UNIVERSITY OF COLOMBO, SRI LANKA

FACULTY OF MANAGEMENT AND FINANCE
Postgraduate & Mid-career Development Unit

Master of Business Administration in Finance (Semester III Second-half) (2014-2016)
Examination – July/August, 2016

MBAFI 610 – Investment Management

- **Three (03) Hours**
- **Answer five (05) questions only**
- **Clear and concise answers are expected**
- **The use of calculators is allowed**

Question 01.

i. Briefly explain the role of buyers and sellers of securities to make the market efficient.

ii. Briefly explain the importance of an efficient capital market for business organizations.

iii. Both active and passive managers start investments with an objective that is defined in terms of both risk and return. How do you differentiate these two types of investors on this activity?

iv. A portfolio consists of short term and long term bonds can reduce the risk even when you invest in government bonds. Do you agree? Explain your answer.

(Total 20 Marks)

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Question 02.

i. "When people refer to the market efficiency, it is the semi strong form efficiency." Briefly discuss as to why we do not talk about strong-form efficiency.

ii. Briefly explain the characteristics of an allocationally efficient capital market.

iii. Briefly explain the importance of regulatory bodies such as Central Bank and Securities and Exchange Commission to make the financial system of an economy efficient.

iv. "Volatility of security prices is a natural phenomenon in an efficient capital market." Do you agree? Explain your answer.

(Total 20 Marks)

Question 03.

i. "Selecting an optimal portfolio is one of the important steps in the investment process." How can an investor address this issue using the Capital Asset Pricing Model and Arbitrage Pricing Theory?

(05 marks)

ii. Explain the concepts of certainty equivalent wealth and premium for risk using the diminishing marginal utility of wealth function.

(05 marks)

iii. Price of a share is Rs. 175, and EPS and Dividends over the past year was Rs. 6.00 and Rs. 1.75, respectively. For the next two years, forecast earnings and dividends, along with the earnings growth rates and payout ratios, are:

$D1 = 4.50, E1 = 10.00, g1 = 67\%, p1 = 45\%$

$D2 = 4.00, E2 = 10.00, g2 = 0\%, p2 = 40\%$

Constant growth in dividends and earnings of 10% per year is forecasted to begin at T=2, which means that D3= 4.4, E3 = 11, g=10%, and p = 40%

Given a required rate of return of 12%,

    a.   What is the normal P-E ratio?

    b.   What is the actual P-E ratio?

    c.   Decide whether the stock is under/over/fairly priced.

(10 marks)
(Total 20 Marks)

Question 04.

i. Yield curve of bonds in a country is generally upward sloping. Do you agree? Explain your answer highlighting the factors that could affect on this.

(05 marks)

ii. A bond has an annual coupon payment of Rs. 120 for the remaining life of 3 years, and a par value of Rs.1, 000 and the YTM is 13%. What are the price and the duration of this bond?

(05 marks)

iii. A manager has one outflow of Rs.1m to be paid in two years (since it has only one CF, the duration is 2). Manager is considering investing in 2 different issues. One, as shown in (ii) above with maturity of 3 years and the second is 1 year bond with a price of Rs. 1,000 today and a single payment of Rs.1,130 at maturity.

    a. What are the investment choices open to the manager?

    b. Explain the risks of those options.

    c. If the two-year zero rate is 13% today, what is the optimal investment portfolio?

(05 marks)

iv. Consider Bond A with a coupon rate 8%, time to maturity 4 years, yield 8% and Bond B with a coupon rate 10%, time to maturity 4 years, yield 8%. If the yield on both A and B decreases to 7%, then the prices of both A and B will increase by the same percentage. Do you agree? Explain your answer using the theorems of bond pricing.

(05 marks)
(Total 20 Marks)

Question 05.

i. Both the Security Market Line (SML) and Capital Market Line (CML) assert that there is a linear relationship between Risk and Return of assets.

    a. Compare these two models highlighting the differences.

    b. How investors could use these two models to achieve the objective of maximizing return and minimizing risk?

(05 marks)

ii. Suppose the risk free rate is 10%, expected return of the market is 14% and the standard deviation (STD) of the market is 18%.

    a. Draw the CML.

    b. What are the expected return and the STD of the portfolio that invests 30% at risk free rate and the balance in the market portfolio?

    c. What are the expected return and the STD of the portfolio that invests -40% (borrow 40%) at risk free rate and the balance in the optimal portfolio?

$$E(R_p) = W_{rf} Rf + (1 - W_{rf}) Rm$$

$$\sigma_p = W_{rm} \sigma_{rm}$$

(10 marks)

iii. Suppose the beta and Implied returns of four stocks are given in the table below.

Stock	Beta	Implied Return
A	1.1	17
B	0.9	13
C	1	15
D	1.3	18

The risk-free rate of interest and expected market return are 12% and 15% respectively. Calculate the required rate of return and decide whether the assets given in the table are under/over/fairly priced.

(05 marks)

(Total 20 Marks)

Question 06.

i. Briefly describe the task of performance evaluator of a portfolio highlighting the difficulties faced by the evaluator.

(04 marks)

ii. Following table gives the expected returns and factor sensitivities of one factor model for three assets.

Security	E(r) (%)	Bi
1	22	1.5
2	17	1.2
3	. 15	1.3

a. Do these expected returns and factor sensitivities represent an equilibrium situation?

b. If not, what will happen to stock prices and expected returns to restore equilibrium?

c. Find the weights of three assets of an arbitrage portfolio by arbitrarily assigning 0.2 for the weight of asset 2 (i.e., $X_2 = 0.2$).

(06 marks)

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

Portfolio	Beta	STD	Expected return
Active Manager	0.8	23	16
Passive Manager	1.05	12	15

Risk free rate of return of the market is 8% and the risk premium of the market is 6%.

a. Evaluate the performance of two portfolio managers on the basis of Treynor ratio and Sharpe ratio.

b. Which method is appropriate to evaluate the performance of two portfolios? Give reasons for your answer.

(10 marks)
(Total 20 Marks)

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