

FINAL EXAMINATION
NOVEMBER 2023

MATRIC _____
SECTION _____
SEATING NO _____
COURSE TITLE FINANCIAL MANAGEMENT
COURSE CODE BFIN4213B
DATE/DAY 24 FEBRUARY 2024 / SATURDAY
TIME/DURATION 09:00 PM - 11:00 PM / 02 Hour(s) 00 Minute(s)

INSTRUCTIONS TO CANDIDATES :

1. Please read the instruction under each section carefully.
2. Candidates are reminded not to bring into examination hall/room any form of written materials or electronic gadget except for stationery that is permitted by the Invigilator.
3. Students who are caught breaching the Examination Rules and Regulation will be charged with an academic dishonesty and if found guilty of the offence, the maximum penalty is expulsion from the University.

(This Question Paper consists of 11 Printed Pages including front page)

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ATTENDANCE SLIP

NAME _____ DATE _____
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This question paper comprises of ONE (1) section. Answer ALL questions in the space provided. [60 MARKS]

Selama Berhad is exploring a new gold exploration project, estimated cost to be RM5.6 million. The company's existing capital structure comprises of:

Table 1: Company's Existing Capital Structure

Capital	Details
Bonds	20-year semi-annual bond, sold for RM920.00, with coupon rate of 8%. Outstanding: 5,000 units
Business loan	RM3 million for 10 years with monthly instalment of RM20,700.00.
Common stocks	The company's dividend paid at the end of financial year of 2023 was RM0.16 per unit, and price was RM2.54 per unit. The dividend's growth rate is constant at 5%. Outstanding: 7,000,000 units at par value of RM1.00
Mortgage	Loan for a property, RM2.2 million, paid through monthly instalment of RM9,500.00. for 30 years.
Motor Vehicle loan	Loan of RM250,000.00 for 9 years, monthly instalment of RM900.00.
Preferred stocks	The dividend rate is 7% on par value of RM100.00 and was priced at RM95.00 upon issuance. Outstanding: 40,000 units

The followings are the details of the project:

- i. The purchase of machinery and equipment will add another RM1.3 million and the depreciation is based on MACRS, 7-year convention and to be sold at the termination of the project for 30% of the machinery and equipment cost.
- ii. The company will need to keep additional working capital amounting to 10% of the estimated cost. The working capital is recoverable at the end of the project of 6 years.
- iii. The 6-year project's estimated sales revenue is RM7 million in the first year and increases by 5%, year on year, and declines in the final year by 3% from the previous year.
- iv. The fixed cost of the project is RM1 million annually, and the manufacturing and operation cost will be 40% of the sales revenues. The company's current interest expenses* for the projects are estimated as follows: (*Not including additional interest expense/ dividend/ coupon payment on the proposed financing.)

Table 2: Interest Expenses

Interest Expenses (in RM)					
1	2	3	4	5	6
724,232.45	722,649.25	721,014.80	719,327.44	717,585.46	715,787.09

- v. The financing of the project will be through issuance of callable bonds, 6,000 units, for a tenure of 15 years, semi-annual coupon of 6% and maturity value of RM1,200 per unit. The current yield to maturity is 5.75%. The floatation cost of the issuance is 1.5% of the selling price of the bond.
- vi. The corporate tax is 24%, and the project will be assessed based on Capital Budgeting Techniques.
- vii. The cost of capital of the project is based on the wacc of the proposed capital structure.

Additional information:

Capital Asset Pricing Model (CAPM)

The company's beta is 2.3. The cost of risk-free rate instrument is 3.75% and the average market cost of borrowing is 8.14%.



Required:

1. Prepare MACRS 7-year convention for the machineries and determine the after-tax gain or loss on disposal cash flow/ tax savings. (5 marks)

Year	Depn Rate	Dep Exp	Acc Dep	Book Value
0				
1	14%			
2	24%			
3	17.49%			
4	12.49%			
5	8.93%			
6	8.92%			
7	8.93%			
8	4.46%			

2. Construct a 6-year Pro-Forma Income Statement for the new project and determine the projected operating cash flows. (10 marks)

