CERTIFIED PUBLIC ACCOUNTANT ADVANCED

LEVEL 2 EXAMINATIONS

A2.1: STRATEGIC CORPORATE FINANCE

DATE: WEDNESDAY, 01 DECEMBER 2021

MODEL ANSWER AND MARKING GUIDE

SECTION A

MARKING SCHEME

QUESTION ONE:		*Marks*
a)	Equity Value of Akanoze Ltd before acquisition calculation	1
	Free cash flow calculation	1
	Computation of equity value using growth model	2
	Computation of sales (0.5 marks each year, max 2)	2
	Computation of pre-tax profit (0.5 marks each year, max 2)	2
	Computation of tax (0.5 marks each year, max 2)	2
	Computation of additional investment	2
	Present value of free cash flows (1 mark for each year)	4
	Combined company value for years 1 to 4	1
	Combined company free cash flow after year 4	2
	Discounted combined company value after year 4	1
	Total combined company value	1
	Equity value of combined company	1
	Equity value created after acquisition	1
	Advice	2
	Maximum marks	**25**
b)	Cost of Equity	1
	Cost of preference shares	1
	After tax interest payment	1
	Market value (1 mark for PV at 2%, 1 mark for PV at 10% or other rates)	2
	Interest (1 mark for PV at 2%, 1 mark for PV at 10%)	2
	Redemption (1 mark for PV at 2%, 1 mark for PV at 10%)	2
	Net present value (1 mark at 2%, 1 mark at 10%)	2
	Internal Rate Return	1
	Total Market Value (1 mark for each of the capital structures)	4
	Weighted Average Cost of Capital (WACC)	1
	Maximum marks	**17**
c)	**Explanation**	
	Simulation	2
	Risk-adjusted discount rate	2
	Maximum marks	**4**
d)	**Explanation of practical considerations for dividend policy**	
	Consideration for dividend policy (1 mark each, max 4)	**4**
	Total marks	**50**

Detailed Answer

Equity Value of Akanoze Ltd before acquisition

	FRW'000,000'
Number of shares	30
Price per share	250
Equity value	7,500 = (30*250)

Equity Value of Kabore Ltd before acquisition
Free cash flow (FRW'000,000') = 195+26-23-(195*0.3) = 139.5M

With the use growth model (FRW'000,000')

$$Growth\ Mode\ (Company\ Value/Price) = \frac{Do(1+g)}{Re-g)} = \frac{139.5(1+0.05)}{(0.13-0.05)} = 1{,}831M$$

Equity value = 1,831-740= 1,091M

Equity value of combined company post acquisition (FRW'000,000')

Year	1	2	3	4
Sales (6% Growth from Year 2)	9,520	10,091	10,697	11,338
Pre-tax profit margin (17% of sales)	1,618.40	1,715.50	1,818.43	1,927.54
Tax (30% of pre-tax profit margin)	(485.52)	(514.65)	(545.53)	(578.26)
Additional investment (From Year 2, FRW15 for every FRW100 increase in sales)	(62)	(85.68)	(90.82)	(96.27)
Free cash flows	1,070.88	1,115.17	1,182.08	1,253.01
Discount rate (11%)	0.901	0.812	0.731	0.659
Present value of free cash flows	964.86	905.52	864.10	825.73

Combined company value: years 1 to 4 = 3,560.22M

Combined company free cash flow after year 4 (With the use of Growth model) FRW'000,000

$$(Company\ Value/Price\ ) = \frac{Do(1+g)}{Re-g)} = \frac{1{,}253.01(1+0.03)}{(0.11-0.03)} = 16{,}132.48M$$

Combined company free cash flow after year 4	16,132.48M
Discount rate (11%)	0.659
Combined company value: after year 4	10,631.30M

FRW'000,000

Total combined company value	**14,191.52** = (3,560.22+ 10,631.30)
Equity value of combined company	**9,934.07** =14,191.52*70%
Equity value created after acquisition	**1,343.13** =9,934.07-7,500-1,091

The acquisition is worthwhile and should be undertaken as there is potential to created additional equity value

b)

Risk Free	2.80%
Equity premium	7.30%
Beta	1.32

Cost of Equity = Rf + β(E(rm) – Rf)
Where:
Rf : Risk free rate
β: Equity beta
E(rm): Equity risk premium

