CERTIFIED PUBLIC ACCOUNTANTS
OPERATIONAL LEVEL EXAMINATIONS
FM2.3 FINANCIAL MANAGEMENT
DATE: THURSDAY 26, FEBRUARY 2026

SECTION A

QUESTION ONE

Key (answer) C

A. Incorrect - Short-term profit maximization may damage long-term value

B. Incorrect - Focus on quarterly targets may lead to suboptimal decisions

C. Correct - Shareholder wealth maximisation considers long-term value creation

D. Incorrect - Maximum dividends may not be optimal for long-term value

QUESTION TWO

Key (answer) C

A. Incorrect - Financial perspective focuses on financial performance

B. Incorrect - Customer perspective focuses on customer satisfaction and market share

C. Correct - Internal business process perspective examines operational efficiency

D. Incorrect - Learning and growth perspective focuses on employee capabilities and systems

QUESTION THREE

Key (answer) B

A. Incorrect - ROCE > WACC indicates value creation

B. Correct - When ROCE exceeds WACC, the company is creating value

C. Incorrect - The company is earning returns above its cost of capital

D. Incorrect - This comparison provides a valid indicator of value creation

QUESTION FOUR

Key (answer) D

A. Incorrect - Increasing taxation is contractionary

B. Incorrect - Reducing spending is contractionary

C. Incorrect - This is monetary policy, not fiscal policy

D. Correct - Increased government spending is expansionary fiscal policy

QUESTION FIVE

Key (answer) C

A. Incorrect - Perfect competition firms have no market power

B. Incorrect - Perfect competition involves homogeneous products

C. Correct - Perfect competition firms are price takers with homogeneous products

D. Incorrect - Perfect competition firms are price takers, not makers

QUESTION SIX

Key (answer) D

A. Incorrect - Lower interest rates typically increase consumer spending

B. Incorrect - Lower interest rates typically stimulate business investment

C. Incorrect - Lower interest rates typically cause currency depreciation

D. Correct - Lower interest rates reduce borrowing costs, increasing borrowing and consumption

QUESTION SEVEN

Key (answer) B

A. Incorrect - NPV = 500,000 + (120,000 × 6) = 500,000 + 720,000 = 1220,000

B. Correct - NPV = -500,000 + (120,000 × 4.486) = -500,000 + 538,320 = 38,320

C. Incorrect - NPV = 500,000 - (120,000 × Year 6 9% discount factor 0.596) = 428,480

D. Incorrect - This is undiscounted total cash flow minus investment

QUESTION EIGHT
Key (answer) D
A. Incorrect - Real options typically increase project value
B. Incorrect - Delay options often have significant value
C. Incorrect - Standard NPV ignores the value of flexibility
D. Correct - Abandonment options limit downside risk, enhancing strategic value

QUESTION NINE
Key (answer) A
A. Correct - For mutually exclusive projects, NPV is the preferred decision criterion
B. Incorrect - IRR can give misleading rankings for mutually exclusive projects
C. Incorrect - With mutually exclusive projects, we must choose the superior option
D. Incorrect - Both projects are acceptable, but we must choose one

QUESTION 10
Key (answer) C
A. Incorrect - Bonds trade at par only when coupon equals required yield
B. Incorrect - Premium occurs when coupon exceeds required yield
C. Correct - When required yield (6%) exceeds coupon rate (5%), bonds trade at a discount
D. Incorrect - Sufficient information is provided to determine the pricing

QUESTION 11
Key (answer) D
A. Incorrect - Preference shares typically have limited or no voting rights
B. Incorrect - They have characteristics of both debt and equity
C. Incorrect - Preference dividends are not tax-deductible
D. Correct - Preference shareholders have priority over ordinary shareholders in liquidation

QUESTION 12
Key (answer) C
A. Incorrect - Cost of equity increases with gearing
B. Incorrect - Traditional theory suggests some debt is optimal
C. Correct - Traditional theory identifies an optimal capital structure where WACC is minimized
D. Incorrect - This is contrary to both traditional theory and MM with taxes

QUESTION 13
Key (answer) B
A. Incorrect (60.8+60.8 days) = 122 days
B.

