



**CERTIFIED PUBLIC ACCOUNTANT
INTERMEDIATE LEVEL 1 EXAMINATIONS**

I1.1: MANAGERIAL FINANCE

DATE: THURSDAY 30, MAY 2024

MARKING GUIDE AND MODEL ANSWERS

SECTION A:

SOLUTION ONE:

Marking Guide:

QN	Description	Marks	Total Marks
a (i)	Mecar Garages Limited:		
	Calculation of value of existing share before right issue	0.5	
	Calculation of value of new share issued on right issue	0.5	
	Theoretical ex-right price	1.0	
a (ii)	Value of rights:		
	Value of the rights per share	1.0	
	Value of right attached to each existing share	1.0	
	Sell all the rights		
a (iii)	Sales value of right	0.5	
	Market value of their 1500 share ex rights	0.5	
	Total wealth	1.0	
a (iii)	Do nothing		
	Market value of existing share before right issue	0.5	
	Market value of their 1500 share after right issue	0.5	
	Loss of wealth	1.0	8.0
b	Robotic Solution Company Ltd:		
b (i)	Formula of cost of equity	0.5	
	Computation of cost of equity	1.0	
b (ii)	Formula of cost of irredeemable loan note	0.5	
	Computation of irredeemable loan note	1.0	
b (iii)	Conversion value formula	0.5	
	Conversion value computation	1.0	
	Formula of IRR	1.0	
	Computation of IRR	1.0	
	Computation of Present values at 5% (0.5 Marks each, 1.5)	1.5	
	Computation of Present values at 10% (0.5 Marks each, 1.5)	1.5	
	Computation of Net Present Values at 5% and at 10% (0.5 Marks each, 1.0)	1.0	

b			
(iv)	Weighted average cost of capital (WACC)		
	Formula of WACC	0.5	
	Computation of WACC	1.0	
	Result	1.0	13
c			
	Difference between Efficient Frontier and Capital Market Line:		
	Award 2 marks for Efficient Frontier and Award 2 marks for Capital Market Line		4
Total Marks			<u>25</u>

Model Answer:

a)

i. The theoretical ex-rights price

$$3 \text{ shares} * 400 = 1,200$$

$$\underline{1 \text{ share} * 300 = 300}$$

$$4 \text{ shares @} = 1,500$$

$$\text{So, the value per share after the rights issue (TERP) is } \frac{1500}{4} = 375$$

ii) The value of rights

$$\text{Theoretical ex-rights price} = 375$$

$$\text{Price of new share} = \underline{300}$$

$$\text{Value of the rights per share} = 75$$

iii) The effect on Gakuba's wealth if:

1. They sell all the rights Cost of equity

If they sell all right:

$$\text{sales value of right} = 1500 * 25 = 37,500$$

$$\text{Market value of their 1500 share ex rights} = 1500 * 375 = \underline{562,500}$$

$$\text{Total wealth} = 600,000$$

OR

Share will be

gotten by Gakuba after right issue = $\frac{1500}{3} * 1 = 500$

Sales value of right on TERP = $500 * 375 = 187,500$

Market value of new share = $500 * 300 = \underline{150,000}$

Profit 37,500

Value of Gakuba's existing share after right issue = $1500 * 375 = 562,500$

Total wealth of Gakuba = $562,500 + 37,500 = 600,000$

2. They do nothing

If they do nothing:

Market value of existing share before right issue = $1500 * 400 = 600,000$

Market value of their 1500 share after right issue = $1500 * 375 = \underline{562,500}$

Loss of wealth = 37,500

For Gakuba, to protect their existing investment, should sell them to other shareholders or else they will be a loss of wealth by FRW 37,500

b)

1. calculate: Cost of equity

$$K_e = \frac{D_0(1+g)}{MPS} + g$$

$$K_e = \frac{200(1+0.05)}{1500} + 0.05 = 19\%$$

Cost of equity is 19%

K_e = Cost of equity

D_0 = Dividend in current year (FRW 200)

