



**CERTIFIED PUBLIC ACCOUNTANT
OPERATIONAL LEVEL EXAMINATIONS
FM2.3 FINANCIAL MANAGEMENT**

DATE: THURSDAY 28, MAY 2026

INSTRUCTIONS:

1. Time allowed: **3 hours and 15 minutes**
2. The examination has three sections: A, B and C
3. Section A has **15 compulsory multiple-choice questions** equal to 2 marks each.
4. Section B has **3 compulsory multiple-task questions** equal to 10 marks each.
5. Section C has **2 compulsory questions** equal to 20 marks each.
6. Questions marked “select all that apply” have multiple correct answers. Candidates must choose all correct options in order to be awarded 2 marks.
7. The question paper should not be taken out of the examination room.

SECTION A

QUESTION ONE

The following macroeconomic data are available for Rwanda for the year ended 31 December 2025:

Component	FRW Billion
Household consumption expenditure	6,400
Gross private investment	1,850
Government expenditure on goods & services	2,200
Export earnings	1,600
Import payments	1,950
Government transfer payments (pensions, subsidies)	480
Depreciation of capital stock	320

Using the expenditure approach, what is Rwanda's Gross Domestic Product (GDP)?

- A FRW 10,100 billion
- B FRW 10,580 billion
- C FRW 9,780 billion
- D FRW 10,260 billion

(2 Marks)

QUESTION TWO

Which of the following statements best describes the concept of Value for Money in non-profit organisations?

- A Maximising profits while minimising costs
- B Achieving economy, efficiency, and effectiveness in the use of resources
- C Maximising shareholder wealth regardless of cost
- D Minimising expenses to maximise surplus funds

(2 Marks)

QUESTION THREE

Which of the following is an example of an injection into the circular flow of income?

- A Household savings
- B Import expenditure
- C Corporate investments
- D Tax payments

(2 Marks)

QUESTION FOUR

In an oligopolistic market, Firm A has total revenue of FRW 9,600,000 at a price of FRW 240 per unit and total variable costs of FRW 6,000,000 at this output. Its fixed costs are FRW 2,000,000.

What is the firm's contribution per unit and its profit at the current output level?

- A Contribution = FRW 90/unit; Profit = FRW 1,600,000
- B Contribution = FRW 150/unit; Profit = FRW 1,400,000

C Contribution = FRW 90/unit; Profit = FRW 1,200,000

D Contribution = FRW 150/unit; Profit = FRW 1,600,000

(2 Marks)

QUESTION FIVE

The following are the Country XYZ's balance of payments data for 2025:

Item	FRW Billion
Merchandise exports	3,200
Merchandise imports	3,850
Services exports	1,100
Services imports	750
Investment income received from abroad	420
Investment income paid abroad	610
Net current transfers received	380

What is the current account balance for Country XYZ, and what does this indicate?

A FRW -110 billion deficit, indicating Country XYZ is a net borrower internationally

B FRW +110 billion surplus, indicating Country XYZ is a net lender internationally

C FRW -650 billion deficit, indicating severe trade imbalance

D FRW -190 billion deficit, indicating Country XYZ imports more than it exports

(2 Marks)

QUESTION SIX

Gahunda Ltd is appraising a project requiring an initial investment of FRW 2,400,000. The project will generate annual real cash flows of FRW 700,000 for 5 years. The real cost of capital is 7% and the expected inflation rate is 6% per annum.

Using the nominal cash flow approach, what is the NPV of this project?

A FRW + 470,138 - Accept the project

B FRW + 37,039 - Accept the project

C FRW + 548,655 - Accept the project

D FRW + 183,262 - Accept the project

(2 Marks)

QUESTION SEVEN

A project has the following cash flows: Initial investment: FRW250,000;

Year 1 cash inflow: FRW60,000

Year 2 cash inflow: FRW80,000

Year 3 cash inflow: FRW90,000

Year 4 cash inflow: FRW70,000

Year 5 cash inflow: FRW60,000

Using a discount rate of 10%, what is the discounted payback period?