Account receivable Days= $\frac{Trade\ \ Receivables}{Credit\ sales\ revenue} * 365\ days = \frac{2{,}500{,}000}{15{,}000{,}000} * 365\ days = 61$ days

Inventory Days= $\frac{Averages\ inventory}{Cost\ of\ sales} * 365\ days = \frac{1{,}500{,}000}{9{,}000{,}000} * 365\ days = 61$ days

Account payable days= $\frac{Average\ trade\ payables}{Purchase\ or\ cost\ of\ sale} * 365\ days = \frac{1{,}000{,}000}{9{,}000{,}000} * 365\ days = 40$ days

Cash operation Cycle

Inventory days	61 days
Plus: Account receivable days	61 days
Less: account payable days	(41 days)
	81 Days

C. Incorrect - This adds all three components (60.8+60.8+40.6)
D.Incorrect-60.8 days rounded to 61 days

Account receivable Days= $\frac{Trade\ \ Receivables}{Credit\ sales\ revenue} * 365\ days = \frac{2{,}500{,}000}{15{,}000{,}000} * 365\ days = 61$ days

Inventory Days= $\frac{Averages\ inventory}{Cost\ of\ sales} * 365\ days = \frac{1{,}500{,}000}{9{,}000{,}000} * 365\ days = 61$ days

Account payable days= $\frac{Average\ trade\ payables}{Purchase\ or\ cost\ of\ sale} * 365\ days = \frac{1{,}000{,}000}{9{,}000{,}000} * 365\ days = 40$ days

QUESTION 14
Key (answer) C
A. Incorrect - Decreasing sales would not indicate overtrading
B. Incorrect - High cash levels suggest adequate liquidity
C. Correct - Overtrading occurs when sales growth outpaces working capital
D. Incorrect - These changes suggest improved working capital management

QUESTION 15
Key (answer) C
Rationale A. Incorrect - This describes a constant payout ratio policy
B. Incorrect - This describes a stable growth policy
C. Correct - Residual policy prioritizes investment opportunities before dividends
D. Incorrect - Residual policy is based on company-specific factors, not industry norms

SECTION B

QUESTION 16

NPV Analysis

Details		Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Revenue			3,200,000	3,200,000	3,200,000	3,200,000	3,200,000
Less: Operating Cost			(1,100,000)	(1,100,000)	(1,100,000)	(1,100,000)	(1,100,000)
Gross pross profit			**2,100,000**	**2,100,000**	**2,100,000**	**2,100,000**	**2,100,000**
Depreciation			(600,000)	(600,000)	(600,000)	(600,000)	(600,000)
Profit Before Tax			**1,500,000**	**1,500,000**	**1,500,000**	**1,500,000**	**1,500,000**
Tax	30%		(450,000)	(450,000)	(450,000)	(450,000)	(450,000)
Profit after Tax			**1,050,000**	**1,050,000**	**1,050,000**	**1,050,000**	**1,050,000**
Add Back Depreciation			**600,000**	**600,000**	**600,000**	**600,000**	**600,000**
Initial Investment		(3,600,000)					
Scrap Value							600,000
Working capital		(400,000)					400,000
Cashflow		**(4,000,000)**	**1,650,000**	**1,650,000**	**1,650,000**	**1,650,000**	**2,650,000**
Discounting Factor	12%	1	0.893	0.797	0.712	0.636	0.567
Present Value of Cashflow		**(4,000,000)**	**1,473,450**	**1,315,050**	**1,174,800**	**1,049,400**	**1,502,550**
Net Present Value		**2,515,250**					

