UNIVERSITY EXAMINATIONS 2024/2025

THIRD YEAR SECOND SEMESTER EXAMINATION FOR DEGREE OF BACHELOR OF COMMERCE

BFC 3379: INVESTMENT ANALYSIS AND PORTFOLIO MANAGEMENT

DATE: DECEMBER 2024   **TIME: 2 HOURS**

INSTRUCTIONS: Answer Question ONE and any other TWO questions.

QUESTION ONE (30 MARKS)

a) Provided the following information, calculate the expected return and standard deviation of returns for a portfolio 75 % invested in the stock index and 25% invested in the government bond   (10marks)

	Zuri ltd	government bond
Expected return	15%	5%
Variance	225	100
Standard deviation	15%	10%
Correlation	0.5	

b) Think about your investment possibilities for a three years holding period in real investment environment.

   i.   What could be your investment objectives   (5 marks)

   ii. What types of investment vehicles are available in your investment environment   (10 marks)

   iii. What factors would be critical for your investment decision making in this particular investment environment   (5 marks)

QUESTION TWO (20 MARKS)

Pelco ltd has a capital of 1,000,000 which he wishes invest in three sectors of the economy agriculture, service and manufacturing. The funds will be allocated as Follows:

Sector	amount invested
Agriculture	500,000
Service	300,000
Manufacturing	200,000

Details of possible future economic states and their probabilities of occurrence and the expected return for each of the sectors is as shown below

Economic state	Probabilities of occurrence	Expected returns of each sector		
		Manufacturing	Agriculture	Service
Recession	0.1	16	14	3
Average	0.4	20	19	5
boom	0.5		22	6

i) Determine the risk associated with the investment in the three sectors above

(16 marks)

ii) Determine the expected portfolio return (4 marks)

QUESTION THREE (20 MARKS)

a) Define efficient markets (2 marks)

b) Differentiate between information efficiency and allocative efficiency (2 marks)

c) Explain the following terms

    i. Random walk theory (1 mark)

    ii. Fundamental analysis (1 mark)

    iii. Technical analysis (1 mark)

d) Meru steel ltd has proposed to undertake two investment projects A and B the finance department of the firm has estimated the following risk and return characteristics of the 2 projects

project	A	B
Risk	3.5%	7.5%
Expected return	10%	18%

The firm plans to invest 60% of its available budgetary allocation in project A and the rest in project B. the correlation coefficient between the returns of the projects is +0.1

Determine

    i.   The return from the proposal portfolio of project A and B   (3marks)

    ii.   The risk of the portfolio   (5 marks)

    iii.   Suppose that the correlation between A and B was adjusted to -0.1 , how should the firm invest its fund in order to obtain Zero risk portfolio   (5 marks)

QUESTION FOUR (20 MARKS)

a) The following relates to portfolios P and N

	P	N
Average return	35%	25%
Beta	1.25	1.00
Standard deviation	42%	30%
Non-systematic risk	18%	10%

Assume the risk free rate is 6% and average market return is 15%

Calculate for P and N

    i.   Sharpe ratio   (3 marks)

    ii.   Treynors ratio   (3 marks)

    iii.   Jensens alpha   (3 marks)

    iv.   The appraisal ratio   (3marks)

b) Explain the difference between

    i)   Money market and capital market   (2 marks)

    ii)   Primary market and secondary markets   (2 marks)

c) What does it mean to say "an option buyer has a right but not an obligation?   (4 marks)

QUESTION FIVE(20MARKS)

a) What are the assumptions underlying CAPM   (5 marks)

b) Many of the underlying assumptions of CAPM are violated in the real world. Does that fact validate the models conclusions? Explain   (5 marks)

c) The following table represents three stock portfolio

stocks	Portfolio weights	Coefficient beta	Expected return	Standard deviation
A	0.25	0.5	0.40	0.07
B	0.25	0.5	0.25	0.05
C	0.50	1.00	0.21	0.07

Variance of the market is 0.06

    i.   What is the beta coefficient of the portfolio   (2 mark)

   ii.   What is the expected rate of return on the portfolio   (2 marks)

  iii.   What is an actual variance of the portfolio if the following actual covariance between stocks return is given   (6 marks)

$$\text{cov} (A , b) = 0.020$$
$$\text{cov} (A,C) = 0.035$$
$$\text{Cov} (b,c) = 0.035$$