Cost of Equity = 2.8%+(1.32*7.3%) = 12.4%

Interest rate on preference shares	7%
Par value	500
Market price	490
Cost of preference shares	7.1% = (7%*500)/490

Loan notes

After tax interest payment	7.7% = (11%*70%)
Par value of loan notes	100,000
Market value of loan notes	134,000
Time to redemption (years)	4
Redemption premium (%)	16%

Year			**2% Discount Factor**	**PV - 2%**	**10% Discount Factor**	**PV - 10%**
0	Market Value	(134,000)	1	(134,000)	1	(134,000)
1-4	Interest	7,700	3.808	29,322	3.17	24,409
4	Redeem	116,000	0.924	107,184	0.683	79,228
	Net Present Value			**2,506**		**(30,363)**

$$IRR = Ra + \frac{NPVa}{NPVa - NPVb}(Rb - Ra)$$

Ra=Lower discount rate chosen
Rb=Higher discount rate chosen
NPVa=NPV at Ra

NPVb=NPV at Rb

$IRR = 2\% + \frac{2,506}{2,506+30,363}(10\% - 2\%) = 2.6\%$

Market values and WACC calculation

	Book Value (FRW'000)	Par Value	Market Value	Total Market value (FRW'000)	% cost	Total Market value Cost%
Share Capital	250,000	1,000	7,200	(250,000*7,200/1000) = 1,800,000	12.4%	223,200
Preference shares	80,050	500	490	(80,050 *490/500) =78,449	7.1%	5,569.9
Loan notes	99,600	100,000	134,000	(99,600*134,000/100,000)= 133,464	2.6%	3,470.1
Long term debt	120,800			120,800	2.6%	3,140.8
				2,132,713		**235,380.7**

$$WACC = \frac{Ve}{Ve+Vd+VP}Ke + \frac{VP}{Ve+Vd+VP}\ \mathrm{D0/P0}\frac{Vd}{Ve+Vd+VP}Kd(1-T)$$

$$WACC = \frac{223,200.0}{2,132,713} + \frac{5,569.9}{2,132,713} + \frac{3,470.1}{2,132,713} + \frac{3,140.8}{2,132,713}(100\%) = 11.03\%$$

WACC = 11.03%

c)

i. **Simulation:** Simulation is a computer-based method of evaluating an investment project whereby the probability distributions associated with individual project variables and interdependencies between project variables are incorporated. Random numbers are assigned to a range of different values of a project variable to reflect its probability distribution. Each simulation run randomly selects values of project variables using random numbers and calculates a mean (expected) NPV. A picture of the probability distribution of the mean (expected) NPV is built up from the results of repeated simulation runs. The project risk can be assessed from this probability distribution as the standard deviation of the expected returns, together with the most likely outcome and the probability of a negative NPV.

ii. **Risk-adjusted discount rates:** The risk associated with an investment project can be incorporated into the discount rate as a risk premium over the risk-free rate of return. The risk premium can be determined on a subjective basis, for example, by recognising that

launching a new product is intrinsically riskier than replacing an existing machine or a small expansion of existing operations. The risk premium can be determined theoretically by using the capital asset pricing model in an investment appraisal context. A proxy company equity beta can be ungeared and the resulting asset can be regeared to reflect the financial risk of the investing company, giving a project-specific equity beta which can be used to find a project-specific cost of equity or a project-specific discount rate.

d)

- ✓ **Taxation –** Income Tax v Capital Gains Tax. If shareholders pay high marginal rates of Income Tax, they may prefer low dividends. If subject to low tax rate or zero tax, they may prefer high dividends.

- ✓ **Investment Opportunities – "Residual Theory" =>** retain sufficient funds until all profitable investments (those with a positive NPV) have been funded. Balance to be paid as dividends. Drawback is that dividends may vary dramatically from year to year. Also, consider the timing of the cash flows from the investments as these will be required to pay future dividends.

- ✓ **Availability of Finance –** If the company is highly geared it may have little option but to retain. Retentions will build up the equity base, thus reducing gearing and assisting future borrowing. Certain types of company (e.g. small/unquoted) may not have access to external funds and may need to retain.

- ✓ **Liquidity** – Profits do not equal cash. Adequate cash must be available to pay dividends. Also, for growth companies, sufficient liquidity must be available for reinvestment in fixed assets.

- ✓ **Cost of New Finance** – The costs associated with raising new equity/debt can be quite high. If debt is raised interest rates may be high at that particular point in time.

