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University Examinations 2024/2025

FIRST YEAR FIRST SEMESTER EXAMINATION FOR THE DEGREE OF MASTER OF SCIENCE IN FINANCE

BFA 5105: INVESTMENT AND ASSETS MANAGEMENT

DATE: JANUARY 2025 **TIME:3 HOURS**

INSTRUCTIONS: *Answer question* ***one*** *and any other* ***three*** *questions*

QUESTION ONE (30 MARKS)

a) By use of a diagram, discuss the Fisher's Separability Theorem as applied in investment selection. (6 mks)

b) What factors does one ought to consider in portfolio selection? (6mks)

c) Mr Kaugi has a capital of which he wishes to invest in three sectors: Agriculture, Service and Manufacturing. The amount will be allocated as follows:

Sector	Amount allocated
	Sh'000
Agriculture	800
Service	600

Manufacturing	600

Details on the future possible economic states, their respective probabilities and expected rate of return for each of the sector are as given below:

Economic Stage	Probability	Expected rate of return		
		Agriculture	Service	Manufacturing
Recession	0.1	14	3	16
Average	0.4	19	5	14
Good	0.5	22	6	20

Required:

i) Determine the risk associated with the investment in each of the three sectors (6 mks)

ii) Discuss the expected portfolio return (6 mks)

QUESTION TWO (12 MARKS)

An investor expects a risk-free rate of return of 4.5% per annum and a market rate of return of 14.5% per annum. Two stocks, X and Y have the following betas and estimated returns:

Stock	Beta	Expected Return
A	1.2	16%
B	0.8	14%

i) Assuming stocks A and B are fairly valued under capital asset pricing model (CAPM) use a graph to indicate the points where stocks would be plotted on the security market line (SML).

(6 mks)

ii) State whether stocks A and Stock B are undervalued or overvalued. (6 mks)

QUESTION THREE (12 MARKS)

Discuss how derivatives are using in risk management:

i) Future contracts
ii) Forwards
iii) Swaps
iv) Options (12 mks)

QUESTION FOUR (12 MARKS)

An investor is planning to select either of the following securities M and N:

prob	M	N
.20	11	-3
.20	9	15
.20	25	2
.20	7	20
.20	-2	6

Required:

Determine the expected return of portfolio consisting of the following combinations and advise accordingly: (12 mks)

i) 100% M
ii) 75%M and 25%N
iii) 50%M and 50%N
iv) 25% M and 75%N

QUESTION FIVE (12 MARKS)

a) Discuss the arbitrage theory and its relevance in the international finance. (6mks)

b) Assume you have been provided with the following details of exchange rates for the US dollar (USD), British Pound (BP) and the Canadian dollar (CD):

USD 0.6/CD   CD 1.6667/USD

USD 1.25/BP BP 0.8/USD

CD 2.5/BP BP 0.4/CD

Required:

Demonstrate how you could take advantage of these exchange rates to obtain an arbitrage profit.

(6mks)