cost of debt for IPL is 9.5%. Because the extent of grid electricity is limited and mainly concentrated near the capital city, the government will subsidise the project with a FRW 50,000,000, 20-year loan at an interest rate of 6% per year, to expand capacity and meet its national strategic plan. The government has also allowed the company to repay the principal in a single payment at the end of the loan duration.

Burera Investments Limited (BIL):

Burera Investments Limited (BIL) is a holding company with three subsidiaries including Kivu, Ruhondo, and Ihema. Consider the following 2022 data for the three subsidiaries in table 1. All figures are in FRW billions, except for price per share:

Table 1: Financial data for Kivu, Ruhondo, and Ihema for 2022 (FRW billions, except for price per share)

Particulars	Kivu	Ruhondo	Ihema
Sales	49.1	72.5	60.8
EBIT	3.8	15.3	9.5
Net income	2.1	5.0	3.5
Cash	0.4	1.8	1.1
Depreciation	1.4	1.5	1.4
Interest bearing debt	9.3	13.5	11.4
Total assets	30.1	37.3	33.7
Price per share	48.8	83.7	66.2
Shares outstanding	0.9	1.3	1.1
Shareholder equity	10.9	16.5	13.7

The company's management is interested in understanding how the three subsidiaries performed financially. Ms Rugo Alice, the Chief Financial Officer (CEO), has determined that ratios in table 2 below are sufficient for her to brief senior management:

Table 2: Selected Enterprise Value Multiples

Particulars	**Unit**
Equity multiplier	*Times*
Total asset turnover	*Times*
Profit margin	*%*
Return on equity (ROE)	*%*
Market capitalization	*FRW Billion*
Enterprise value	*FRW Billion*
Price-Earnings (PE) multiple	*Times*
Enterprise value (EV) multiple	*Ratio*
EBITDA	*FRW*
Capital intensity	*Ratio*

Mparaga Limited:

Mparaga Limited is a commodity trading and mining company. It produces metal, mineral, energy, and agricultural commodities. The company serves the automotive, steel, power generation, battery manufacturing, and oil sectors globally. The company has recently come under intense scrutiny for various ethical issues. Staff have long complained of cases of bullying, harassment, and discrimination taking place one after another and after reporting, no action is taken.

A few months ago, several issues were raised in what seemed like a leaked newspaper article. In the article, it appeared that staff work in poor conditions. For instance, staff working in mines have no protective personal equipment. The investigative journalist who reported these accusations claimed that when he visited one of the mines, there were nine children under the age of 15 working along with other older staff.

Required:

(a) Using appropriate calculations, **estimate the Adjusted Present Value (APV) of IPL's proposed investment.** *Note: Round your calculations off to two decimal places.* (12 Marks)

(b) Differentiate between APV and NPV as methods of investment appraisal and indicate the circumstances under which APV might be a better at evaluating a capital investment than NPV. (5 Marks)

(c) Using information in the Burera Investments Limited case above:

(i) Calculate financial ratios for each of the three subsidiaries. *Note: Use ratios or multiples in table 2 only.* (15 Marks)

(ii) Describe these three companies from a financial point of view. *Hint: Your answers must be based on results from (i) above.* (9 Marks)

(d) Identify the ethical issues reported in Mparaga Limited and the likely impact of these issues on the company if not addressed effectively. (9 Marks)

(Total: 50 Marks)

SECTION B

QUESTION TWO

Lunga Business Limited (LBL):

Lunga Business Limited (LBL) is a company listed on the stock exchange. The company has cash excess of FRW 55,000,000 after taxes have been declared and paid. The board of directors (BoD) of LBL has tasked management to advise on the most appropriate way of using this available cash. The Chief Investment Officer (CIO), after consultation with the Chief Executive Officer (CEO), has presented two options:

Option 1:

LBL could invest the extra funds in financial assets. The company has two ways to invest this money. One is to invest in 7% Treasury bills and another is to invest in 9% preferred shares. The total proceeds from this investment will be paid out as a special dividend to shareholders at the end of three years. The CIO has advised that 85% of the dividends received from investing in another company's stock are excluded from taxable income.

Option 2:

LBL could pay out the extra cash now as dividends to shareholders. It is expected that the shareholders would independently invest in Treasury bills with the same yield as that of corporations. Alternatively, shareholders would invest in preferred shares.

Additional Information:

1. The corporate tax rate is 30%.
2. Assume the investor has a 35% personal income tax rate, which is applied to interest income and preferred stock dividends.
3. Assume the personal dividend tax rate is 15% on common stock dividends.

You are a Financial Analyst at LBL, and your CIO has requested you to advise on the right course of action for the available cash. Your advice shall be presented to the BoD next week.

Proposed acquisition:

LBL BoD has also proposed the acquisition of Kamanga Limited, a start-up with high growth prospects. The BoD is convinced that acquiring Kamanga Limited is a great decision and is keen on moving fast before any other potential firms can take the move. The CIO has, however, advised the BoD that appropriate due diligence is done before any decision is made to acquire the proposed target. The BoD is hesitant because they believe that due diligence will take time exposing the company's target to potential hostile take-overs. Further, the BoD believes that the recent global financial market integration means that capital is readily available for any company to complete a dead easily.