P_0 = Current market price of share (FRW 1500)

G = Annual dividend growth (5%)

2. Cost of irredeemable loan note

10% Irredeemable loan note (FRW 1000)

Interest rate = $10\% * 1000$

$$=100$$

Market price = 900

$$\text{Cost of irredeemable loan note} = \frac{\text{INTEREST} * (1 - \text{TAX})}{\text{Market Price of irredeemable debt}}$$

$$= \left(\frac{100 * (1 - 0.3)}{900} \right) * 100\% = 7.78\%$$

3. Cost of convertible loan note

Conversion value = $[Po(1+g)^n] * (\text{number of shares to be received in conversion})$

$$= [1500 * (1 + 0.06)^5] * 4 = \text{FRW } 8029$$

Redeemable value at nominal value = 10,000

As the redemption value of FRW 10,000 is greater than the value of conversion so, Investor would choose redemption.

We use IRR for calculation of cost of convertible debt by trial-and-error method.

Year	Details	Cash flow 'FRW'	Discount factor (5%) (a)	Present Value 'FRW'	Discounted facto (15%) (b)	Present Value'
0	Market value	(8,000)	1	(8,000)	1	(8,000)
1-5	Interest [1,200*(1-0.3)]	840	4.329	3,636.36	3.352	2,816
5	Redemption value at par	10,000	0.784	7840	0.497	4,970
	NPV			+3,476.36		(214)

Interest = 12% * 10,000 = FRW 1,200

$$\text{IRR} = a + \left(\frac{\text{NPV @ } a}{\text{NPV @ } a - \text{NPV @ } b} \right) * (b - a)$$

$$\text{IRR} = 5\% + \left(\frac{3,476.36}{3,476.36 - (-214)} \right) * (15\% - 5\%) = 14.42\%$$

Cost of convertible debt is 14.42%

4. Weighted average cost of capital

- $K_e = 19\%$

$$\text{Market value of equity} = \left(\frac{15,000}{1,000}\right) * 1,500 = \text{FRW } 22,500 \text{ ('000')}$$

- Cost of irredeemable loan note = 7.78%

$$\text{Market value} = \left(\frac{35,000}{1,000}\right) * 900 = \text{FRW } 31,500 \text{ ('000')}$$

- Cost of convertible debt is 14.42 %

$$\text{Market value} = \left(\frac{40,000}{1,000}\right) * 8,000 = 32,000 \text{ ('000')}$$

$$\text{WACC} = \left(\frac{MV E}{MV E + MV R + MV CONV}\right) * K_e + \left(\frac{MV reedemable}{MV E + MV R + MV Convertible}\right) * Kr + \left(\frac{MV irr}{MV E + MV r + mv CONV}\right) * K_{\text{convertible}}$$

$$\left[\frac{22,500}{(22,500 + 31,500 + 32,000)}\right] * 19\% + \left[\frac{31,500}{(22,500 + 31,500 + 32,000)}\right] * 7.78\% + \left[\frac{32,000}{(22,500 + 31,500 + 32,000)}\right] * 14.42\%$$

$$\text{WACC} = 4.97\% + 2.85\% + 5.37\%$$

WACC = 13.19% Let say 13%

c) Differentiate between Efficient Frontier and Capital Market Line

The Efficient Frontier is a key concept in portfolio theory, specifically Modern Portfolio Theory (MPT), developed by Harry Markowitz. It represents a set of optimal portfolios that offer the highest expected return for a given level of risk or the lowest risk for a targeted level of return. In other words, it outlines the trade-off between risk and return for various combinations of assets in a portfolio. The Efficient Frontier is typically depicted graphically, where risk (usually measured by standard deviation) is plotted on the x-axis, and return is plotted on the y-axis.

Whereas

The Capital Market Line (CML) is a line that extends from the risk-free rate of return and is tangent to the Efficient Frontier. It represents a combination of a risk-free asset (usually government bonds) and a risky portfolio of assets that provides the highest expected return for a given level of risk.