Other NPV at High discounting Factors

Cashflow		**(4,000,000)**	**1,650,000**	**1,650,000**	**1,650,000**	**1,650,000**	**2,650,000**
Discounting Factor	20%	1	0.833	0.694	0.579	0.482	0.402
Present Value of Cashflow		**(4,000,000)**	**1,374,450**	**1,145,100**	**955,350**	**795,300**	**1,065,300**
Net Present Value		**1,335,500**					

IRR= LDF + (HDF-LDF) * $\left(\frac{NPV\ @\ LDF}{NPV\ @\ LDF - NPV\ @\ HDF}\right)$

IRR= 12% + (20%- 12%) * ($\frac{2,515,250}{2,515,250 - 1,335,500}$) = 29%

Working 3	
Depreciation was straight line method	(Cost - Salvage Value) / Useful life
Cost	3,600,000
Salvage Value	600,000
	3,000,000
Useful life (in Years)	5
Depreciation	600,000

Payback Period

Year	Details	Cashflow	Cumulative cashflow
0	Cashflow	(4,000,000)	(4,000,000)
1	Cashflow	1,650,000	(2,350,000)
2	Cashflow	1,650,000	(700,000)
3	Cashflow	1,650,000	950,000
4	Cashflow	1,650,000	2,600,000
5	Cashflow	2,650,000	5,250,000

Payback =2year + $\frac{700,000}{1,650,000} * 12\ Months$ **= 2 years and 5 Months**

Modified Internal rate of return

Year	Details	Cashflow	Reinvestment rate (12%)	Future value
1	Cashflow in flow	1,650,000	1.57	2,596,307
2	Cashflow	1,650,000	1.40	2,318,131
3	Cashflow	1,650,000	1.25	2,069,760
4	Cashflow	1,650,000	1.12	1,848,000
5	Cashflow	2,650,000	1.00	2,650,000
				11,482,198

MIRR= $\left(\sqrt[n]{\frac{FV\ Cashinflow\ @\ reinvestment\ rate}{PV\ of\ Cashoutflows\ @\ Financing\ Cost}}\right)$-1= $\left(\sqrt[n]{\frac{11,482,198.144}{4,000,000}}\right)$-1= **23.5%**

Q16a) Key (answer) B

A. Incorrect -does not recoup working capital- NPV = -4m + [(3.2m - 1.1m - 0.60m) × 0.7 + 0.6m] × 3.605 + (0.6m) × 0.567 = 2.3m

B. Correct - NPV = -4m + [(3.2m - 1.1m - 0.60m) × 0.7 + 0.6m] × 3.605 + (0.6m + 0.4m) × 0.567 = 2.5m

C. Incorrect- ignores depreciation - NPV= -4m + [(3.2m - 1.1m) × 0.7] × 3.605 + (0.6m + 0.4m) × 0.567 = 1.9m

D. Incorrect ignores working capital- NPV= -3.6m + [(3.2m - 1.1m - 0.60m) × 0.7 + 0.6m] × 3.605 + (0.6m) × 0.567 = 2.7m

Q16b) Key (answer) C

A. Incorrect - ignores depreciation--> Annual after-tax cash flow = [(3.2m - 1.1m) × 0.7=1.47m Payback 2.7 years

B. Incorrect - excludes working capital --> [(3.2m - 1.1m - 0.6m) × 0.7 + 0.6m] = 1.65m Initial outlay = 2.6m Payback period =2.2 years

C. Refer to Cumulative cashflow table above

Payback =2year + $\frac{700,000}{1,650,000} * 12\ Months$ **= 2 years and 5 Months**