- ✓ **Control** – If high dividends are paid the company may subsequently require capital and this may be obtained by issuing shares to new shareholders. This may result in a dilution of control for existing shareholders.

- ✓ **Transaction Costs** – Some shareholders may depend on dividends. If earnings are retained they can create "home-made" dividends by selling some shares (capital). However, this may be inconvenient and costly (brokerage fees etc.).

SECTION B

MARKING SCHEME

QUESTION TWO: *Marks*

Question 2: Maisha Limited

Computation of investment rate	1
Investments return	1
Receipt from the bank	1
Net receipt	1
Effective annual interest rate	1
Computation of investment rate	1
Investments return	1
Receipt from the bank	1
Net receipt	1
Effective annual interest rate	1
Maximum marks	**10**

a) Reasons for need of integrated financial markets
Reasons (1.5 marks each, max 7.5) **7.5**

b) Factors considered for credit rating agency
Factors (1.5 marks each, max 7.5) **7.5**

Total marks **25**

Detailed Answer

(a)
Forward rate agreement

Use FRA 4.5% (2–8) since the investment will take place in 2 months' time for a period of 6 months.

- If interest rates rise by 0.9% to 4.4% (3.5%+0.9%)

Available investment amount (Ksh)	450,000,000
Investment rate (3.5%+0.9%+0.5%)	4.90%
Investment period	6 Months
Investment return	11,025,000 = (450,000,000*4.9%*6/12)

Receipt from the Bank (Short of agreed upon interest of 4.5%)	(4.5%-4.4%)*450,000,000*6/12=225,000
Net receipt	(11,025,000+225,000)= 11,250,000
Effective annual interest rate	(11,250,000/450,000,000*12/6) x100%=5.00%

If interest rates fall by 0.8% to 2.7% (3.5%-0.8%)

Investment rate (3.5%-0.8%+0.5%)	3.20%
Investment period	6 Months
Investment return	(450,000,000*3.2%*6/12)= 7,200,000
Receipt from the Bank (Short of agreed upon interest of 4.5%)	(4.5%-2.7%)*450,000,000*6/12=4,050,000
Net receipt	7,200,000+4050000=11,250,000
Effective annual interest rate	(11,250,000/450,000,000*12/6) x 100%=5.00%

(b) Reasons

1) Integrated markets can transmit important price signals – necessary for an efficient market
2) Efficient and integrated financial markets constitute an important vehicle for promoting domestic savings, investment and consequently economic growth
3) Financial market integration fosters the necessary condition for a country's financial sector to emerge as an international or a regional financial centre
4) Financial market integration, by enhancing competition and efficiency of intermediaries in their operations and allocation of resources, contributes to financial stability
5) Integrated markets lead to innovations and cost-effective intermediation, thereby improving access to financial services for members of the public, institutions and companies alike
6) Integrated financial markets induce market discipline and informational efficiency.

c) factors)

1) **Country –** Maisha Ltd.'s position within the industry compared with competitors will be assessed. If similar recent developments by competitors have been more successful, this is likely to have had an adverse impact on Maisha Ltd.'s rating.

2) **Company Governance and Management -** The credit agency will make an overall assessment of management and succession planning at Maisha Ltd to assess how successful the management has been in terms of delivering financial results. If the company performance has been a result of poor management decision making process, the company will be rated poorly.

3) **Profitability and Financial Position -** The company's profitability and financial position is analysed by considering historic profits, spread on funds employment, revenues on non-fund-based services, accretion to reserves, profit margins, etc.
4) **Regulatory and Competitive Environment -** Regulatory and competitive environment are studied in terms of the structure and regulatory framework of the financial system, the

efficiency of operations of regulatory authorities, trend in regulation or deregulation and the reactions of the competitors to regulations, etc.

5) **Audit report & Accounting Policies -** The Credit agency will need reassurance about the quality of the financial information being used, so it will have a look at the audit report and accounting policies.

6) **Market Position -** Market position of the company in relation to market share, competitive advantages, sales and distribution network, product and customer diversity.

7) **Adequacy of Cash Flows -** Adequacy of cash flows is reflected in working capital management, current ratio, and inventory to sales. These factors are studied to ascertain whether cash flows are adequate or not.