Efficient Frontier:

The Efficient Frontier is a graph that represents the set of optimal portfolios that offer the highest expected return for a given level of risk (standard deviation) or the lowest risk for a given level of return.

Consider that "Portfolios lying on the Efficient Frontier are considered efficient because they offer the maximum return for a given level of risk or the minimum risk for a given level of return"

While

"Portfolios lying below the Efficient Frontier are suboptimal because they offer lower returns for the same level of risk, while portfolios lying above it are unattainable because they involve higher risk for the same return"

Capital Market Line (CML)

is a tangent line drawn from the risk-free rate of return to the point of tangency with the Efficient Frontier which represents a theoretical line that shows the relationship between risk and return for efficient portfolios in the market and provides a benchmark for evaluating the performance of portfolios.

Consider that " Portfolios that lie on the CML are combinations of the risk-free asset and the market portfolio. These portfolios offer the maximum return for a given level of risk or the minimum risk for a given level of return achievable in the market.

SOLUTION TWO:

Marking Guide:

QN	Description	Marks	Total Marks
a (i)	Systematic risk: Please note that correct answers presented in a table are also acceptable		
	Expected return of Stock A	1	
	Beta of A	1	
	Expected return of Stock B	1	
	Beta of B	1	
	Recommendation i.e. Stock A has more systematic risk	2	6
a (ii)	Unsystematic risk		
	Covariance of A	1	
	Standard deviation of A	1	
	Covariance of B	1	
	Standard deviation of B	1	
	Recommendation i.e. Stock B has more unsystematic risk	2	6
a (iii)	The most risk:		
	Recommendation i.e. Stock A is riskier than stock B	1	
b	A correct reason i.e. unsystematic risk can be diversified away	1	2
	THREE applications of Capital Asset Pricing Model (CAPM): Award 2 marks for each correctly discussed application Any unexplained application scores 1 mark instead of 2 3 applications * 2 marks = 6 maximum marks Consider other correct applications suggested by candidates		6
<u>Total Marks</u>			<u>20</u>

Model Answer:

- a) Using appropriate calculations:
i. Determine which stock has the most systematic risk.

The amount of systematic risk is measured by the Beta (β) of an asset. Since the market risk premium and the risk-free rate are known, if we know the expected return of the asset, we can use the Capital Asset Pricing Model (CAPM) to solve for the β of the asset.

The expected return of Stock A ($E(RA)$) is:

$$E(RA) = 0.13*(0.13) + 0.43*(0.14) + 0.2*(0.06) = 0.0891, \text{ or } 8.91\%$$

Using the CAPM to find the β of Stock A (β_A):

Remember that:

$$R_i = R_f + \beta_i * (R_m - R_f)$$

Applying this formula:

$$0.0891 = 0.03 + 0.08\beta_A$$

$$\beta_A = 0.73875$$

Using the same procedure for Stock B, the expected return (E(RB)) is:

$$E(RB) = 0.13(-0.23) + 0.43(0.13) + 0.20(0.29) = 0.084$$

Using the CAPM to find the β of Stock B (β_B):

$$0.084 = 0.03 + 0.08\beta_B$$

$$\beta_B = 0.675$$

Stock A has more systematic risk since its Beta is higher than that of stock B.

ii. Determine which stock has the most total risk.

The total risk of an asset is measured by its standard deviation, so we need to calculate the standard deviation of Stock A.

Standard deviation is the square root of variance

The stock's variance is:

$$\sigma_A^2 = 0.13(0.13 - 0.0891)^2 + 0.43(0.14 - 0.0891)^2 + 0.20(0.06 - 0.0891)^2$$

$$\sigma_A^2 = 0.0015$$

$$\sigma_A = (0.0015)^{1/2} = 0.0387, \text{ or } 3.87\%$$

And the standard deviation of Stock B is:

$$\sigma_B^2 = 0.13(-0.23 - 0.084)^2 + 0.43(0.13 - 0.084)^2 + 0.20(0.29 - 0.084)^2$$

$$\sigma_B^2 = 0.02221$$

$$\sigma_B = (0.02221)^{1/2} = 0.1490, \text{ or } 14.90\%$$

Stock B has more unsystematic risk since its standard deviation is higher than that of stock A.

iii. Indicate which stock carries the most risk in a portfolio perspective and why.