D. Incorrect - uses discounted CFs total of 3.9m after 3 years Initial outlay = 4m Payback=3years 1 month

Q16c) Key (answer) B

A. Incorrect

B. Incorrect

C. Correct- all calculations suggest this a good project to start now.

D. Incorrect

Q16 d) Key (answer) B

A. Incorrect- IRR at NPV that does not recoup working capital

B. Correct - IRR is approximately 28% (The discount rate that makes NPV = 0)

C. Incorrect- IRR at NPV that ignores depreciation

D. Incorrect- IRR at NPV that ignores working capital

Q16e) Key (answer) C

A. Incorrect- This is the internal rate of return

B. Incorrect- excludes terminal value and working capital= MIRR = (10.48m ÷ 4m)^(1/5) - 1 = 21.2%

C. Correct - MIRR assumes reinvestment at the cost of capital rather than the IRR Terminal value of inflows

MIRR= $\left(\sqrt[n]{\frac{FV\ Cashinflow\ @\ reinvestment\ rate}{PV\ of\ Cashoutflows\ @\ Financing\ Cost}}\right)$-1= $\left(\sqrt[n]{\frac{11,482,198.144}{4,000,000}}\right)$-1= **23.5%**

D. Incorrect- adds up all discount values instead of calculating FV | MIRR = (9.25m ÷ 4m)^(1/5) - 1 = %

QUESTION 17

Cost of Equity	
Risk free	2.50%
Market Risk premium (Market return - Risk free rate)	6%
Market price Ex Div	5
Number of shares	20,000,000
Market Value of Equity	100,000,000
Equity Beta	1.6
Equity Ratio	71%
Cost of Equity by using CAPM	: Risk free + Be (Market return - Risk free)
Cost of Equity by using CAPM	12%
Cost of Debt	
After Tax Interest rate on Debt	3.5%
Market Value of debt	40,000,000
Debt Ratio	29%
Total Capital Available on MV	140,000,000
WACC	**9.64%**

Q17a)
A. incorrect- no tax on debt (100/140) × 12.1% + (40/140) × 5%= 10.07%
B. Incorrect gearing (100/100) × 12.1% + (40/100) × 3.5%= 13.5%
C. Correct Cost of equity = 2.5% + 1.6 × 6% = 12.1%
After-tax cost of debt = 5% × (1 – 0.3) = 3.5%
WACC = (100/140) × 12.1% + (40/140) × 3.5% = **9.64%**
D. Incorrect uses wrong cost of equity (100/140) * 8.5% + (40/140) * 3.5%

Q17 b) If the company chooses the 100% debt financing option, **what would be the approximate new equity beta?**
A. Incorrect - Asset beta with current capital structure
B. Correct - First calculate asset beta:
Ba= $\frac{Be}{1+(1-T)\frac{VD}{VE}} = \frac{1.6}{1+(1-0.3)\frac{40}{100}} = 1.25$

New debt = 40 + 40 = 80, New equity = 100
New equity beta = Be= Ba*[1+(1-T)$\frac{D}{E}$] = 1.25*[1+(1-0.3)$\frac{80}{100}$] = 1.95

C. Incorrect forgets to tax debt 1.25 × [1 + (80/100)] =2.25
D. Incorrect- adds 40 to both|= 1.25 × [1 + 0.7(80/140)] = 1.75

Q17 c) Key (answer) A
A. Correct - Increasing debt levels increases financial risk
B. Incorrect - The tax shield effect of debt typically reduces WACC
C. Incorrect - Higher financial leverage increases equity beta
D. Incorrect - Higher financial leverage increases cost of equity

Q17d) Key (answer) B
A. Incorrect - Higher shares outstanding in equity option reduces EPS
B. Correct - All-debt option maintains share count while increasing earnings (less interest tax shield)
All-equity: issues (FRW40m/FRW4.80 per new share)8.33m new shares, diluting earnings per share
All-debt: no new shares, higher interest costs but higher overall EPS due to tax shield
Mixed: moderate dilution and interest costs
C. Incorrect - Calculation shows all-debt option produces highest EPS
D. Incorrect - The options would produce significantly different EPS figures

Q17e) Key (answer) D
A. Incorrect - Lowest WACC does not necessarily mean optimal financing
B. Incorrect - Risk minimization is not the only consideration
C. Incorrect - The mixed option is not automatically optimal
D. Correct - Optimal financing depends on multiple factors including existing leverage, risk tolerance, financial flexibility needs, and strategic considerations

