LAIKIPIA UNIVERSITY

# UNIVERSITY EXAMINATIONS

## 2ND SEMESTER 2023/2024 ACADEMIC YEAR

**FOURTH YEAR EXAMINATION FOR THE DEGREE OF**
**BACHELOR OF COMMERCE**

**BCOM 433: INVESTMENT & PORTFOLIO MANAGEMENT**

***STREAM:*** ***TIME: 2 HRS***

***DAY: MONDAY [2.30-4.30 P.M]*** ***DATE: 8/04/2024***

**THIS QUESTION PAPER CONSISTS OF FOUR (4) PAGES**

**PLEASE DO NOT OPEN UNTIL THE INVIGILATOR SAYS SO.**

**INSTRUCTIONS:**

**(i) Attempt Questions ONE and any other Two questions.**
**(ii) Show your workings where necessary.**
**(iii) Do not write anything on this question paper.**

**QUESTION ONE**

(a) Diversification is a fundamental concept for investors in managing their investment portfolios, especially in the current volatile market environment and the bearish trend at the Nairobi Securities Exchange. Discuss how portfolio diversification is crucial in such a volatile securities markets and identify some of the limitations of portfolio diversification which securities investors should be aware of. **(10 marks)**

(b) You have been invited for an interview for the position of a portfolio manager with Standard Fund Managers Ltd. One of the questions fired to you is on the process portfolio managers go through in constructing their portfolios. Explain to the panel the important steps involved in investment management process. **(6 marks)**

(c) Various portfolio performance measures have been developed for use by industry experts. Assume that a client is exposed to three (3) portfolios, each with the following characteristics:

| Portfolio | Expected Return | Volatility | Beta |
|---|---|---|---|
| **X** | 0.15 | 0.12 | 0.10 |
| **Y** | 0.18 | 0.14 | 0.11 |
| **Z** | 0.12 | 0.09 | 0.05 |

The NSE 20 Share Index expected return is 20 percent and a standard deviation of 12 percent. Suppose the 91-day Treasury bill rate is 5 percent.

**Required:**

Determine the portfolio which the client should pick based on Sharpe Ratio, given that other Sharpes have a ratio of 0.97. Justify your recommendation **(4 marks)**.

(d) Explain the common portfolio construction problems which can be faced by both investors and portfolio managers in Kenya **(10 marks)**

## QUESTION TWO

Mr. Kivuva, a Treasury manager at KCB Bank, can borrow for three months at 10.15 % and make a three-month loan at 10.25 %. Capital markets regulation requires that a sh. 3 million borrowing has to be supported by sh. 35,000 of capital.

(a) Exploiting the arbitrage spread by ***passive*** management through borrowing for 3 months and lending for 3 months:

- (i) Calculate the borrowing cost **(2 marks)**
- (ii) Determine the income from the lending **(2 marks)**
- (iii) Compute the implied profit and the rate of return **(2 marks)**

(b) Suppose Mr. Kivuva aspires to pursue a strategy of ***positive gapping*** based on the expectation that interest rates will increase by 1 percentage after 1 month:

- (i) Calculate the borrowing cost **(2 marks)**
- (ii) Determine the income from the lending **(2 marks)**
- (iii) Compute the implied the rate of return **(2 marks)**

**(c)** Using relevant examples, explain the major assumptions that underlie the Utility Theory **(8 marks)**

## QUESTION THREE

Malachi is confronted by an investment decision to select between two investments Q and R with the following information:

| **Investment Q** | | | **Investment R** | | |
|---|---|---|---|---|---|
| Profits (sh) | Utiles | Probability | Profits (sh) | Utiles | Probability |
| 1875 | 0.60 | 20% | 3600 | 0.3 | 30% |
| 5625 | 0.75 | 60% | 7200 | 0.7 | 40% |
| 9375 | 0.87 | 20% | 18,000 | 0.9 | 30% |

(a) Based on the expected utility theorem, which investment would Malachi select? **(3 marks)**

(b) Suppose Malachi was willing to pay sh.3,700 to participate in the Investment he is willing to select in (a) above, and assume that the investment's probabilities of profit occurrences were changed to 68%, 11% and 21% respectively, Malachi was willing to pay sh.2,470:

(i) Determine the amount of inducement Malachi expects in order to bear the risk involved in the investment project **(3 marks)**

(ii) Construct a utility function for Kirui which depicts his risk profile. **(3 marks)**

(c) Explain some of the limitations inherent in the application of the Utility Theory in financial investment decisions. **(11 marks)**

**QUESTION FOUR**

(a) Discuss some of the portfolio management strategies which Kenyan portfolio managers may pursue. **(10 marks)**

(b) Explain how Kenyan securities investors can construct efficiently and well diversified portfolios. **(10 marks)**