



**FINAL EXAMINATION**  
**NOVEMBER 2023**

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<b>COURSE TITLE</b>	<b>FINANCIAL INSTRUMENTS AND MARKETS</b>
<b>COURSE CODE</b>	<b>TECO3533</b>
<b>DATE/DAY</b>	<b>15 FEBRUARY 2024 / THURSDAY</b>
<b>TIME/DURATION</b>	<b>02:00 PM - 04:00 PM / 02 Hour(s) 00 Minute(s)</b>

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**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 **3** Printed Pages including front page)

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

This question paper consists of TWO (2) questions. Answer ALL questions in the answer booklet provided. [100 MARKS]

**QUESTION 1**

**(55 Marks)**

Stephen is a fixed income security analyst of ABN Investment Limited. He is considering one of the two bonds below to add into his portfolio.

Bond A is a 3-year bond with 6% coupon compounded annually and 5% yield-to-maturity, while Bond B is a 4-year bond with 3% coupon compounded annually and 4% yield-to-maturity. Both bonds have a face value of RM1,000.

- a) Compute the price of the two bonds at year 0. (18 marks)
- b) If Stephen intends to hold the chosen bond until maturity, which of the two bonds will he choose to add into his portfolio? Explain why. (8 marks)
- c) Given the chosen bond as answer to part b above, compute the dollar value change of the chosen bond price if interest rate were to increase by 40 bps. Make use of the formula below:

$$\Delta BondPrice = - \Delta InterestRate (\%) \times Dur_{Mod} \times BondPrice_0$$

Where  $\Delta BondPrice$  is the dollar value change in bond price,  $\Delta InterestRate (\%)$  is the percentage point change of interest rate,  $Dur_{Mod}$  is the modified duration and  $BondPrice_0$  is the initial bond price. (12 marks)

- d) If Stephen intends to hold the chosen bond only for one year, i.e., specifically he will buy the bond at the end of year 0 and sell it at the end of year 1 (after coupon payment) regardless of the prevailing demand and supply of the bond, which of the two bonds will he choose to add into his portfolio? Explain why. (Hint: Compare the 1-year holding period returns) (10 marks)
- e) If Stephen is informed that interest rate will increase soon (in weeks), which of the two bonds will he most probably choose? Explain why (Hint: Review the computation of duration again. How maturity, coupon and yield-to-maturity affect duration). (7 marks)

**QUESTION 2**

**(45 marks)**

- a) Based on Efficient Market Hypothesis (EMH), in your opinion, is it possible for an investment fund to beat the market (earning large-sized profits from the equity market)? Explain your answer. (15 marks)

- b) Figure 1 below reveals the characteristic line of Tesla Inc's stock by plotting the daily excess return on Tesla Inc's stock against daily market portfolio excess return for a period of 2 months.

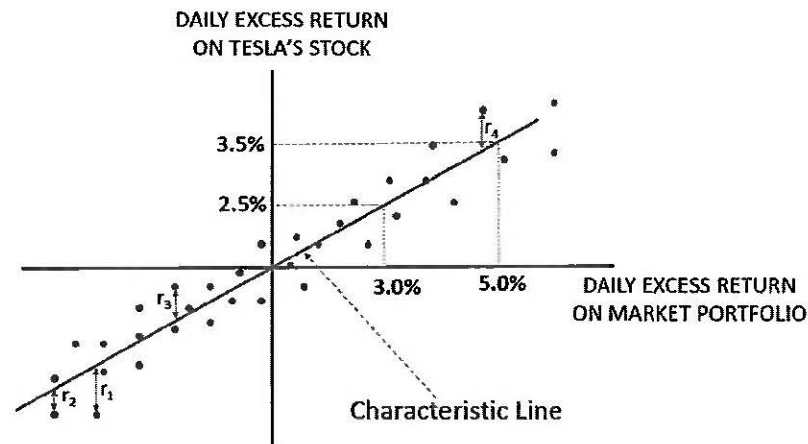


Figure 1: Characteristic line of Tesla Inc's stock

- i. Is Tesla Inc's stock a defensive or aggressive stock? Explain your answer. (10 marks)
- ii. Based on Figure 1, compute the prevailing risk-free rate. (10 marks)
- iii. Since Characteristic Line is an average line that fits across daily plots of excess return on Tesla Inc's stock against daily excess market portfolio return, the deviation of each observation from the Characteristic Line is known as residual, e.g.,  $r_1$ ,  $r_2$ ,  $r_3$  and  $r_4$ . Explain what do these residuals represent. (10 marks)

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