- A 3.3 years
- B 4.1 years
- C 4.4 years
- D The project never pays back

(2 Marks)

QUESTION EIGHT

A project requires an initial investment of FRW 1,800,000. The following NPVs have been calculated:

Discount Rate	NPV
10%	FRW +186,000
18%	FRW -112,500

Using linear interpolation, what is the approximate IRR of this project?

- A 13.00%
- B 14.40%
- C 16.00%
- D 14.98%

(2 Marks)

QUESTION NINE

Ntare Investments Ltd is appraising a project with the following data: Initial investment = FRW 900,000; Scrap value after 4 years = FRW 100,000; Annual profit (after depreciation) = FRW 105,000.

What is the Accounting Rate of Return based on average investment?

- A 11.67%
- B 21.00%
- C 23.33%
- D 10.50%

(2 Marks)

QUESTION 10

Inema plc has an equity beta of 1.75. The risk-free rate is 4% and the market return is 11%. The company is financed by equity worth FRW 80 million (market value) and debt worth FRW 20 million (market value). The pre-tax cost of debt is 9% and the corporate tax rate is 30%.

What is Inema plc's Weighted Average Cost Capital?

- A 13.50%
- B 14.26%
- C 12.80%
- D 13.02%

(2 Marks)

QUESTION 11

Byose Tech plc is evaluating a new project in a different industry sector. The following proxy company data is available:

Item	Data
Equity beta	2.20
Market value of equity	FRW 66 million
Market value of debt	FRW 44 million
Corporate tax rate	30%

Byose Tech's own capital structure: FRW 50 million equity (market value) and FRW 25 million debt (market value). Corporate tax rate: 30%. Debt beta = 0.

What is the asset beta of the proxy company and the re-gear equity beta for Byose Tech?

- A Asset beta = 1.5; Re-gear equity beta = 2.03
- B Asset beta = 1.54; Re-gear equity beta = 2.16
- C Asset beta = 1.47; Re-gear equity beta = 2.18
- D Asset beta = 1.65; Re-gear equity beta = 2.30

(2 Marks)

QUESTION 12

Impano Industries plc has the following capital structure at market values: Ordinary shares (20 million shares at FRW 3.50 each), 8% redeemable bonds (FRW 10 million nominal, trading at FRW 92 per FRW 100), and 6% preference shares (FRW 5 million nominal, trading at FRW 80 per FRW 100).

What is the financial gearing ratio for Impano Industries?

- A 17.6%
- B 20.5%
- C 15.9%
- D 19.1%

(2 Marks)

QUESTION 13

Nkurunziza Foods Ltd uses 90,000 kg of a raw material annually. The purchase price is FRW 60 per kg. Ordering cost is FRW 1,200 per order and the holding cost is 15% of purchase price per annum. A 2.5% quantity discount is available for orders of 7,500 kg or more.

Should Nkurunziza Foods accept the bulk purchase discount? What is the annual total relevant cost at the optimal order quantity?

- A Accept the discount; total cost = FRW 5,409,000
- B Reject the discount; total cost = FRW 5,427,000
- C Accept the discount; total cost = FRW 5,312,306
- D Reject the discount; total cost = FRW 5,454,000

(2 Marks)

QUESTION 14

Agaseke Ltd is implementing the Miller-Orr cash management model. The following data is available:

Variance of daily cash flows = FRW 250,000; Transaction cost per cash transfer = FRW 400; Daily interest rate = 0.025% (i.e. approximately 9.125% annually); Minimum cash balance = FRW 800,000.

Calculate the return point and upper limit for Agaseke Ltd's cash balance.

