UNIVERSITY OF COLOMBO, SRI LANKA

FACULTY OF MANAGEMENT & FINANCE

Bachelor of Business Administration (Level II – Semester VII) Examination
July 2016

BEC 2206 –Financial Economics

Two (02) Hours

Answer Only Four (04) Questions

Use of calculators is permitted

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1. i. Consider the expected utility theorem. How would you show whether a certain person is risk averse or not using his/her utility function?

(07 Marks)

ii. "A portfolio is desirable only if its certainty equivalent (CE) rate of return exceeds the rate of return on a risk-free alternative".

How do you elaborate in the idea expressed in the above statement?

(08 Marks)

iii. What is implied by a utility scoring method represented by the following equation?

$$U = E(r) - 0.005A\sigma^2$$

where U is utility, $E(r)$ is expected return and A is an index of investor's risk aversion and σ^2 is risk

(05 Marks)

iv. Explain why risk-return indifference curves slope upward and are convex to the horizontal axis.

(05 Marks)

(Total 25 marks)

2. i. Explain why it is argued that the slope of the Capital Allocation line provides a more useful measure of portfolio returns.

(04 Marks)

ii. "Potential benefits from diversification arise when correlation between assets is more than one".

Do you agree with the above statement? Explain the reasons behind your answer.

(07 Marks)

iii. Show how the optimal portfolio is selected in the context of each of the following restrictions:

a. Absence of a risk-free asset

b. Though a risk-free asset is available, there are no borrowing facilities

c. Borrowing rate is greater than the lending rate

(08 Marks)

iv. "Even if the given opportunity set is identical, two investors hardly select the same complete portfolio". Do you agree? Explain.

(06 Marks)

(Total 25 marks)

3 i. Critically examine the assumptions of the Capital Asset Pricing Model (CAPM).

(06 Marks)

ii. Explain the major implication of the mutual fund theory.

(05 Marks)

iii. Why is it argued that beta of a stock is a useful measure of risk?

(06 Marks)

iv. "Given the risk of an investment, the Security Market Line (SML) provides the required rate of return necessary to compensate investors for risk as well as time value of money".

a. Using a diagram, explain the meaning of the above statement.

b. Show where underpriced, overpriced and fairly priced are positioned with respect to the SML

(08 Marks)

(Total 25 marks)

4. i. Elaborate on the ideas in each of the following statements in the context of factor models:

a. "In a single index regression, we implicitly assume that each stock has the same relative sensitivity to each risk factor".

(06 Marks)

b. "Well diversified portfolios with same betas but different expected returns will create arbitrage opportunities".

(06 Marks)

c. "Implications of the absence of arbitrage opportunities are stronger than implications derived from the mean-variance dominance argument".

(06 Marks)

ii. Why is it argued that factor models play a better role than the Capital Asset Pricing Model in asset pricing?

(07 Marks)

(Total 25 marks)

5. i. What is meant by the concept of "efficient market"?

(04 Marks)

ii. "Technical analysis assumes a sluggish response of stock prices to fundamental supply and demand factors".

Comment on this statement in the context of Efficient Market Hypothesis.

(05Marks)

iii. Examine the following in detail:

a. Weak form tests

(08 Marks

b. Semi-strong from tests

(08 Marks

(Total 25 marks)

6. i. At first glance Straddle seems to be a 'no-lose' option strategy. However, only some investors choose to employ it.

a. Describe the option strategy Straddle.

(04Marks

b. Explain why some investors may not want to use it.

(04Marks

ii. Consider the following set of information:

- Current price of a share of a stock - Rs. 100
- Price of a put option on the stock - Rs. 5
- Strike price of the put and call options - Rs. 108
- Risk-free interest rate - 8%
- The term to expiration is one year.

a. Using the Put-Call Parity Relation, find the fair price of a call option.

(03 Marks)

b. If the price of this call in the market is Rs. 6, show how one can make arbitrage profits out of it.

(05 Marks)

iii. Consider the following set of information:

- A stock now sells at Rs. 100
- Price of the stock one year from now will be either Rs. 125 or Rs. 75
- Call option on the stock is specified on the strike price of Rs. 115
- Risk-free interest rate is 7%

a. Find the price of a call option using the binomial pricing approach

(04 Marks)

b. Show that a portfolio made up of a stock and the number of call options (found through the hedge ratio) written must be perfectly hedged.

(05 Marks)

(Total 25 marks)

7. i. What is meant by the informational role played by commodity futures?

(04 Marks)

ii. Explain how the buyers and sellers of commodities can hedge against risk of price changes through commodity futures.

(08 Marks)

iii. Suppose that the current price of a share of a stock is Rs. 50. Risk-free interest rate is 10% and the share is expected to be held for one year.

a. Find the forward price of the futures contract.

(02 Marks)

b. Suppose that the forward price is Rs. 60 in the market. Show how an arbitrageur can make profits.

(04 Marks)

iv. Suppose that firm A can borrow Rs. 50 million at LIBOR plus 0.2% per annum and firm B can borrow 50 million at a fixed rate of 9% per annum. If there is a swap agreement between firms A and B where A has to pay B 8.9% per annum and B has to pay A LIBER per annum, show how

a. firm A can transform a floating rate loan into a fixed rate loan

b. firm B can transform a fixed rate loan into a floating rate loan

c. the net interest rates that firms A and B pay after the swap agreement

(07 Marks)

(Total 25 marks)