MARKING SCHEME

QUESTION THREE:	*Marks*
a) Ratios	
Profitability ratios	6
(3 marks for calculation and 3 marks for explanation, max 6)	
Liquidity ratios	2
(1 mark for calculation and 1 mark for explanation, max 2)	
Gearing ratios	4
(2 marks for calculation and 2 mark for explanation, max 4)	
Investment (dividend) ratios	4
(2 marks for calculation and 2 mark for explanation, max 4)	
Maximum marks	**16**
b) Signs/symptoms of corporate failure	
Signs (1 mark each, max 4)	**4**
c) Approaches	
Approaches identified (1 mark each, max 5)	**5**
Total marks	**25**

Detailed Answer
a.

	31 Dec 2020	31 Dec 2019
Profitability - Calculations		
% increase in revenue (6,689,030-6,560,500)*100/6,650,500	2.0%	n/a
Gross profit ratio (Gross profit/sales revenue)*100	35%	37.0%
% increase in gross profit (2,363,110-2,424,610)*100/2,424,610	-3%	n/a
Operating profit ratio (Operating profit/sales revenue)*100	25%	27%
% increase in operating profit (1,675,520-1,745,090)*100/1,745,090	-4%	n/a
Asset turnover ((revenue/(total assets – current liabilities))	60%	63%

KCL performance in 2020 did not match that of 2019 even though there was a small increase in revenue of 2% compared to 2019. The gross profit reduced by 2% from 37% to 35% despite the increase in sales, which shows lack of controls in the company's main costs.

Similarly, operating profit reduced by 2% from 27% in 2019 to 25% in 2020, further confirming reduced efforts in controlling KCP administration costs.

KCL asset turnover reduced by 3% from 63% in 2019 to 60% in 2020 which is a direct result of an apparent disproportionate increase in company assets and sales revenues.

	31 Dec 2020	31 Dec 2019
Liquidity		
Current ratio (Current assets/Current Liabilities)	0.87	0.55

There seems to be a liquidity problem at KCL. The current ratio increased in 2020 from 0.55 in 2019 to 0.87. However, the ratio is still below the recommended minimum of 1. This means that KCL is unable to honour its short-term responsibilities when they fall due. KCL should improve the management of its current assets and liabilities.

	31 Dec 2020	31 Dec 2019
Gearing		
Gearing/Debt to equity ((non-current liabilities/(book value of share capital + reserves)) %	12%	20%
Gearing ((non-current liabilities/(non-current liabilities + book value of share capital + reserves)) %	10%	16%
Interest cover (Operating profit/finance costs)	4.64	4.65

KCL Gearing ratios are well below the limits and there has been in improvement where significant change have occurred during the year, mainly driven by the loans' repayment but also the increase in profitability, all reducing the company exposure to credit risk.
Even though the interest cover has relatively remained constant at 4.64, the shareholders should not be worried, especially that the gearing ratios have reduced to more than 6% from 2019 to 2020. This exposure gives a comfortable room for KCL to increase its long-term debts obligations should the need arise.

	31 Dec 2020	31 Dec 2019
Investment		
Number of shares	8,000	8,000
Earnings per share (FRW) - Profit after tax/no. of shares	115	120
Dividend per share (FRW) - Dividends/no. of shares	29.38	32.11
Dividend cover (Profit after tax/Dividends)	3.92	3.73

The 2020 performance results were less than those of 2019 which led to a decrease of Earnings per share from FRW 120 in 2019 to FRW 115 in 2020.
The reduced performance also meant that paid out dividends were reduced, further reducing the Dividend per share from FRW 32.11 in 2019 to FRW 29.38 in 2020.
However, the Dividend cover increased due to a disproportionate reduction in profit after tax to dividends paid. The reductions in Earnings per share and Dividend per share could be ones of the main causes of shareholders' concerns given the fact that they have received less in 2020 compared to 2019.

b) Below are the existing signs/symptoms of corporate failure

1) Failure to focus on a specific market because of poor research
2) Failure to control cash by carrying too much of stock, prompt payment of suppliers and allowing customers to take long to pay
3) Failure to control costs
4) Failure to adapt your products to meet customer needs
5) Failure to carry out decent market research
6) Failure to build a team which is compatible and has the skills to finance, produce, sell and market
7) Failure to pay taxes

8) Failure of business need to grow

c. identified approach

1. Avail "share option schemes" to business leaders to align their interests with those of the business owners
2. Introduction of "Performance-related pay" to motivate leaders to achieve the predetermined and agreed upon targets.
3. Introduction of "Corporate governance codes of best practice" which encourage specific behaviour, processes, and reporting guidelines
4. Introduction of "Stock exchange listing regulations" which normally require higher degree of information disclosure and encourage accountability.
5. Regular "Monitoring" of the actions of business leaders through audits, reviews, etc.