A Return point = FRW 937,665; Upper limit = FRW 759,834.02

B Return point = FRW 806,694; Upper limit = FRW 860,248.97

C Return point = FRW 806,694; Upper limit = FRW 820,083

D Return point = FRW 937,665; Upper limit = FRW 820,083

(2 Marks)

QUESTION 15

Agaciro Breweries Ltd has just paid a dividend of FRW 2.80 per share. The company's equity beta is 1.50, the risk-free rate is 5%, and the market risk premium is 7%. The company retains 40% of earnings and its return on equity is 16%.

Using the Dividend Growth Model, what is the intrinsic value per share?

A FRW 52.50

B FRW 47.73

C FRW 32.74

D FRW 30.77

(2 Marks)

SECTION B

QUESTION 16

Bugesera Agro-Processing Ltd is evaluating a proposal to invest in a new grain milling facility. The following data has been provided by the finance team:

Item	Detail
Initial investment in milling equipment	FRW 8,000,000
Working capital injection at Year 0	FRW 1,200,000
Project life	6 years
Scrap value of equipment at end of a project	FRW 500,000
Annual sales revenue (Years 1 to 3)	FRW 4,800,000 per year
Annual sales revenue (Years 4 to 6)	FRW 4,200,000 per year
Annual variable costs (Years 1 to 6)	FRW 2,100,000 per year
Annual incremental fixed costs (excl. depreciation) (Years 1-6)	FRW 700,000 per year
Capital allowance rate (reducing balance basis)	25% per annum
Corporate tax rate	30% (payable in the same year)
Cost of capital	14%
Working capital recovery	Fully recovered at end of the project

Note: Assume that in Year 6, a balancing allowance is given on the written-down value of the equipment remaining after the Year 6 capital allowance, adjusted for the scrap proceeds.

Q16a) What is the written-down value of the milling equipment at the end of year 4, after claiming the year 4 capital allowance?

- A FRW 2,531,250
- B FRW 3,375,000
- C FRW 2,109,375
- D FRW 1,898,438

(2 Marks)

Q16b) What is the correct after-tax operating cash flow for each of years 1-3?

- A FRW 1,400,000
- B FRW 1,960,000
- C FRW 1,330,000
- D FRW 2,000,000

(2 Marks)

Q16c) Which of the following statements is correct regarding the project's acceptance?

- A The project should be accepted as the NPV is approximately FRW +487,000
- B The project should be rejected as the NPV is approximately FRW -2,099,000
- C The project should be accepted as the NPV is approximately FRW +1,152,000
- D The project should be rejected as the NPV is approximately FRW -780,000

(2 Marks)

Q16d) What is the sensitivity of the project's NPV to a change in annual sales revenue?

- A 16.9%
- B 5.78%
- C 3.08%
- D 4.14%

(2 Marks)

Q16e) The board is considering a real option to expand the facility at the end of Year 3 by investing an additional FRW 2,000,000. They estimate a 60% probability that this expansion will generate an additional Present Value of FRW 4,500,000, and a 40% probability it generates only FRW 1,000,000.

Which of the following best describes the expected value of this real option?

- A The option is worth exercising with an expected net gain of FRW 1,100,000
- B The option should not be exercised because its expected NPV is negative at FRW -200,000
- C The option is worth exercising with an expected net gain of FRW 700,000
- D The option should not be exercised because total uncertainty is too high

(2 Marks)

QUESTION 17

Muhanga Textiles plc is a publicly listed manufacturing company. The following financial information are available for the year ended 31 December 2025:

Item	Detail
Market value of ordinary equity	FRW 75,000,000
Ordinary shares in issue	15,000,000 shares
9% Redeemable bonds (nominal FRW 100)	FRW 30,000,000 nominal; market price FRW 95 per FRW 100. Redeemable in 5 years at par
6% Irredeemable preference shares (nominal FRW 100)	FRW 10,000,000 nominal; market price FRW 70 per FRW 100
Equity beta	1.80
Risk-free rate	4.5%
Market risk premium	7.0%
Corporate tax rate	28%
Earnings per share	FRW 2.40
Annual dividend just paid	FRW 1.00 per share
Expected long-run dividend growth rate	5% per annum

Q17a) Using CAPM, what is the cost of equity for Muhanga Textiles plc?