Stock A is riskier than stock B because unsystematic risk can be diversified away. Stock A will have a higher risk premium and a greater expected return.

b) Discuss THREE applications of Capital Asset Pricing Model (CAPM).

The following are applications of CAPM:

Portfolio selection: The beta metric has been used to construct different types of portfolios. For highly risk-averse investors, a portfolio consisting of low beta securities may be chosen. If the average beta of the portfolio is 0.7, then for every 1% change in the index, the portfolio is expected to change by only 0.7%. Similarly, a high-risk portfolio could be created which consisted of high beta stocks, and this would be expected to outperform the market in an upswing but underperform in a market correction.

Measuring portfolio performance: If a fund manager produces a high annual return of, say, 15% how do you judge if this is due to good share selection? Well, one of the elements to consider is the systematic risk of the fund. If the 15% return has been achieved because particularly risky shares were selected, then perhaps you would hesitate to congratulate the manager.

Mispriced shares: Investors have used beta estimates to identify shares with anomalous risk-return characteristics. A share with an unusually attractive expected return for its beta level would be a “buy” opportunity and one with an unusually low anticipated return would be a “sell”. Getting this analysis correct is easier said than done, even if the CAPM worked perfectly.

SOLUTION THREE:

Marking Guide:

QN	Description	Marks	Total Marks
	Sales at 5% inflation (Award 0.5 marks for years 2-4)		1.5
	Materials at 10% inflation (Award 0.5 marks for years 2-4)		1.5
	Labour at 10% inflation (Award 0.5 marks for years 2-4)		1.5
	Capital allowances (Award 0.5 marks for years 2-4)		1.5
	Taxation at 30% (Award 0.5 marks for years 2-4)		1.5
	Working capital (Award 0.5 marks for years 2-4)		1.5
	Net cash flows (Award 0.5 marks for years 2-4)		1.5
	Working for Capital Allowance (Award 0.5 marks each)		2
	NPV		2.5
Total Marks			15

Model Answer:

Particulars	Year0	Year1	Year2	Year3	Year4
Depreciable fixed assets	(3,400,000,000)				
Sales		2,400,000,00	2,520,000,000	2,646,000,000	2,778,300,000
Materials		(424,000,000)	(466,400,000)	(513,040,000)	(564,344,000)
Labour		(990,000,000)	(1,089,000,000)	(1,197,900,000)	(1,317,690,000)
Working Capital	(250,000,000)	(12,500,000)	(13,125,000)	(13,781,250)	289,406,250
Net operating income		973,500,000	951,475,000	921,278,750	1,185,672,250
Tax @30%		-	(292,050,000)	(285,442,500)	(276,383,625)
Net income after tax		973,500,000	659,425,000	635,836,250	909,288,625
Tax Saving		255,000,000	191,250,000	143,437,500	430,312,500
Net income		1,228,500,00	850,675,000	779,273,750	1,339,601,125
Discounting Factor @10%		0.909	0.826	0.751	0.683
Present Value	(3,650,000,000)	1,116,706,50	702,657,550	585,234,586	914,947,568
NPV	(330,453,795)				

CAPITAL ALLOWANCE

Details	Amount	Tax Saving	Year
Depreciable fixed assets	3,400,000,000		
Capital Allowance @25%	(850,000,000)	(255,000,000)	1
WDA	2,550,000,000		
Depreciable fixed assets	2,550,000,000		
Capital Allowance @25%	(637,500,000)	(191,250,000)	2
WDA	1,912,500,000		
Depreciable fixed assets	1,912,500,000		
Capital Allowance @25%	(478,125,000)	(143,437,500)	3
WDA	1,434,375,000		
Depreciable fixed assets	1,434,375,000		
Capital Allowance	(1,434,375,000)	(430,312,500)	4
WDA	-		

