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(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: 13-5-2021

TIME: 8.00AM-10.00AM ✓

INSTRUCTIONS TO CANDIDATES

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

TIME: 2 HOURS

KIBU observes ZERO tolerance to examination cheating

This Paper Consists of 4 Printed Pages. Please Turn Over. ►

SECTION A**QUESTION ONE.**

(a) (i) Distinguish between the Macaulay duration of the Bond and its Convexity. **(2 Marks).**

(ii) Consider Bond X with the following characteristics:

- Face value - Kshs 1,000
- Coupon - 14 percent (payable annually).
- Years to Maturity - 8 Years.
- Redemption Value - Kshs 1,000.
- Current Market Price - Kshs 920
- Yield to Maturity - 16 percent.

Required.

Calculate the bond's Macaulay's duration.

- **(6 Marks).**

(b) Joel is considering making an investment in the share of Ebony Ltd. The risk free (anticipated) rate of return on Ebony Ltd.'s share is 12 percent. The table below contains the relevant economic attributes influencing the total return on Ebony Ltd's share.

Factor	Beta	Expected Value (%)	Actual Value (%)
G.N.P	1.80	5.00	7.50
Inflation	0.90	6.00	8.00
Interest rate	1.20	7.00	7.50
Stock Market Index	2.20	8.50	11.50
Industrial Production	2.00	10.00	11.00

Required:

Calculate the total return on the share.

(6 Marks).

(c) Consider the following information in respect of portfolios A, B, C and Market Index.

Portfolio	Beta (β)	Mean Return (%)	Standard Deviation σ (%).
A	1.30	14	14
B	1.20	24	16
C	1.70	16	12
Market Index	1.00	22	20

The Mean Risk Free rate was 12%.

Required.

Assess the portfolios' performance using:

- (i) Sharpe Measure. - (3 Marks).
(ii) Treynor Measure. - (3 Marks).
(iii) Jensen Measure. - (3 Marks).
(iv) MM (M^2). - (3 Marks).
- (d) Briefly explain the essence of the Modern Portfolio theory according to Harry Markowitz. (4 Marks).

SECTION B.

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QUESTION TWO.

- (a) 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).

- (b) Assume that the risk free rate of Interest in respect of asset A is 12 percent. The Market portfolio is expected to yield a return of 22 percent with a standard deviation of 10 percent. An Investor wishes to earn an expected rate of return of 18 percent.

Required.

In what combination should an investor hold the Market Portfolio and the risk free security? (6 Marks).

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

QUESTION THREE.

- (a) Highlight and briefly explain four determinants of Call Option Value. **(8 Marks).**
(b) The following information is available for the equity stock of BAT Ltd:

• Spot price	-	Kshs 140.
• Exercise Price	-	Kshs 130.
• Interest rate per annum	-	0.12
• Standard deviation	-	0.60

Required.

Calculate the price of a six month call option on BAT Ltd.'s stock using the Black Scholes Model. **(8 Marks).**

- (c) Differentiate Active and Passive Portfolio Management Strategies. **(4 Marks).**

QUESTION FOUR.

- (a) Identify and briefly explain the requisite phases of the Portfolio Management Process **(10 Marks).**
(b) In their quest for optimum portfolio construction, most investors commit certain errors in the same. Identify and briefly explain some of the errors in the portfolio management. **(10Marks).**

QUESTION FIVE.

Write short notes on the following:

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|---|---|-------------------|
| (a) Bond immunization. | - | (5 Marks). |
| (b) Hedge Funds. | - | (5 Marks). |
| (c) Strong Form of Efficient Market theory. | - | (5 Marks). |
| (d) Traditional approach of portfolio management. | - | (5 Marks). |