QUESTION 18

Account receivable Days= $\frac{Trade\ \ Receivables}{Credit\ sales\ revenue} * 365\ days = \frac{8}{30} * 365\ days = 97$ days

Inventory Days= $\frac{Averages\ inventoy}{Cost\ of\ sales} * 365\ days = \frac{6}{18} * 365\ days = 122$ days

Account payable days= $\frac{Average\ trade\ payables}{Purchase\ or\ cost\ of\ sale} * 365\ days = \frac{4}{18} * 365\ days = 81$ days

Cash operation Cycle

	Current Cash operating cycle	Industry comparison	**Comment**
Inventory Holding Period	122	80	High inventory days compare to industry ratio
Receivable Collection Period	97	75	High receivables days compare to Industry
Payables Payment Period	81	60	slower Payment to payables
Cash operating Cycles	**138**	**95**	

Q18a) Key (answer) A
A. Correct - Inventory days = (6m ÷ 18m) × 365 = 121.7 days Receivables days = (8m ÷ 30m) × 365 = 97.3 days Payables days = (4m ÷ 18m) × 365 = 81.1 days

B. Incorrect - uses last year's figures Inventory days = (4.5m ÷ 18m) × 365 = 91.25days Receivables days = (5.5m ÷ 30m) × 365 = 66.9 days Payables days = (3.2m ÷ 18m) × 365 = 64.8days
C. Incorrect - Uses last year's figures standard credit terms
D. Incorrect - Uses industry averages

Q18b) Key (answer) B
A. Incorrect - last year's figure 92+67-75
B. Correct - Cash operating cycle = Inventory days + Receivables days - Payables days = 122 + 97 - 81 = 138 days
C. Incorrect - industry averages 80+60-60
D. Incorrect - This adds all three components

Q18c) Key (answer) B
A. Incorrect - Profitability does not preclude overtrading
B. Correct - Signs of overtrading include:
- Rapidly increasing current assets (inventory up 33%, receivables up 45%)
- Declining cash (down 58%)
- Increasing reliance on short-term financing (overdraft up 150%)
- Working capital ratios significantly worse than industry averages
- Cash flow problems despite profitability
C. Incorrect - The symptoms indicate overtrading, not just inefficiency
D. Incorrect - There is sufficient evidence to diagnose overtrading
Q18 d) Key (answer) A
A. Correct - The analysis reveals two major inefficiencies: inventory days are 53% above industry average (122 vs 80 days), and receivables collection is 62% above industry average (97 vs 60 days). Together, these tie up approximately FRW4.1 million in excess working capital compared to industry benchmarks.

B. Incorrect - Operating profit margin is healthy at 16.7% (FRW5m ÷ FRW30m), indicating adequate profitability. The issue is cash conversion, not profit generation.

C. Incorrect - While payables days (81) exceed industry average (60), this helps cash flow by delaying payments. The problem is assets growing faster than liabilities.

D. Incorrect - No evidence of seasonal patterns provided. The data shows structural working capital management issues rather than cyclical factors.

Q18e) Key (answer) B

A. Incorrect - Higher sales alone won't improve cash position if working capital inefficiencies persist. The company will need to fund additional inventory and receivables.

B. Correct - With current inefficiencies, 15% sales growth will require approximately FRW2.1 million additional working capital (15% × FRW14m current working capital). Given the company already has minimal cash (FRW0.5m) and near-maximum overdraft usage, this expansion will create severe financing pressure.

C. Incorrect - The impact won't be neutral because the company's working capital ratios are significantly worse than industry averages, meaning each pound of additional sales requires excessive working capital investment.

D. Incorrect - Economies of scale in working capital are unlikely at this level of operations, and the company's current management systems appear inefficient.

