(Knowledge for Development)

KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS

2020/2021 ACADEMIC YEAR

FOURTH YEAR SECOND SEMESTER

MAIN EXAMINATION

FOR THE DEGREE OF BACHELOR OF COMMERCE

COURSE CODE :BCF 429

COURSE TITLE : PORTFOLIO THEORY AND MANAGEMENT.

DATE: 14TH OCTOBER 2021 TIME: 2.00PM – 4.00PM

INSTRUCTIONS TO CANDIDATES

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

TIME: 2 HOURS

This Paper Consists of 2 Printed Pages. Please Turn Over.

SECTION A

QUESTION ONE.

(a) Explain the Modern Portfolio Theory, its assumptions and shortcomings.- **(6 Marks).**

(b) Consider a Bond with the following characteristics:

- Face value - Kshs 1,000
- Coupon - 12 percent (payable annually).
- Years to Maturity - 6 Years.
- Redemption Value - Kshs 1,000.
- Current Market Price - Kshs 880

Required.

Calculate:

(i) The Bond's Yield to Maturity. - **(2 Marks).**

(ii) The bond's Macaulay's duration. - **(6 Marks).**

(c) Using the Black Scholes Option pricing model, calculate the value of the call option given the following information:

- Exercise Price - Kshs 110.
- Time remaining to Maturity - Six months.
- Current Stock Price - Kshs 130.
- Standard deviation - 0.50
- Risk free rate of return - 14%. - **(8 Marks).**

(d) During the last 10 years period, the average annual rate on the N.S.E was 14% and the average annual rate of return on a risk free asset was 8%.The N.S.E had a standard deviation of 20 %.As an administrator of a large Pension Fund that is divided among three Investment Managers, you have gathered the following information:

Investment Manager	Average Rate of Return (%).	Beta of Portfolio (β)	Standard deviation of Portfolio (σ)(%)
X	12	0.90	16
Y	16	1.05	22
Z	18	1.20	24

Required.

Evaluate the performance of the three Investment Managers using the following performance measures and also give your comments:

(i) Jensen's alpha. - **(4 Marks).**

(ii) M^2. - **(4 Marks).**

SECTION B.

QUESTION TWO.

(a) Abby is considering making an investment in the share of East End Ltd. The risk free (anticipated) rate of return on East End Ltd.'s share is 14 percent.The table below contains the relevant economic attributes influencing the total return on East End Ltd.'s share.

Factor	Beta	Expected Value (%)	Actual Value (%)
G.N.P	1.60	5.00	8.50
Inflation	0.80	6.00	7.00
Interest rate	1.10	7.00	8.50
Stock Market Index	2.30	8.50	14.00
Industrial Production	1.80	10.00	13.00

Required:
Calculate the total return on the share.

(6 Marks).

(b) Assume that you are a Portfolio Manager. Based on the following details, determine the securities that are overpriced and underpriced in terms of the Security Market Line/CAPM.

Security	Actual Return	Beta(β)	Standard Deviation(σ)
A	0.50	1.60	0.70
B	0.30	1.20	0.45
C	0.45	0.90	0.40
D	0.35	1.10	0.36
E	0.24	0.76	0.30
F	0.18	1.40	0.20
Market Index	0.15	1.00	0.22
Treasury Bills	0.12	0.00	0.00

(8 Marks).

(c) Mr. Macharia is holding a 5 year 10% (annual), Shs 1,000 debenture.

Required.

Calculate the value of this debenture if the cost of capital is:

(i) 10% - **(2 Marks).**
(ii) 8% - **(2 Marks).**
(iii) 12% - **(2 Marks).**

QUESTION THREE.

(a) Distinguish between the Capital Market Line and the Security Market Line. **(4 Marks).**

(b) Assume that the risk free rate of Interest in respect of asset P is 14 percent. The Market portfolio is expected to yield a return of 24 percent with a standard deviation of 12 percent. Alex an investor wishes to earn an expected rate of return of 20 percent.

Required.

In what combination should Alex hold the Market Portfolio and the risk free security? **(4 Marks).**

(c) XY Ltd. has a beta of 1.40.The risk free rate is 12% and the expected return on the market portfolio is 16%.

The Company presently pays a dividend of Shs 4.00 a share and investors expect it to experience a growth in dividends of 9% per annum for many years to come.

Required.

(i) Calculate the stock's required rate of return according to CAPM? - **(2 Marks).**
(ii) Calculate the stock's present market price per share assuming this required return. **(2 Marks).**
(iii) Calculate the required return and market price if the beta were 0.90. **(2 Marks).**

(d) Highlight and briefly explain the shortcomings of the capital Asset Pricing model (CAPM) **(6 Marks).**

QUESTION FOUR

(a) Define Immunization and discuss why a bond Manager would immunize a portfolio. **(8 Marks).**

(b) Over the past several years, there has been a substantial growth in the shilling amount of portfolios managed using Immunization and dedication techniques.

James, a client wishes to know the basic differences between:

1. Classical Immunization.
2. Contingent Immunization.
3. Cash matched dedication, and
4. Duration matched dedication.

Briefly describe each of the above four techniques. **(12 Marks).**

QUESTION FIVE.

(a) What is a hedge fund? Describe the key characteristics of hedge funds as well as the hedging strategies they employ to ensure stable and long-term investment returns. **(12 Marks).**

(b) Discuss any four anomalies that contract the Efficient Market Hypothesis. **(8 Marks).**