SECTION B

SOLUTION FOUR:

Marking Guide:

QN	Description	Marks	Total Marks
	Kangondo Ltd's current share price:		
	Sales (Award 1 marks for years 2-4)	3	
	Costs (Award 1 marks for years 2-4)	3	
a	Investment (Award 1 marks for years 2-4)	3	
	Terminal value in year 4	4	
	Share price formula	2	
			15
b	FIVE advantages of Blockchain in Finance:		
	Award 1 mark for each correctly stated benefit	5	5
	<u>Total Marks</u>	<u>20</u>	<u>20</u>

Model Answer:

Required:

To compute the current share price of KANGONDO Ltd, we can use the Dividend Discount Model (DDM) with the Gordon Growth Model. The Gordon Growth Model calculates the present value of all future dividends (or cash flows) discounted back to the present value.

The dividend in this case can be represented by the free cash flow to equity (FCFE), which is the cash flow available to the equity shareholders after accounting for all expenses, investments, and taxes. The FCFE can be calculated as follows:

$$FCFE = (Sales - Costs - Investments) \times (1 - Tax Rate)$$

Then, we can calculate the FCFE for each year, considering the growth rates provided, and discount them back to the present value using the required rate of return on shares.

1. Calculate FCFE for year 1:

Sales1	124,000,000
Costs1	65,000,000
Investment1	12,000,000
Tax rate	30%

FCFE1 = 32,900,000

2. Calculate FCFE for year 2:

Sales2	130,200,000
Costs2	68,250,000
Investment2	12,600,000
Tax rate	30%

$$FCFE_2 = (Sales_2 - Costs_2 - Investments_2) \times (1 - Tax Rate)$$

FCFE2 = 34,545,000

3. Calculate FCFE for year 3:

Sales3	136,710,000
Costs3	71,662,500
Investment3	13,230,000
Tax rate	30%

FCFE3 = (Sales3-Cost3-Investment3)*(1-tax Rate

FCFE3 = 36,272,250

4. Calculate FCFE for year 4:

PV	Sales4	140,811,300
PV	Costs4	73,812,375

PV	Investment ₄	13,626,900
	Tax rate	30%

$$FCFE_4 = (\text{Sales}_4 - \text{Cost}_4 - \text{Investment}_4) * (1 - \text{tax Rate})$$

$$FCFE_4 = 37,360,418$$

5. Calculate the terminal value using the Gordon Growth Model:

$$\text{Terminal Value} = 549,731,858$$

6. Discount all the cash flows back to the present value:

$$\text{Share Price} = \frac{FCFE_1}{(1 + \text{Required Rate of Return})^1} + \frac{FCFE_2}{(1 + \text{Required Rate of Return})^2} + \frac{FCFE_3}{(1 + \text{Required Rate of Return})^3} + \frac{\text{Terminal Value}}{(1 + \text{Required Rate of Return})^3}$$

$$\text{Share Price} = 86,123,577.65 \quad 400,000 \quad 215.31$$

a) State FIVE advantages of Blockchain in Finance.

The following are benefits of Blockchain in Finance:

- **Security:** Its distributed consensus-based architecture eliminates single points of failure and reduces the need for data intermediaries such as transfer agents, messaging system operators and inefficient monopolistic utilities. Ethereum also enables implementation of secure application code designed to be tamper-proof against fraud and malicious third parties— making it virtually impossible to hack or manipulate.
- **Transparency:** It employs mutualized standards, protocols, and shared processes, acting as a single shared source of truth for network participants
- **Trust:** Its transparent and immutable ledger makes it easy for different parties in a business network to collaborate, manage data, and reach agreements
- **Programmability:** It supports the creation and execution of smart contracts— tamper proof, deterministic software that automates business logic – creating increased trust and efficiency
- **Privacy:** It provides market-leading tools for granular data privacy across every layer of the software stack, allowing selective sharing of data in business networks. This

dramatically improves transparency, trust and efficiency while maintaining privacy and confidentiality.

