



**FINAL EXAMINATION  
MARCH 2024**

MATRIC \_\_\_\_\_  
SECTION \_\_\_\_\_  
SEATING NO \_\_\_\_\_  
COURSE TITLE **FINANCIAL MANAGEMENT**  
COURSE CODE **RFIN4213**  
DATE/DAY **24 JUNE 2024 / MONDAY**  
TIME/DURATION **02:00 PM - 04:00 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)

**\*\*\*DO NOT OPEN THE QUESTION PAPER UNTIL YOU ARE TOLD TO DO SO\*\*\***

**ATTENDANCE SLIP**

NAME \_\_\_\_\_ DATE \_\_\_\_\_  
MATRIC NO \_\_\_\_\_ SECTION \_\_\_\_\_  
PROGRAMME \_\_\_\_\_  
COURSE TITLE \_\_\_\_\_  
COURSE CODE \_\_\_\_\_ SEATING NO \_\_\_\_\_ SIGNATURE \_\_\_\_\_

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

ETH Berhad is analyzing a new manufacturing contract, costs RM2.8 million. To undertake the project, the company will install a new manufacturing machine at a price of RM550,000, with an additional installation and transportation cost of RM85,000. Additionally, the working capital of 10% of the project cost will also be allocated as part of the initial cost of the project, which will be recoverable at the end of the project.

The company's existing capital structure comprises of:

- **Bonds:** The company has issued 4,000 units of 25-year semi-annual bonds, sold for RM880.00 each, with a coupon rate of 6.5%. The maturity value of the bond is RM1,100.
- **Business Loan:** The business loan of RM4 million, with a 10-year repayment period and a monthly instalment of RM60,434.00.
- **Common Stocks:** The company's outstanding common stocks of 8 million units with a par value of RM1.00. The dividend paid at the end of the financial year in 2023 was RM0.032 per unit, and the stock price was RM1.17 per unit. The dividend's growth rate is constant at 4%.
- **Mortgage:** The mortgage RM2.8 million for the manufacturing plant, paid through a monthly instalment of RM12,668.00 for 35 years.
- **Motor Vehicle Loan:** The company has a motor vehicle loan of RM300,000.00 for 7 years, with a monthly instalment of RM4,287.00.
- **Preferred Stocks:** The outstanding preferred stocks issued is 25,000 units, with a dividend rate of 8% on a par value of RM100.00. The stocks were priced at RM93.00 upon issuance.

The followings are the details of the project:

- i. The machine is depreciated based on MACRS, a 7-year convention. The machine will be sold in year 6 for 25% of the machine's price.
- ii. The financing of the project will be through an additional business loan of RM1.2 million with a tenure of 10 years at an interest rate of 7.55% p.a.
- iii. The 6-year project's estimated sales revenue is as follows:

Year	Sales Revenue (RM)
1	5,200,000
2	4,100,000
3	5,850,000
4	6,500,000
5	3,878,000
6	3,000,000

Table 1: Projected Sales Revenues

- iv. The fixed cost is RM800,000, which will increase by 3% year on year from year 4 onwards.
- v. The manufacturing and operation costs will be 35% of the sales revenues.

- vi. 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.)

Interest Expenses (in RM)					
1	2	3	4	5	6
706,437.68	704,768.79	703,029.14	701,215.72	699,325.41	697,354.94

Table 2: Interest Expenses

- vii. The corporate tax is 24%, and the project will be assessed based on Capital Budgeting Techniques.
- viii. The cost of capital of the project is based on the wacc of the proposed capital structure.
- ix. The company's beta is 1.7. The cost of risk-free rate instrument is 3.15% and the average market cost of borrowing is 7.16%.

  
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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)



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

FORMULA SHEET

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

<p><b>Capital Budgeting</b></p>	<p>Payback Period = <math>BY + \frac{UC}{CF}</math></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 = <math>\frac{\sum \text{Annual Cash Flow}}{(1+k)^t} - \text{Initial Investment}</math></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)  <math>PI = \frac{\text{Present value of Future Net Cash Inflows}}{\text{Initial Outlays}}</math></p>
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