

**UNIVERSITY OF COLOMBO, SRI LANKA**  
**FACULTY OF MANAGEMENT AND FINANCE**  
**Postgraduate & Mid-career Development Unit**

Master of Business Administration (MBA) 2015-2017 (Semester III Second - half)  
Examination - July, 2017

MBAFI 610 – Investment Management

Three (03) Hours

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- Answer five (05) questions only
  - Clear and concise answers are expected
  - The use of calculators is allowed.
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**01.**

- i. “Efficient security market reflects fair value of securities at all times.”
  - a. According to the Capital Asset Pricing Model (CAPM), how do you determine whether the market is efficient?
  - b. If the market is not efficient, according to the CAPM, explain the role of buyers and sellers of securities to make the market efficient.
- ii. It is an ongoing debate whether the Colombo Stock Exchange (CSE) is efficient and reflects fair value of securities at all times?
- iii.
  - a. Explain the possible reasons for the inefficiency of the CSE
  - b. Discuss the challenges for the efficiency of the CSE.

(10 marks)

(10 marks)  
**(Total 20 Marks)**

**02.**

- i. “When constructing an optimal portfolio, selectivity and diversification become very important. How do active and passive investors take decisions regarding these two aspects?

(05 marks)

- ii. Yield to Maturity of government bonds is lower than the corporate bonds. Briefly explain the possible reasons for this phenomenon.

(05 marks)

- iii. Differentiate following concepts.

- a. Limit order and stop limit order  
b. Margin purchase and short selling

(05 marks)

- iv. Briefly explain the concepts "risk aversion" and "certainty equivalent wealth" using the Utility of wealth function of an investor.

(05 marks)

**(Total 20 Marks)**

**03.**

- i. A bond portfolio of a manager consists of both short term and long term bonds. Explain how interest fluctuations in the future would affect on these two bonds and the portfolio.

(04 marks)

- ii. You are provided with beta, expected return and standard deviation for three portfolios.

Portfolio	Beta ( $\beta$ )	E(R) %	$\sigma\%$
A	1.20	16.40	30.10
B	0.74	13.88	20.30
C	0.96	14.72	14.90

The standard deviation of the market index is 14%.

The total risk of an asset is given by

$$\sigma_i^2 = \beta_{im}^2 \sigma_m^2 + \sigma_{ei}^2$$

- a. Compute the diversifiable risk component of each portfolio above.

(03 marks)

- b. Briefly explain the nature of these three portfolios and suitability of them for active and passive managers.

(05 marks)

- iii. Table below provide you with the durations (D) and Time to Maturity of bond (TTM) A and B. This market has 3-year and 6-year bonds only.

	Bond A	Bond B
D	2.7	5.4
TTM	3	6

- a. Suppose a manager wants to ensure a payment of Rs. 30m cash obligation at the end of year 4. If the market interest rate for all maturities is 9%, what is the optimal bond portfolio for the manager?
- b. If interest rates of the market changed from 9% to 8% after the end of year 3 and remain at the same level until the end of year 4, what would be the value of the bond portfolio at the end of year 4?

(08 marks)

**(Total 20 Marks)**

04.

- i. Explain the impact of Call and Put provisions of corporate bonds on the Coupon rate and Yield to Maturity.
- (05 marks)
- ii. Briefly explain the concept immunization of bond portfolios and the use of the concept "Duration" in this regard.
- (05 marks)
- iii. Consider the following two theorems with regard to bond pricing.
- a. If a bond's yield does not change over its life, then the size of its discount or premium will decrease as its life gets shorter.
- b. A decrease in a bond's yield will raise the price by an amount that is greater in size than the corresponding fall in the bond's price that would occur if there was an equal-sized increase in the bond's yield.

Explain the above two theorems using appropriate examples.

(10 marks)

**(Total 20 Marks)**

05.

- i. Government of Sri Lanka is planning to issue a set of 2 year and a set of 10 year bonds. Both bonds are risk free for investors since their coupon payments and face values are equal. Do you agree? Explain.

(04 marks)

- ii. According to the Capital Asset Pricing Model (CAPM), the beta and return should be positively related. But there are contradictory empirical results for this prediction which cast doubts on the usability of beta as a measure of market risk.

- Briefly discuss the contradictory empirical findings to the model.
- Is beta useful in explaining the variation in returns of assets? Explain.
- Why multiple factor models are important? Briefly explain.

(10 marks)

- iii. An investor assumes that interest rates of the market will remain unchanged for next five years and spot rates of the market for different maturities are as follows.

Maturity	Rate %
1	10
2	11
3	12
4	13
5	14

- a. The investor decides to invest Rs. 50m and engage in Yield curve play. Suggest an investment strategy for the investor.

(02 marks)

- b. If the interest rates of the market went up after 2 years and remained unchanged during the investment period as given in the table below, what would be the return of the strategy after five years?

(04 marks)

Maturity	Rate %
1	14
2	15
3	16
4	17
5	18

(Total 20 Marks)

06.

- i. Portfolio performance evaluation is quite a challenging task.
  - a. Briefly explain the task of a portfolio performance evaluator.
  - b. Discuss available methods with difficulties in using them.

(05 marks)

- ii. A manager has outperformed the market for 10 years continuously. Briefly discuss the possible reasons.

(05 marks)

- iii. Following table provides information regarding two portfolio managers for the last year.

<u>Manager</u>	<u>Beta</u>	<u>STD</u>	<u>Expected return</u>
A	1,5	30	17
B	0.95	12	14

Risk free rate of return of the market is 10% and the risk premium of the market is 6%.

- a. Evaluate the performance of two portfolio managers on the basis of Jensen Alfa, Treynor ratio and Sharpe ratio.
- b. Explain the nature of two managers and give reasons for your decision.
- c. Which method is appropriate to evaluate the performance of two managers? Give reasons for your answer.

(10 marks)

(Total 20 Marks)

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