- **High-Performance:** It's private and hybrid networks are engineered to sustain hundreds of transactions per second and periodic surges in network activity
- **Scalability:** It supports interoperability between private and public chains, offering each enterprise solution the global reach, tremendous resilience, and high integrity of the main net.

SOLUTION FIVE:

Marking Guide:

QN	Description	Marks	Total Marks
16a	Mukura Limited:		
	Current Sales (Award 0.5 marks for 3 months)	1.5	
	Sales – second month (Award 0.5 marks for 2 months)	1.0	
	Sales – third month (Award 0.5 marks for 1 month)	0.5	
	Total sales collection (Award 0.5 marks for 3 months)	1.5	
	Current Variable expenses (Award 0.5 marks for 3 months)	1.5	
	Variable expenses – third month (Award 0.5 marks for 1 month)	1.5	
	Variable expenses – second month (Award 0.5 marks for 2 months)	1.0	
	Variable expenses – third month (Award 0.5 marks for 1 month)	0.5	
	Total Expenses (Award 0.5 marks for 3 months)	1.0	
	Loan repayment	0.5	
	Purchase of equipment (Award 0.5 marks for 2 months)	1.0	
	Bonus payment	0.5	
	Total other cash flows (Award 0.5 marks for 3 months)	1.5	
	Net cash flow for the month (Award 0.5 marks for 3 months)	1.5	
Opening cash flow (Award 0.5 marks for 2 months)	1.0		
Closing cash balance (Award 0.5 marks for 3 months)	1.5	16	
b	Defense tactics:		
	Award 1 mark for each correctly stated defense tactic		4
Total Marks			20

Model Answer

(a) Cash budget

Details	Jan-24	Feb-24	Mar-24
Cash at the beginning	-	11,000,000	19,000,000
Sales July 2024	18,000,000	9,000,000	3,000,000
Sales August 2024		30,000,000	15,000,000
Sales September 2024			42,000,000
Variable expenses July 2024	(4,000,000)	(3,000,000)	(3,000,000)
Variable expenses August 2024		(8,000,000)	(6,000,000)
Variable expenses September 2024			(12,000,000)
Loan repayment		(20,000,000)	-
Purchase of equipment July 2024	(3,000,000)	-	-
Purchase of equipment August 2024		-	-
Purchase of equipment September 2024			(8,000,000)
Bonus payment for year ended 2023			(15,000,000)
Total Cash at the end	11,000,000	19,000,000	35,000,000

(b) Defense mechanism to decline Hostile takeover.

- Reject the bid on the basis that the terms are not good enough.
- Issue a forecast of attractive future profits and dividends to persuade shareholders to hold onto their shares.
- Revalue any undervalued assets.
- Mount an effective advertising and P.R. campaign.
- Find a “White Knight” that is more acceptable - in 1986 Distillers Co. (U.K.) received an unwelcome bid from Argyll and found a white knight in Guinness. In Ireland in 1988 Irish Distillers Group found Pernod in their battle with G.C. & C. Brands (Grand Metropolitan).
- Make a counter bid – generally only possible if the companies are of a similar size.
- Arrange a Management Buyout.

- Attack the credibility of the offer or the offeror itself, particularly if shares are offered - e.g., commercial logic of the takeover, dispute any claimed synergies, criticize the track record, ethics, future prospects etc. of the offer or.
- Appeal to the loyalty of the shareholders.
- Encourage employees to express opposition to the merger
- Persuade institutions to buy shares.

b) When a company faces a hostile takeover bid, it often employs various defense tactics to protect itself and its shareholders' interests. Here are four different defense tactics commonly used:

1. Poison Pill

is a defensive strategy that allows existing shareholders to purchase additional shares at a discounted price if an acquirer purchases a certain percentage of the company's stock.

This tactic dilutes the ownership stake of the acquiring company, making the takeover more expensive and less appealing. can deter potential acquirers by increasing the cost of the takeover and potentially making it financially unfeasible.