Required:

(a) Using appropriate calculations, **advise the CIO on the best course of action for the available extra cash.** *Note: Round your calculations off to two decimal places.* (12 Marks)

(b) Prepare a report to be submitted to the CIO by 10 May 2023 addressing the following issues:

(i) Evaluate the role of legal and financial due diligence during the proposed acquisition of Kamanga Limited. (7 Marks)

(ii) The extent to which global financial markets are integrated. (6 Marks)

(Total: 25 Marks)

QUESTION THREE

Mr John Gatsinzi:

Mr Gatsinzi John is recently attended an investor awareness event organised by the Capital Market Authority in collaboration with the Stock Exchange. He was pleased to hear the various benefits of investing in the stock market. However, John remains risk-averse to investing in the stock market. John also has a company and he heard from the event that effective working capital management could help his company succeed as well as the importance of 'portfolio theory'.

In John's country, there are two stock markets, and each market is driven by the same common force, *F*, with an expected value of zero and standard deviation of 10%. In each of these two stock markets, there are many securities. John can, hence, invest in as many stocks as he wishes if the decided to finally invest in the stock market. Due to financial and legal constraints, however, John can only invest in only one of the two markets.

Market 1:

The returns for security *n* in market 1 are generated by the relationship: $R_{1n} = 10\% + 1.5F + e_{1n}$ where e_{1n} is the term that measures the surprises in the returns of Stock *n* in this market.

Market 2:

The returns on Security *m* in market 2 are generated by the relationship: $R_{2m} = 10\% + 0.5F + e_{2m}$ where e_{2m} is the term that measures the surprises in the returns of Stock *m* in Market 2.

Additional information:

1. The expected return on every security in both markets is 10%.
2. Surprises in the returns of stocks *n* and *m* in both stock markets are normally distributed; their mean is zero.
3. The standard deviation of e_{1n} and e_{2m} for any two stocks, *n* and *m*, is 20%.
4. The correlation between the surprises in the returns of any two stocks in the markets 1 and 2 above is zero.
5. The stocks in the portfolio are equally weighted.

Amazi Company Limited:

Amazi Company Limited has presented the following financial statement extract in table 3:

Table 3: Amazi Company Limited financial statement extracts

Particulars	As at 01/01/2022 (FRW)	As at 31/12/2022 (FRW)	For the year ended 31/12/2022 (FRW)
Inventory	26,000,000	31,000,000	
Accounts receivable	21,000,000	25,000,000	
Accounts payable	29,000,000	28,000,000	
Net sales (all on credit)			323,000,000
Cost of goods sold			254,000,000

Assume that a year has 365 days.

Required:

(a) Using the information above about stock markets 1 and 2 and assuming John is risk-averse, **advise which market would be more beneficial for Mr John Gatsinzi if he finally decided to invest in the stock market.** (12 Marks)

(b) A broker has advised Mr John Gatsinzi not to invest in the energy sector stocks because they have high standard deviations. **Examine the soundness of the broker's advice to Mr John as a risk-averse investor.** (7 Marks)

(c) **Calculate Amazi Company Limited's operating and cash cycles and interpret your answer.** *Note: Round your calculations off to two decimal places.* (6 Marks)

(Total: 25 Marks)

QUESTION FOUR

Casanova Construction Company (CCC):

Casanova Construction Company (CCC) is a Rwandan airport construction company and has been undertaking large airport construction projects around the world. CCC has just won a tender for the construction of a major airport in the Democratic Republic of Lango (DRL), an east Asian country. According to the contract, the project in DRL will begin in seven months' time and will take four years to be fully completed. Once completed, this airport will serve as a major airport for the country and region. To help DRL's ambitious development efforts, the East Asian Development Bank (EADB) has agreed to provide funding to DRL in Languin Dollars (DAD).

CCC has just completed the construction of a BIF 16 billion airport in Burundi and its payment is due in five months. CCC intends to use this payment to partly finance its upcoming project in DRL and secure the remaining funds from a FRW loan. Upon receipt of the BIF payment, CCC's management has advised that it will temporarily convert into FRW and invest it in short term Treasury bills and the funds are needed for the project.

The construction contract between CCC and DRL states that CCC shall deposit DAD 360 billion, the contract value, in DRL's designated bank before the project commences. The contract also obliges DRL to provide an annual return of DAD 170 billion to be deposited at the end of each year until the project is completed. Assume no inflationary effects and a discount rate of 12%.

Exchange Rates available to CCC

Particulars	**Per FRW**	**Per FRW**
Spot	BIF 1.9102-BIF 1.9304	DAD 217-DAD 228
5-month forward	BIF 1.9124-BIF 1.9315	Not available

Currency Futures (Contract size FRW 100 million, Quotation: BIF per FRW1)

Expiry in 3 months	1.9322
Expiry in 6 months	1.9367

Capital market regulation:

Ms Lisandro Fernandes, a senior official at the International Monetary Fund (IMF) recently made the following comments: 'Countries have made substantial progress toward implementing capital markets regulatory reform following the global financial crisis, but important gaps remain, and new challenges have raised the bar. Therefore, the IMF and country regulators must keep prioritizing their push to make further progress on key aspects of the institutional and regulatory framework underpinning capital markets.'

Required:

(a) Compare and contrast forward contracts and currency options as approaches of hedging a foreign exchange risk. (8 Marks)

(b) Using appropriate calculations, **advise how the 6-month currency risk should be hedged.**
Note: Round your calculations off to the nearest whole number. (9 Marks)

(c) Evaluate Ms Lisandro Fernandes' comment on capital markets. (8 Marks)

(Total: 25 Marks)

End of question paper

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%	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

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