SECTION C

QUESTION 19
Marking Guide:

Component	Marks	Marks
Computation of Contribution (0.5 Marks for each, Maximum 3.5)	3.5	
Posting of Fixed operating Cost	0.5	
Posting of operating lease Cost	0.5	
Post of working capital (0.5 Marks for each, Maximum 2)	2	
Posting of initial Investment	0.5	
Posting of scrape Value	0.5	
Total Cashflow (0.5 Marks for each, Maximum 4)	4	
Discount Factor @ 11%	1	
NPV Calculation	0.5	
Correct investment decision	1	
Determination of PVs at New Discounting Factor (0.5 Marks for each, Maximum 4)	4	
Formula of IRR	1	
Correct Commutation of IRR	1	
Total		**20**

Marking scheme:

Initial Data Analysis:

Initial investment: FRW6.5 million
Lease payments: FRW750,000 annually (paid at beginning of each year)
Project life: 7 years
Cost of capital: 11%
Tax rate: 30%
Capital allowances: 25% reducing balance
Sales Volume and Revenue Projections:

a) Detailed Cash Flow Forecast:

Year		0	1	2	3	4	5	6	7
Revenue			**10,000,000**	**11,330,000**	**12,836,890**	**13,221,997**	**13,618,657**	**14,027,216**	**14,448,033**
Variable Cost			(6,000,000)	(6,864,000)	(7,852,416)	(8,166,513)	(8,493,173)	(8,832,900)	(9,186,216)
Contribution			4,000,000	4,466,000	4,984,474	5,055,484	5,125,483	5,194,316	5,261,817
Fixed Costs			(1,200,000)	(1,200,000)	(1,200,000)	(1,200,000)	(1,200,000)	(1,200,000)	(1,200,000)
Lease		(750,000)	(750,000)	(750,000)	(750,000)	(750,000)	(750,000)	(750,000)	
EBIT		**(750,000)**	**2,050,000**	**2,516,000**	**3,034,474**	**3,105,484**	**3,175,483**	**3,244,316**	**4,061,817**
Tax @ 30%	30%		(615,000)	(754,800)	(910,342)	(931,645)	(952,645)	(973,295)	(1,218,545)
After-Tax Profit		**(750,000)**	**1,435,000**	**1,761,200**	**2,124,132**	**2,173,839**	**2,222,838**	**2,271,021**	**2,843,272**
Add: Tax Saving			487,500	365,625	274,219	205,664	154,248	115,686	107,058
Working Capital		**(900,000)**		**(150,000)**	**(100,000)**				**1,150,000**
Initial Investment		**(6,500,000)**							
Salvage Value									800,000
Net Cash Flow		(8,150,000)	**1,922,500**	**1,976,825**	**2,298,351**	**2,379,503**	**2,377,086**	**2,386,707**	**4,900,330**
Discount Factor (11%)		1	0.901	0.812	0.731	0.659	0.593	0.535	0.482
Present Value		(8,150,000)	1,732,173	1,605,182	1,680,094	1,568,092	1,409,612	1,276,888	2,361,959
Net Present Value		**3,484,001**							

Other NPV For Computation of Internal rate of Return

Discount Factor (20%)		1	0.833	0.694	0.579	0.482	0.402	0.335	0.279
Net Present Value		(8,150,000)	1,601,443	1,371,917	1,330,745	1,146,920	955,589	799,547	1,367,192
Net Present Value		**423,352**							

Capital Allowances Calculation (25% reducing balance):

Year	Opening NBV	Depr Rate	DEPRECIATION	Tax rate	Tax saving
1	6,500,000	25%	1,625,000	30%	487,500
2	4,875,000	25%	1,218,750	30%	365,625
3	3,656,250	25%	914,063	30%	274,219
4	2,742,188	25%	685,547	30%	205,664
5	2,056,641	25%	514,160	30%	154,248
6	1,542,480	25%	385,620	30%	115,686
7	1,156,860	25%	356,860	30%	107,058
Salvage Value	800,000				
Reducing Balance	**356,860**				