- A 18.1%
- B 12.6%
- C 17.1%
- D 9%

(2 Marks)

Q17b) Using the IRR / linear interpolation method to calculate the post-tax cost of the redeemable bonds: at 5%, NPV = FRW +1,488,000; at 10%, NPV = FRW -3,128,000. What is the approximate post-tax cost of debt?

- A 6.61%
- B 7.00%
- C 5.82%
- D 6.62%

(2 Marks)

Q17c) Using the CAPM cost of equity, post-tax cost of redeemable bonds from Q17b, and preference share yield based on market price, what is the WACC of Muhanga Textiles plc?

- A 13.68%
- B 13.85%
- C 12.94%
- D 13.28%

(2 Marks)

Q17d) Muhanga Textiles is considering issuing FRW 20 million nominal of new 8% irredeemable bonds at par and using the proceeds to repurchase equity at the current market price. The asset beta will remain unchanged. (Assume new total equity market value = FRW 55,000,000 and total debt at market value = FRW 48,500,000; tax rate 28%; debt beta = 0.). What will be the new equity beta after this restructuring?

- A 2.24
- B 2.31
- C 2.10
- D 2.58

(2 Marks)

Q17e) According to Modigliani and Miller's theory with corporate taxes, the increase in debt described in Q17d will affect Muhanga's firm value. Assuming the new irredeemable bonds are permanent, what is the approximate increase in firm value due to the tax shield, and which theory best explains why further debt increases beyond this point may not continue to increase firm value?

- A Tax shield gain = FRW 5,600,000; the Trade-off theory explains that beyond this point, financial distress costs begin to offset the tax benefits
- B Tax shield gain = FRW 5,600,000; the Pecking Order theory explains management will prefer internal funds first
- C Tax shield gain = FRW 4,480,000; the Traditional theory suggests the WACC has a U-shaped relationship with gearing
- D Tax shield gain = FRW 4,480,000; the Trade-off theory explains that beyond this point, financial distress costs begin to offset the tax benefits

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(2 Marks)

QUESTION 18

Cyangugu Consumer Goods Ltd is a manufacturer of household products. The finance director is reviewing both the working capital management and dividend policy of the company. The following information is available for the year ended 31 March 2026:

Item	Amount
Annual credit sales	FRW 36,000,000
Annual cost of sales	FRW 22,500,000
Annual credit purchases	FRW 18,000,000
Average trade receivables	FRW 8,000,000
Average inventory	FRW 5,625,000
Average trade payables	FRW 4,500,000
Annual demand for Component X (units)	60,000 units
Purchase price per unit of Component X	FRW 120
Order cost per order - Component X	FRW 2,000
Annual holding cost per unit - Component X	FRW 30
Earnings per share (EPS)	FRW 5.00
Dividend per share (DPS) - current year	FRW 2.00
Current share price	FRW 40.00
Number of shares in issue	8,000,000 shares
Cost of equity (estimated)	14%
Expected dividend growth rate	6% per annum

Q18a) What is Cyangugu's cash operating cycle (in days)?

- A Inventory days: 91.3 days; Receivables days: 81.1 days; Payables days: 91.3 days; Cash cycle = 81.1 days
- B Inventory days: 91.3 days; Receivables days: 81.1 days; Payables days: 91.3 days; Cash cycle = 91.3 days
- C Inventory days: 91.3 days; Receivables days: 81.1 days; Payables days: 91.3 days; Cash cycle = 172.4 days
- D Inventory days: 75.0 days; Receivables days: 81.1 days; Payables days: 91.3 days; Cash cycle = 64.8 days

(2 Marks)

Q18b) What is the Economic Order Quantity (EOQ) for Component X, and what is the total annual relevant cost at the EOQ?