2. Staggered Board of Directors

A staggered board of directors is a governance structure where only a fraction of the board members are up for election each year, typically in different classes.

By implementing a staggered board, the target company can slow down the process of a hostile takeover bid. It makes it more difficult for the acquirer to gain control of the board quickly, as they would need to wait for multiple election cycles to replace the entire board.

3. White Knight

A white knight defense involves seeking out a friendly third party, often another company, to acquire the target company and fend off the hostile bidder.

The target company may enter into negotiations with a white knight to arrange a more favorable acquisition deal that benefits its shareholders. The white knight is viewed as a preferable alternative to the hostile bidder, as they may offer better terms or strategic synergies.

4. Litigation

Legal challenges can be used as a defense tactic to delay or block a hostile takeover bid. The target company may file lawsuits alleging securities violations, antitrust concerns, or breaches of fiduciary duty by the acquirer.

Litigation can create uncertainty and legal risks for the acquirer, potentially discouraging them from proceeding with the takeover bid.

SOLUTION SIX:

Marking Guide:

QN	Description	Marks	Total Marks
A			
	Formula for intrinsic value	1.0	
i)	Computation for growth rate	1.0	
	Formula for price per share	1.0	
	Computation of intrinsic value	2.0	5
	4 Motive of stakeholders (Award 1 mark each, max 4)	4.0	4
	Symptoms of Overtrading (Award 1 mark each, max 3)	3.0	
	Causes of Overtrading (Award 1 mark each, max 3)	3.0	
ii)	Remedies of Overtrading (Award 1 mark each, max 3)	3.0	9
iii)			
iv)	2 Characteristics of Warrant (Award 1 mark each, max 2)		2
Total Marks			20

To calculate the intrinsic value of Kinigi Bakery Limited using the Gordon Growth Model, we'll use the formula:

$$\text{Intrinsic Value} = \frac{D_0 \times (1+g)}{r-g}$$

Where:

- D_0 = Dividend per share in the most recent year = Frw 35
- g = Growth rate of dividends
- r = Required rate of return (cost of equity)

Calculate the growth rate (g) using the dividend growth formula:

Where:

D_1 = Dividend per share in the next year

$$g = \frac{D_1 - D_0}{D_0}$$

$$g = \frac{\text{Frw}35 - \text{Frw}34}{\text{Frw}34} = 0.0294$$

(i) Using Gordon Growth Model:

$$\text{Intrinsic Value} = \text{Frw}35 * (1+0.0294) / (0.15-0.0294) = 298.78$$

So, according to the Gordon Growth Model, the intrinsic value that Gasabo Cake Limited could pay to acquire Kinigi Bakery Limited is approximately Frw 299.26 per share.

(ii) Identify four possible motivations of different stakeholder towards the company.

1. Shareholders/Investors

Motivation includes **Financial Return:** Shareholders typically invest in a company with the expectation of receiving financial returns in the form of dividends, capital appreciation, or both.

Growth Potential: Shareholders may be motivated by the company's growth prospects and its ability to increase its market share, expand into new markets, or develop innovative products/services.

2. Employees

Job Security and Stability: Employees are motivated by job security, stable employment, and opportunities for career advancement within the company.

Compensation and Benefits: Employees seek competitive compensation, benefits, and incentives that reflect their skills, experience, and contributions to the company.

3. Customers

Quality and Value: Customers are motivated by the quality, reliability, and value of the products or services offered by the company.

Customer Service: Customers seek responsive and attentive customer service, including timely assistance, problem resolution, and personalized interactions.

4. Suppliers

Fair and Timely Payments: Suppliers expect fair and timely payments for goods or services provided to the company, as well as transparent and consistent procurement processes.

Stable Relationships: Suppliers and partners seek stable and mutually beneficial relationships with the company, based on trust, reliability, and open communication.

b)

Overtrading refers to a situation where a company is experiencing rapid expansion of its operations without adequate financial resources to support that growth. Here are three symptoms, causes, and remedies of overtrading in Nakamaro Supermarket:

Symptoms

1. Delayed Payments to Suppliers: One symptom of overtrading is frequent delays in paying suppliers for goods and services provided to the company.