*Balancing allowance to reduce to salvage value

Working for Revenue and Variable Cost

Units Sold	10%	50,000	55,000	60,500	60,500	60,500	60,500	60,500
Selling Price	3%	200	206	212	219	225	232	239
Revenue		**10,000,000**	**11,330,000**	**12,836,890**	**13,221,997**	**13,618,657**	**14,027,216**	**14,448,033**
Units Sold	10%	50,000	55,000	60,500	60,500	60,500	60,500	60,500
Variable Cost	4%	120	125	130	135	140	146	152
Variable Cost		**6,000,000**	**6,864,000**	**7,852,416**	**8,166,513**	**8,493,173**	**8,832,900**	**9,186,216**

b)

IRR= LDF + (HDF-LDF) * $\left(\frac{NPV@\ LDF}{NPV\ @\ LDF - NPV\ @\ HDF}\right)$

IRR= 11% + (20%- 11%) * $\left(\frac{3{,}484{,}001}{3{,}484{,}001 - 423{,}352}\right)$ = **21.25%**

Significance of IRR:

Decision Rule: The IRR (21.25%) exceeds the cost of capital (11%), confirming that the project should be accepted.
Risk Assessment: The IRR provides a margin of safety - the cost of capital could increase by up to 10% percentage points before the project becomes unviable.
Comparison Tool: The IRR allows easy comparison with other investment opportunities and the company's hurdle rate.
Support for NPV Decision: The IRR calculation supports the recommendation from part (a) - both methods indicate the project creates value and should be undertaken.
Conclusion: The project has a positive NPV of approximately FRW 3,484,001, and an IRR of about 21.25%%, which exceeds the company's cost of capital of 11%. Therefore, Satuni Technologies should proceed with the investment.

QUESTION 20
a) Marking guide

Component		**Marks**
Current Operation		
Computation of After-Tax Cost of Debt	1	
Computation of Cost of Capital With CAPM	1	
Computation of Current WACC	2	
Computation of Current EPS	2	
Computation of Current Debt to Equity Ratio	2	
Option 1		
Correct calculation of new EPS figures:	1	
New debt-to-equity ratios	1	
Correct calculation of new WACCs:	1.5	
Option 2		
Correct calculation of new EPS figures:	1	
New debt-to-equity ratios	1	
Correct calculation of new WACCs:	1.5	
Appropriate discussion of credit rating impacts: for Each Option	3	
Clear recommendation with specific detail	2	
Total		**20**

Model Answer

(a) Current capital structure analysis

i) Weighted Average Cost of Capital (WACC)

Data Given Current Position	
Market value of equity	120
Shares	40
Market Share price	3
Debt (5% bonds at par)	30
Cost of Debt Before Tax	5%
EBIT	18
Tax rate	30%
Equity beta	1.3
Risk-free rate	3%
Market risk premium	5%
P/E ratio	8

i)		
Cost of Equity (CAPM)	: Risk Free rate +Be (Market Return – Risk Free rate) 3% + (1.3 × 5%)	**9.5%**
Cost of Debt after Tax	Kd(1-tax) = 5% × (1 - 0.3)	**3.5%**

Existing WACC

Details	**Market value of sources of Finance**	**Weighting**	**Cost of sources of Finance**	**Weighting * Cost of Finance**
Ordinary Share	120	80%	9.5%	7.60%
Debt	30	20%	3.5%	0.70%
	150			8.30%

ii) Earnings Per Share (EPS)
Profit before interest and tax = FRW18 million Interest on debt
= FRW30 million × 5% = FRW1.5 million Profit before tax
= FRW18 million - FRW1.5 million
= FRW16.5 million Tax at 30%
= FRW4.95 million
Profit after tax = FRW16.5 million - FRW4.95 million
= FRW11.55 million