- A EOQ = 3,162 units; Total relevant cost = FRW 94,868
- B EOQ = 2,828 units; Total relevant cost = FRW 84,853
- C EOQ = 2,000 units; Total relevant cost = FRW 105,000
- D EOQ = 2,828 units; Total relevant cost = FRW 90,000

(2 Marks)

Q18c) Cyanguu is offered 1.5% early settlement discount if it pays trade payables within 10 days instead of the current 60-day credit period. Using the annualized cost of discount formula, should Cyanguu accept this offer if its annual borrowing rate is 12%?

- A Accept - the annualized cost of the discount is approximately 11.2%, which is less than the 12% borrowing rate
- B Reject - the annualized cost of the discount is approximately 11.2%, which is less than the 12% borrowing rate, so the discount is too expensive
- C Reject - the annualized cost of the discount is approximately 13.9%, which exceeds the 12% borrowing rate
- D Accept - the annualized cost of the discount is approximately 9.5%, which is less than the 12% borrowing rate

(2 Marks)

Q18d) Using the Dividend Growth Model, what is the theoretical ex-dividend share price, and is the current market price of FRW 40 overvalued or undervalued?

- A Theoretical price = FRW 26.50; Market price is overvalued by FRW 13.50
- B Theoretical price = FRW 35.00; Market price is overvalued by FRW 5.00
- C Theoretical price = FRW 42.40; Market price is undervalued by FRW 2.40
- D Theoretical price = FRW 38.00; Market price is overvalued by FRW 2.00

(2 Marks)

Q18e) Cyanguu is considering 1 for 5 bonus issue followed by a repurchase of 500,000 shares at FRW 42 per share. Which of the following correctly describes the combined impact of both transactions on Cyanguu's earnings per share and gearing?

- A EPS after bonus issue falls to FRW 4.17; after share repurchase rises to FRW 4.81; gearing increases as retained earnings are reduced
- B EPS is unaffected by the bonus issue; after share repurchase EPS rises to FRW 5.26; gearing is unchanged
- C EPS after bonus issue falls to FRW 4.17; after share repurchase rises to FRW 4.42; gearing is unchanged since only equity is affected
- D EPS after bonus issue falls to FRW 4.17; after share repurchase rises to FRW 4.42; gearing increases as retained earnings are reduced

(2 Marks)

SECTION C

QUESTION 19

Rugari Industrial Products Ltd is a manufacturing company considering the launch of a new product line of industrial safety equipment. The board of directors has commissioned a detailed financial appraisal of the project. The company's financial controller has gathered the following information:

Project Overview

Item	Detail
Investment in machinery and equipment	FRW 18,000,000
Installation and commissioning costs (Year 0)	FRW 1,500,000
Working capital required	FRW 2,500,000 at start; additional FRW 500,000 at beginning of Year 3
Scrap value of machinery at end of Year 5	FRW 1,200,000
Project life	5 years
Capital allowance rate (reducing balance)	25% per annum
Corporate income tax rate	30%
Tax payment timing	Payable in the year in which profit arises
Cost of capital	13%
Inflation rate (general)	0%

Sales and Cost Projections

Year	Units Sold	Selling Price per Unit (FRW)	Variable Cost per Unit (FRW)	Annual Fixed Overheads (FRW)
1	40,000	920	540	5,800,000
2	55,000	950	560	6,200,000
3	65,000	970	575	6,500,000
4	60,000	960	570	6,300,000
5	45,000	940	555	5,900,000

Fixed overheads above are incremental to the project and are depreciation excluded. Working capital is fully recovered at the end of Year 5.

Additional Scenario Information:

- The machinery qualifies for a 25% reducing-balance capital allowance. A balancing adjustment is made in Year 5 by comparing the written-down value with the actual scrap proceeds. The installation and commissioning costs of FRW 1,500,000 do not qualify for capital allowances.
- The management team believes that the forecast sales volume is the most uncertain variable. They wish to understand by how much sales volume can fall before the project becomes unviable.