MARKING SCHEME

QUESTION FOUR: *Marks*

a) Calculations

Present Value for leasing (1 mark each, max 3)	3
Total present value cost for leasing	1
Present Value for purchase/borrowing (1 mark each, max 4)	4
Total present value cost for purchase/borrowing	1
Advice on option to choose	1
Maximum marks	**10**

b) Calculations

Choice no. 1

Revised trade receivables	0.5
Reduction in receivables	0.5
Reduction in financing costs	0.5
Total benefits	0.5
Factor's service fee	0.5
Net benefits	0.5
Maximum marks	**3**

Choice no. 2

Bad debts saved	0.5
Total benefits	0.5
Increase in finance rate	0.5
Increase in finance costs	0.5
Increase in service fee rate	0.5
Factor's service fee	0.5

Total costs	0.5
Net benefit	0.5
Advice on preferred choice	2
Maximum marks	**6**

c) Arguments in favour and against CSR

Arguments in favour of Corporate Social Responsibility

Favour of CSR (1 mark each, 3 max)	3

Arguments against Corporate Social Responsibility

Against CSR (1 mark each, 3 max)	3
Maximum marks	**6**

Total marks	**25**

Detailed Answer

(a)

Year	0	1	2	3
Leasing				
Lease Payment	(82,000,000)	(82,000,000)	(82,000,000)	
Discount Rate (15%)	1.000	0.870	0.756	
Present Value	(82,000,000)	(71,340,000)	(61,992,000)	
Total Present Value cost	**(215,332,000)**			
Borrowing/Purchase				
Purchase cost	-240,000,000			
Residual Value				65,000,000
Maintenance Cost		(13,000,000)	(13,000,000)	(13,000,000)
Total	-240,000,000	-13,000,000	-13,000,000	52,000,000
Discount Rate (15%)	1.000	0.870	0.756	0.658
Present Value	(240,000,000.000)	(11,310,000.000)	(9,828,000.000)	34,216,000.000
Total Present Value cost	**(226,922,000)**			

The leasing is cheaper and so the new equipment should be leased as opposed to using the loan to purchase the equipment

(b)

Choice No.1(FRW)

Current trade receivables	790,000,000
Revised trade receivables	(200,000,000) =(-2,400,000,000*30/360)
Reduction in receivables	590,000,000

Reduction in financing costs	53,100,000 = (590,000,000*9%)
Reduction in admin costs	130,000,000
Total benefits	183,100,000 = (53,100,000 + 130,000,000)
Factor's service fee	(48,000,000) =(-2,400,000,000*2%)
Net benefit	**135,100,000 = (183,100,000 - 48,000,000)**

Choice No.2 (FRW)	
Reduction in financing costs	53,100,000
Reduction in admin costs	130,000,000
Bad debts saved	144,000,000 = (2,400,000,000*6%)
Total benefits	327,100,000 =(53,100,000+130,000,000+144,000,000)
Increase in finance rate	4.00%=(13%-9%)
Increase in finance costs	(6,000,000)=(200,000,000)*75%*4%
Increase in service fee rate	2.72%=(2%*1.36)
Factor's service fee	(65,280,000) =-2,400,000,000*2.72%
Total costs	(71,280,000) = (6,000,000)+ (65,280,000)
Net benefit	**255,820,000=(327,100,000-71,280,000)**

Choice No.1 and Choice No.2 are both financially profitable, but Choice No.2 offers greater benefit and should therefore be selected by Management

c.)

Arguments in favour of CSR

1) Creates positive Public Relations for the organisation, or, as a minimum avoids bad Public Relations.
2) Helps attract new and repeat customers
3) Improves staff recruitment, motivation, and retention
4) Helps keep the organisation within the law in some jurisdictions

Arguments in against CSR

1) Market capitalism is the most equitable form of society that has ever appeared
2) The ethics of doing business are not those of wider society
3) Governments are responsible for the well-being of society
4) An organisation's maximum requirement is to remain within the law, no more than this is required.

End of Model Answer