Number of shares = 40 million

EPS = FRW11.55 million ÷ 40 million = FRW0.29 per share

iii) Current debt-to-equity ratio
Debt-to-equity ratio
= Debt ÷ Equity
= FRW30 million ÷ FRW120 million
Current debt-to-equity ratio = 0.25

b)

REFINANCING OPTIONS ONE

the company would issue new debt amounting to FRW 30 million at an interest rate of 6.5 percent

New Debt at an interest rate of 6.5 percent	30
Repurchased at price of	3.3
this new debt will be used to repurchase Existing share from shareholders	
Existing Shares in issue	**40**
Number of shares Repurchased	9.09
New share remains after repurchase	30.91

New Capital Structure	
Market value of equity	**102**
Shares	**30.91**
New Market Share price	**3.3**
Debt	
Existing Debt (5% bonds at par)	**30**
Cost of Debt Before Tax	**5%**
New Debt	30
Interest rate	6.50%
Total Debt	60
New Debt to Equity ratio= 60/102	**59%**

New Cost of Debt

Type	**Amount**	**Rate**	**Interest**
Old	30	5%	1.5
New	30	6.50%	1.95
Total	60		3.45
Cost of Debt (Kd) after Tax		=(3.45/60)*100%	4.03%

New WACC for Option of repurchase

Details	**Market value of sources of Finance**	**Weighting**	**Cost of sources of Finance**	**Weighting * Cost of Finance**
Ordinary Share	102	63%	9.5%	5.98%
Debt	60	37%	4.03%	1.49%
	162			7.47%

Profit Before Interest and Tax 18

Interest on DEBT		(3.45)
Profit before Tax		14.55
Tax	30%	(4.37)
Profit After TAX		10.185
New EPS for Options One= (10.185 / 30.91)		0.33

REFINANCING OPTIONS TWO

The second option involves issuing 10 million new ordinary shares at FRW 2.80 per share

New Share	10
Issue Price	2.80
Cash raised (Million)	28

this Cash raised will be used to redeem the Existing Debt of 30 million

old Debt (5% bonds at par)	**30**
Part Redeemed	28
Remain Debt	**2**
COST OF DEBT	**5%**

Existing share	40	3	**120**
New share Issued	10	2.8	**28**
Total share Value after Issue	**50**		**148**

New Debt to Equity Ratio= 2/148 **1.35%**

New WACC after Options 2

Details	Market value of sources of Finance	Weighting	Cost of sources of Finance	Weighting * Cost of Finance
Ordinary Share	148	99%	9.5%	9.37%
Debt	2	1%	3.5%	0.05%
	150			9.42%

Profit Before Interest and Tax		18
Interest on DEBT		(0.10)
Profit before Tax		17.9
Tax	30%	(5.37)
Profit After TAX		12.53
New EPS for Options One= 12.53/50		0.25

(iv) Credit Rating Impact

No debt

Very low risk

Strong balance sheet

Rating improves/stable

Item	Current	Option 1 (Debt)	Option 2 (Equity)
Debt	30	60	2
Equity	120	102	148
D/E	25%	59%	1.35%
WACC	8.30%	7.47%	9.42%
EPS	0.29	0.33	0.25
Rating Risk	**Low that 50%**	**High than 50%**	**Very Low than 50%**

Credit rating preservation: By keeping the debt-to-equity ratio below 0.5, the company avoids the credit rating downgrade that would occur with the full Option 1 implementation.

Comment

Although Option 1: produces a lower WACC and higher EPS, it increases the debt-to-equity ratio above 0.5, which may trigger a credit downgrade and raise future financing costs. This increases financial risk.

Option 2: maintains a strong financial position and preserves credit quality, although at the expense of lower EPS.

RECOMMENDATION

Option 2 is recommended, as it better balances shareholder value and long-term financial stability.
Based on the analysis, I recommend that Porari Pharmaceuticals pursue a modified version of Option 1 that keeps the debt-to-equity ratio below the critical threshold of 0.5.