3. Rugari has a contractual option to expand production capacity at the start of year 3 by investing an additional FRW 4,000,000. If exercised, this expansion is expected to increase annual contribution in years 3 to 5 by FRW 1,800,000 per year.

Required:

- Prepare a schedule of capital allowances and associated tax savings for years 1 to 5, including the balancing adjustment in year 5.** (4 Marks)
 - Calculate the annual after-tax operating cash flows for each of years 1 to 5.** (5 Marks)
 - Calculate the Net Present Value of the project and provide a clear recommendation to the board.** (6 Marks)
 - Calculate the percentage drop in sales volume that drives NPV to zero, then interpret what that threshold mean for the project's risk.** (3 Marks)
 - Using an appropriate discount rate, calculate the NPV of the expansion option of production capacity and advise the board whether it should be included in the decision.** (2 Marks)
- (Total: 20 Marks)**

QUESTION 20

Kigali Premier Holdings plc (KPH) is a diversified conglomerate listed on the Rwanda Stock Exchange. The company is reviewing its cost of capital and dividend policy ahead of a major strategic expansion. The following financial data is available for the year ended 31 December 2025:

Item	Detail
Number of ordinary shares in issue	25,000,000 shares
Ordinary share price (cum-dividend)	FRW 64.00 per share
Dividend just declared	FRW 2.40 per share
Earnings per share	FRW 4.80
Expected long-run dividend growth rate	7% per annum
Equity beta	1.55
Risk-free rate	5%
Equity risk premium (market)	8%
12% Redeemable bonds (nominal FRW 100)	FRW 40,000,000 nominal; market price FRW 105 per FRW 100, redeemable at par in 8 years
7% Irredeemable preference shares (nominal FRW 100)	FRW 15,000,000 nominal; market price FRW 85 per FRW 100
Corporate tax rate	30%
Capital expenditure requirement (year 1)	FRW 30,000,000
Cash and short-term investments available	FRW 18,000,000
Current long-term borrowing capacity (additional)	FRW 20,000,000 at 10% pre-tax

KPH's board is considering three alternative strategies for funding its FRW 30 million expansion and managing its dividend policy:

Strategy 1: Rights Issue: Raise FRW 20,000,000 through a 1 for 5 rights issue at a 20% discount to the current ex-dividend market price. Maintain the current dividend payout ratio.

Strategy 2: New Debt: Borrow the full FRW 30,000,000 at 10% pre-tax on a permanent (irredeemable) basis. Reduce the dividend payout ratio to 40% to conserve cash.

Strategy 3: Retained Earnings + Scrip Dividend: Fund the entire FRW 30,000,000 from retained earnings and existing cash. Offer shareholders a scrip dividend equivalent to the current cash dividend, giving them the option of shares instead of cash.

Required:

a) Calculate the following for KPH's current position:

- i) The ex-dividend share price and the dividend payout ratio** (2 Marks)
- ii) The cost of equity using both CAPM and the Dividend Growth Model, and comment on any difference** (3 Marks)
- iii) The post-tax cost of the redeemable bonds using the IRR interpolation method (use discount rates of 8% and 13%)** (1 Mark)
- iv) The Weighted Average Cost Capital using market-value weightings** (2 Marks)

b) For each of the three strategies, calculate:

- i) The number of new shares to be issued (where applicable) and the revised Theoretical Ex-Rights Price or revised share price** (2 Marks)
- ii) The revised earnings per share and dividend per share** (2 Marks)
- iii) The revised debt to capital ratio** (2 Marks)

c) Evaluate all three strategies from the perspectives of existing shareholders, financial risk, and market signaling, and recommend with justification which strategy KPH should adopt, supporting your answer with at least two dividend theories. (6 Marks)

(Total: 20 Marks)

End of Question Paper

Present value of FRW 1: $(1+r)^{-n}$ where r = discount rate; n = number of period.

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Annuity table: Present value of FRW 1 per period: $[1-(1+r)^{-n}] / r$

n	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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