

# UNIVERSITY OF COLOMBO, SRI LANKA

## FACULTY OF MANAGEMENT AND FINANCE

Bachelor of Business Administration (Level II - Semester VI) Examination

November 2018

### MOS 2303 – Investment Analysis and Portfolio Management

Three (03) Hours

- Answer any five (05) questions.
  - Use of calculator is permitted.
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- i. "The primary goal of investment is capital appreciation." Briefly explain this statement. (05 marks)
  - ii. Describe the reasons for the variability in expected return on investment. (05 marks)
  - iii. Explain the investment process. (05 marks)
  - iv. Define portfolio and list down three (03) benefits of investing in a portfolio. (05 marks)

**(Total marks 20)**
  
- i. Define order specification and list down the main features of it. (05 marks)
  - ii. Explain the execution (both buying and selling) of a conditional market order with graphs. (05 marks)
  - iii. Abhishek purchases 100 shares of Intel PLC on margin for Rs. 50. The initial margin requirement is 60% and the maintenance margin requirement is 30%. The interest rate charge by Fogg brokers on an overdraft facility is 10%. Intel PLC pays a dividend of 10% on the nominal value of the share which is Rs. 20.
    - a. Prepare the balance sheet of Abhishek after the margin purchase.
    - b. Determine the conditions after marking to market if the price declines to Rs. 20. (05 marks)
  - iv. Describe the pre-requisites for short sales. (05 marks)

**(Total marks 20)**

3. i. Differentiate between the real investment and the financial investment with examples.  
(05 marks)
- ii. "Risk-free rate paid for the treasury bills doesn't imply that the treasury bills are absolutely risk-free." Briefly explain this statement.  
(05 marks)
- iii. The actual returns of stocks A and B for the first half in 2018 are as follows. Calculate the average returns and the standard deviations of the two stocks.

Security	Jan	Feb	Mar	Apr	May	Jun
A	(0.75)	4.5	0.5	3.25	(2.25)	8.75
B	1.00	2.20	1.25	11.50	8.75	(3.5)

- (05 marks)
- iv. In relation to the above question, if you are an investor, in which security will you be investing? Justify your answer.

(05 marks)

**(Total marks 20)**

4. i. Differentiate between the modern portfolio theory of Markowitz and capital asset pricing model of Sharpe.  
(05 marks)
- ii. "According to separation theorem, the optimal combination of risky securities for an investor can be determined without any knowledge of the investor's risk-return preferences." Briefly explain this statement.  
(05 marks)
- iii. Describe the key assumptions of capital asset pricing model (CAPM).  
(05 marks)
- iv. The expected return on the market portfolio is 10%. The risk-free rate of return is 6%. The betas of stocks X and Y are 0.85 and 1.20 respectively.

a. Draw the security market line (SML).

b. Plot the two securities on the SML.

(05 marks)

**(Total marks 20)**

5. i. Describe the reasons for the shape of an indifference curve in investment management. (05 marks)
- ii. Explain the conditions to determine the efficient set. (05 marks)
- iii. Describe the relationship between covariance and diversification. (05 marks)
- iv. Briefly explain the two risk categories considered in the market model in determining the returns of a security. (05 marks)
- (Total marks 20)**

6. i. Describe the impact of risk-free lending on the shape of the efficient set. (05 marks)
- ii. "Risk-free borrowing would only be exploited by slightly risk-averse investors." Briefly explain this statement. (05 marks)
- iii. The return and variance-covariance matrix for three assets are as follows.

Security	Return	Variance-covariance Matrix		
		A	B	C
A	10.1	210	60	0
B	7.8	60	90	0
C	5.0	0	0	0

- a. Which of the three securities must be the risk-free asset? Justify your answer.
- b. Calculate the expected return and standard deviation of the portfolio if the investment is equally split among the three securities. (05 marks)
- iv. Explain the impact on the shape of the efficient set if there is a change in the risk-free rate for borrowing and lending. (05 marks)
- (Total marks 20)**

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