(Knowledge for Development)

KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS

2021/2022 ACADEMIC YEAR

FOURTH YEAR SECOND SEMESTER
MAIN EXAMINATION

FOR THE DEGREEOF BACHELOR OF COMMERCE

COURSE CODE:BCF429/BCF421

COURSE TITLE:PORTFOLIO THEORY AND MANAGEMENT

DATE: 7ᵀᴴ SEPTEMBER,2022   **TIME**:2.00PM – 4.00PM

INSTRUCTIONS TO CANDIDATES

1. Answer Question One in Section A and Any other TWO (2) Questions in Section B

2.Question **one** carries **30**marks and each of the other two questions carry **20** marks each.

TIME: 2 Hours

KIBU observes ZERO tolerance to examination cheating

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QUESTION ONE

a) The following information relates to the forecast returns of securities A and B and their probabilities during the financial year ending 30th June 2010

probability	SECURITIES	
	A	B
0.2	10%	8%
0.1	12%	10%
0.35	8%	7%
0.05	15%	12%
0.15	14%	11%
0.15	9%	8%

Required

i.   Calculate The expected return and standard deviation on security A and B...10mks

ii.   Based on relative risk, which security would you recommend?......................4mks

b) Discuss the meaning of systematic and unsystematic risk...........................4mks

c) Briefly explain three forms of market efficiency...6mks

d) When selecting portfolio strategy ,briefly discuss two portfolio strategy...............6mks

QUESTION TWO

a)   Briefly explain three practical uses of capital asset pricing model..........6mks

b)   Mr. mlachake currently holds a portfolio consisting of shares of four companies quoted on the bahati stock exchange as follows

company	No. of shares	Beta Equity	Market price	Expected

	held	Coefficient	per share	return on equity in the next year ,%
A	20,000	1.12	65	18
B	30,000	0.89	50	23
C	30,000	0.70	45	11
D	20,000	1.60	80	17

The current market is 14% per annum and treasury bills yield is per annum.

Required:

    i.   Calculate the risk of Mlachake's portfolio relative to that of the market   (8mks)

    ii.   Explain whether or not Mlachake should change the composition of his portfolio   (6mks)

(Total 20 mrks)

QUESTION THREE

    a. What assumptions must be made in deriving the capital asset pricing model(CAPM)……………………………………………………………….6mks

    b. The table below gives the end-year levels of the price of ordinary shares in kamili ltd and of a representative stock exchange index.

Year	Kamili ltd share price	Stock exchange index
1	150	1504
2	156	1631
3	162	1750
4	158	1690
5	170	1800
6	153	1590

Required:

i) Use the information to calculate the beta coefficient of kamili ltd's ordinary shares, ignoring any dividend payments (work to four decimal places only at each stage of calculations) (10mks)

ii) Using beta calculated in (b) above, and given a risk-free rate of 5% per year and an expected return from equities generally of 8% a year ,calculate the expected rate of return on kamili ltd's ordinary shares (4mks)

(Total 20 mrks)

QUESTION FOUR
(6mks)

a) Explain the meaning of market efficiency

b) The sunrise and sunset companies have the following probability distribution of returns:

Economic conditions	probability	Returns (%)	
		Sunrise	Sunset
High growth	0.1	32	30
Normal growth	0.2	20	17
Slow growth	0.4	14	6
Stagnation	0.2	-5	-12
Decline	0.1	-10	-16

You are required: (8mks)

i) To determine the expected covariance of returns

ii) To determine The correlation of returns between the sunrise and sunset companies. (6mks)

QUESTION FIVE
(6mks)

a) Briefly explain the arbitrage pricing theory(APT)

b) You work as an analyst at a pension fund. The portfolio manager that you report to wants to execute a duration-matching strategy by matching duration of the fund assets with fund liabilities.

- Bond A: $1,000 face value coupon bond with 4 and half years till maturity.

• Bond B: 5-year $1,000 face value bond paying 5% annual coupon yielding 5.2%

Required:

i) calculate Macaulay's duration of the bonds and Identify which bond has the
higher interest   (10mrks)

(Total 20 mrks)