



PENINSULA
COLLEGE
GEORGETOWN



UNIVERSITY OF
PLYMOUTH

FINAL SEMESTER EXAMINATION

| | | |
|---------------|---|---|
| Faculty | : | ACADEMIC PARTNERSHIPS |
| School | : | ACADEMIC PARTNERSHIPS |
| Programme | : | BA (HONOURS) ACCOUNTING & FINANCE 3+0 IN COLLABORATION WITH UNIVERSITY OF PLYMOUTH |
| Academic year | : | 2021/22 |
| Stage | : | 3 |
| Course | : | INVESTMENT MANAGEMENT |
| Course Code | : | MAL3037 |
| Time Allowed | : | 3 hours |

INSTRUCTIONS TO CANDIDATES:

1. Please read the instructions given in the question paper **CAREFULLY**.
2. This assessment consists of **FOUR (4)** questions.
3. Answer **ALL FOUR (4)** questions.
4. Answers to the questions are to be written into the examination booklet.
5. Electronic dictionaries, lecture notes, files or any unauthorised materials except writing equipment are strictly prohibited.

This question paper must be submitted along with all used and/or unused rough papers and/ or graph papers (if any). Candidates are **NOT ALLOWED** to take any examination papers out of the examination hall.

(This booklet contains 5 printed pages including this page)

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE ALLOWED TO DO SO

WARNING:

The Examination Board of Peninsula College Georgetown regards cheating as a very serious offence and will not hesitate to mete out the appropriate punitive actions according to the severity of the offence committed, and in the accordance with the clauses stipulated in the Students' Handbook, up to and including expulsion from Peninsula College Georgetown.

For examiner's use only

| QUESTION NO. | MARKS |
|--------------|--------------|
| 1 | / 25 |
| 2 | / 25 |
| 3 | / 25 |
| 4 | / 25 |
| Total | / 100 |

Question 1

(a) Discuss the difference between Markowitz Portfolio Theory (MPT) and the Capital Asset Pricing Model (CAPM).

(15 marks)

(b) The table laid out below is showing the information on the market (M) and two risky assets A and B.

| | | | Correlation Matrix | | |
|------------|-----------------|--------------------|--------------------|------|-----|
| Investment | Expected Return | Standard Deviation | A | B | M |
| A | 18% | 30% | 1 | -0.5 | 0.7 |
| B | 12% | 28% | | 1 | 0.3 |
| M | 15% | 10% | | | 1 |

(i) Based on the tables above, compute the beta for A and B.

(3 marks)

(ii) Calculate the portfolio risk, portfolio return and portfolio beta if 60% of the fund is allocated in A and the remaining in B.

(4 marks)

(iii) Calculate the proportions that need to be invested in Click here to enter text.A and B to create a portfolio with a beta of 1.

(3 marks)

[Total: 25 Marks]

Question 2

(a) Compute the prices for bonds with a coupon rate of 8% and maturities of 5, 10 and 20 years if

(i) Yield to maturity is 7%

(6 marks)

(ii) Yield to maturity is 9%

(6 marks)

(b) Compute the price difference between yield to maturity of 7% and 9% for each of the 5, 10 and 20 years 8% coupon bonds.

| | Time to maturity (in years) | | |
|------------------|-----------------------------|-------------------|-------------------|
| YTM | 5 | 10 | 20 |
| 7% | (from part a(i)) | (from part a(i)) | (from part a(i)) |
| 9% | (from part a(ii)) | (from part a(ii)) | (from part a(ii)) |
| Price Difference | ? | ? | ? |

(3 marks)

(c) Burton Malkiel's five bond price theorems have described the important relationships among bond prices, maturities, coupon rates and yields. Relate **THREE (3)** of the theorems with the outcome in part (a) and part (b).

(10 marks)

[Total: 25 marks]

Question 3

- (a) Present and explain the main content of a typical investment plan. (15 marks)
- (b) Differentiate between value and growth investing. (10 marks)
- [Total: 25 marks]

Question 4

W Berhad (W) is a pharmaceutical retailer listed on the Main Market of Bursa Malaysia. For year ended 2020, W has paid a dividend of RM0.20 per share based on a fixed dividend payout of 20%. The return on equity (ROE) for W is expected to be 10% per annum for year ended 2021 till 2024. After 2024, the ROE is expected to reduce to and remain at 5% per annum indefinitely.

- a) Compute the intrinsic value of W based on the company's financial performance and the market information indicated below:
- (i) KLCI average return is 7%
 - (ii) Interest rate of Malaysian Government Securities is 3%
 - (iii) The slope for the characteristic line for W is 1.75
- (10 marks)
- b) Discuss company valuation based on comparable company analysis in terms of:
- (i) the types of multiples used
 - (ii) its advantages and disadvantages
- (10 marks)
- c) Compute the value of W if the proxy's PE is 12 times. Compare this value against the value calculated in part (a) and discuss the appropriateness of the methods used. (5 marks)
- [Total: 25 marks]

END OF EXAM

Formula Sheet

$$(1 + \frac{r}{m})^m = 1 + r$$

where m = number of holding periods per year

Click here to enter text. $\frac{1}{m} \sum_{i=1}^m r_i$

$$1 + r_{\text{eff}} = [(1 + r_1) * (1 + r_2) \dots * (1 + r_n)]^{1/n} - 1$$

Standard deviation formula:

$$s_X = \sqrt{\frac{1}{n-1} \sum_{i=1}^n (x_i - \bar{X})^2}$$

$$= \sqrt{\frac{(x_1 - \bar{X})^2 + (x_2 - \bar{X})^2 + \dots + (x_n - \bar{X})^2}{n-1}}$$

Covariance formula:

$$Cov(X, Y) = \frac{1}{N-1} \sum_{i=1}^N (X_i - \bar{X})(Y_i - \bar{Y})$$

$$r_{\text{cov}} = \frac{Cov(X, Y)}{\sigma_X * \sigma_Y}$$

$$\beta = r_{\text{cov}} * \sigma_Y / \sigma_X$$

$$\sigma_{\text{total}}^2 = \sigma_X^2 + \sigma_Y^2 + 2\beta\sigma_X\sigma_Y$$

$$P_0(1+r) = P_0 + r * (P_0 - P_0)$$

$$P_0 = \sum_{t=1}^{\infty} \frac{P_t}{(1+r)^t}$$

$$P_0 = \sum_{t=1}^{\infty} \frac{P_t}{(1+r)^t} + \frac{P_t}{(1+r)^t}$$

$$P_t = P_{t+1}/(1+r)$$

$$P_0 = (P_1 - P_0 * r)/(1+r)$$

$$P_0 = P_1/(1+r)$$

$g = b * ROE$ where $b =$ retention rate

$$(1+r)^{-1}(1+r) = (1+r)$$

$$P_0 = \frac{P_1 * 0.5}{1+r} * [1 - 1/(1+r)^2]$$

$$P_0 + \frac{P_0}{(1+r)} = P_0 + P_0$$