Pro-forma Income Statement

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

3. Calculate the annual cost of capital of bonds. (2 marks)

4. Calculate the annual cost of capital of the business loan. (2 marks)

5. Calculate the annual cost of capital of the common stocks based on Constant Dividend Growth Model (CDGM). (2 marks)

6. Calculate the annual cost of capital for the mortgage. (2 marks)

7. Calculate the annual cost of capital of the motor vehicle. (2 marks)

8. Calculate the annual cost of capital of the preferred stocks. (2 marks)

9. Calculate the net proceed of the new bond's issuance. (2 marks)

10. Complete the following template to assess the company's weighted average cost of capital (wacc) and adjusted weighted average cost of capital (adj-wacc) of the existing capital structure. (6 marks)

				wacc		Adjwacc
Capital Structure	Value	K	W		Adj k	

11. Complete the following template to assess the company's weighted average cost of capital (wacc) and adjusted weighted average cost of capital (adj-wacc) with the additional capital through bond's issuance. (5 marks)

				wacc		Adjwacc
Capital Structure	Value	K	W		Adj k	

12. Calculate the project's Initial Outlay and Terminal Value. (2 marks)

Initial Outlay:

Terminal Value:

13. Complete the following template to assess the project based on Capital Budgeting Methods. Assess the viability of the new project. (5 marks)

Year	OCF	PV	FV
0			
1			
2			
3			
4			
5			
6			

14. The Discounted Payback Period is _____. (2 marks)

15. The NPV of the project is RM _____. (2 marks)

16. The Profitability Index (PI) of the project is _____. (2 marks)

17. The IRR of the project is _____%. (1 mark)

18. The MIRR of the project is _____%. (1 mark)

19. Based on Capital Asset Pricing Model (CAPM), calculate the expected required rate of return on the company. (2 marks)

20. As an investor, would you invest in the company? Explain. (3 marks)


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***** END OF QUESTION PAPER *****

FORMULA SHEET

<p>Security Valuation</p>	<p>Current yield = $\frac{\text{annual interest payment}}{\text{market price of bonds}}$</p> <p>Basic Security Valuation Equation: Value (V) = $\frac{CF_1}{(1+k)^1} + \frac{CF_2}{(1+k)^2} + \dots + \frac{CF_n}{(1+k)^n} + \frac{M_n}{(1+k)^n}$</p> <p>VB = PMT (PVIFA_{i,n}) + PV (PVIF_{i,n})</p> <p>YTM = $C + \frac{PV - MP}{\frac{n}{PV + MP} \cdot 2}$</p> <p>Valuing Preferred Stock: $V_{ps} = \frac{\text{annual dividend}}{\text{required rate of return } k_{ps}} = \frac{D}{k_{ps}}$</p> <p>Valuing Common Stock:</p> <p>Common Stock Value With Zero Growth. "A zero growth stock is perpetuity" $P_0 = \frac{D}{k_s}$ where: D dividend the investor expect k_s required rate of return</p> <p>Common Stock with Single Holding (one year holding) $V_{cs} = \frac{D_1}{(1+k_s)^1} + \frac{P_1}{(1+k_s)^1}$</p> <p>Common Stock : Multiple Holding Periods $V_s = \frac{D_0(1+g)^t}{k_s - g}$</p>
<p>Cost of Capital</p>	<p>Cost of Common Equity</p> <p>DCF Approach: $k_s = \frac{D_1}{P_0} + g$</p> <p>The CAPM Approach: $k_s = k_{rf} + (k_m - k_{rf})\beta$</p> <p>The Risk-Premium Approach: $k_s = k_{rf} + (RP_M)\beta$</p> <p>After-tax cost of debt = $k_d(1 - \text{Tax rate})$.</p> <p>Cost of New Common Equity $k_s = \frac{D_1}{P_0(1-fc)} + g$</p> <p>Cost of Retained Earning, $k_s = (D_1 / P_0) + g$</p> <p>Weighted Average Cost of Capital (WACC) $k_{wacc} = w_d k_d (1 - T_c) + w_{ps} k_{ps} + w_{cs} k_{cs} + w_{ncs} k_{ncs}$</p>

Capital Budgeting	<p>Payback Period = $BY + \frac{UC}{CF}$</p> <p>BY = the year before full recovery UC = the unrecovered cost at start of year CF = the cash flow during the year</p> <p>Net Present Value NPV = $\frac{\Sigma \text{ Annual Cash Flow}}{(1+k)^t} - \text{Initial Investment}$</p> <p>Internal Rate of Return: IRR</p> $IRR = A + \left\{ \frac{a}{a-b} \times (B - A) \right\}$ <p>A = one of the discounting rate B = the other discounting rate a = the NPV at discounting rate A b = the NPV at discounting rate B</p> <p>Modified Internal Rate of Return (MIRR):</p> $MIRR = \left(\frac{\text{Total FV}}{\text{Initial Outlay}} \right)^{-1/n} - 1$ <p>Profitability Index (PI) PI = $\frac{\text{Present value of Future Net Cash Inflows}}{\text{Initial Outlays}}$</p>
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