2. Cash Flow Issues: Another symptom is consistent cash flow problems, including insufficient funds to meet short-term obligations such as paying suppliers and employees.

3. Increased Debt Levels: Overtrading can lead to increased borrowing to finance operations, resulting in higher debt levels and interest expenses for the company.

Causes

1. Rapid Expansion without Sufficient Capital: Nakamaro Supermarket may have expanded its operations too quickly, opening new stores or increasing inventory levels without adequate financial resources to support the growth.

2. Inefficient Cash Management: Poor cash management practices, such as ineffective budgeting, inefficient collections from customers, or excessive spending, can contribute to overtrading.

3. Overreliance on Short-Term Financing: The supermarket may have relied heavily on short-term financing options, such as trade credit or overdraft facilities, to fund its operations instead of seeking more sustainable long-term financing solutions.

Remedies:

1. Cash Flow Forecasting and Management: Nakamaro Supermarket should develop robust cash flow forecasting techniques to accurately predict future cash flows and ensure that it has sufficient funds to meet its financial obligations.

2. Cost Reduction and Efficiency Improvements: The company should identify and eliminate unnecessary expenses, streamline operations, and improve efficiency to reduce costs and conserve cash.

3. Capital Restructuring and Long-Term Financing: Nakamaro Supermarket may need to restructure its capital, including negotiating with creditors to extend payment terms or seeking long-term financing options such as equity investment or loans with favorable terms to support its growth sustainably.

Implementing these remedies can help Nakamaro Supermarket address the symptoms and causes of overtrading, stabilize its financial position, and set the foundation for long-term success and sustainability.

ii) Possible motivations for stakeholders

The main stakeholders and their influence to the company are:

1. Shareholders-: are providers of capital of a company and their goal will be to maximize the wealth which that they have as a result of the ownership of the shares in the company.
2. Loan Creditors seek security, repayment of loan interest and principal.
3. Employees seek fair wages, promotional opportunities, welfare & social facilities => improved motivation.
4. Management seeks to ensure for their job security, fair reward, job satisfaction.
5. Trade Creditors ensure payment within credit terms.
6. The Community look for sponsorship, charities, install environmental measures.
7. The Government look for receiving of taxes, rates, provide employment.
8. Customers looking for - provision of quality of service/goods at fair price, quality, on time etc.

a) Symptoms of overtrading

- Turnover increases rapidly.
- The volume of current assets increases faster than sales (fixed assets may also increase)
- Increase in stock days and debtor days.
- The increase in assets is financed by increases in short-term funds such as creditors and bank overdrafts.
- The current and quick ratios decline dramatically and Current Assets will be far lower than Current Liabilities.
- The cash flow position is heading in a disastrous direction.

Causes of overtrading

- Turnover is increased too rapidly without an adequate capital base (management may be overly ambitious)
- The long-term sources of finance are reduced
- A period of high inflation may lead to an erosion of the capital base in real terms and management may be unaware of this erosion

- Management may be completely unaware of the absolute importance of cash flow planning and so may get carried away with profitability to the detriment of this aspect of their financial planning

Remedies of overtrading

- Postponing expansion plans
- New injections of long-term finance either in terms of debt/equity or some combination
- Better stock/debtor control
- Maintaining/increasing proportion of long-term finance

b) Characteristics of warrants

- Holder has the right (but not the obligation) to purchase a stated number of shares, at a specified price, any time before a specified date.
- If not exercised the warrants lapse.
- Warrants are often issued as a “sweetener” to make a loan stock issue more attractive, or to enable the company to pay a lower coupon rate.
- The warrant-holder is not entitled to dividends/voting rights.
- Unlike convertibles, new funds are generated for the company if the warrants are exercised.
- Generally, the warrant is detachable from the stock and can be traded separately.
- The value of the warrant is dependent on the underlying share price.

End of marking guide and model answers