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**KIRIRI WOMENS' UNIVERSITY OF SCIENCE AND TECHNOLOGY**  
**UNIVERSITY EXAMINATION, 2024/2025 ACADEMIC YEAR**  
**SECOND YEAR, FIRST SEMESTER EXAMINATION**  
**FOR THE DEGREE OF BACHELOR OF EDUCATION(ARTS)**  
**KFI 2202: BASIC OF INVESTEMENTS**

Date: 11<sup>th</sup> April 2024  
Time: 8:30am-10.30am

**INSTRUCTIONS TO CANDIDATES:**

**ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS**

**QUESTION ONE (30 MARKS)**

- a) Portfolio theory and the concept of diversification were introduced by Harry Markowitz (1952). Efficient portfolios maximize expected return for a given amount of risk (which is measured by the variance or standard deviation of the return of the portfolio). Equivalently, they minimize risk for a given expected return. This is done by investing in less correlated assets and grouping correlated assets together with those that move in opposite directions to each another, so as to reduce risk for a given return.

Using the by Harry Markowitz elucidation of the portfolio theory as mentioned above. Given that an investor is evaluating six portfolios with the following characteristics

Portfolio	Portfolio Expected return%	Portfolio standard deviation
1	18	8
2	24	12
3	15	6
4	30	16
5	22.5	10
6	8	2

The expected return on the market portfolio is 12% with an accompanying standard deviation of 4%. The risk free interest is 5%

**Required:**

- Using the Capital market line (CML), advice the invest on which of the above portfolios are efficient and inefficient. (6 marks)
  - In line with the Harry Markowitz Portfolio theory and the concept of diversification. Using an illustration differentiate between Capital market line and Security Market line (6 marks)
  - Harry Markowitz Portfolio theory is a significant concept in corporate finance that directs investment decision-making and risk management. Discuss three assumptions of Portfolio Theory, and how do these assumptions expose the weaknesses of the theory as a measure to calculate the expected return and risks of a portfolio (6 marks)
- b) Eugene F. Fama, 2013 Nobel laureate in economic sciences, is widely recognized as the "father of modern finance." His research is well known in both the academic and investment communities.

He is strongly identified with research on markets, particularly the efficient markets hypothesis. He focuses much of his research on the relation between risk and expected return and its implications for portfolio management. His work has transformed the way finance is viewed and conducted.

- i) Eugene Fama defined a market to be “informationally efficient”. Discuss the forms of market efficiency, whether or not markets are really efficient and can be used to predict future stock movements (6 marks)
- ii) As expounded by Eugene Fama on information efficiency, one point of nexus between the efficient market hypothesis and CAPM is the assumption on free access to information by investors. Discuss any three drawbacks of the Capital Asset Pricing Model (CAPM) in light of that and any other assumptions made. Can the CAPM be reliably used to calculate the cost of capital and risk of assets (6 marks)

### **QUESTION TWO (20 MARKS)**

- a) In a study of a market, an investor has determined two factors inflation and economic growth do affect the value or the expected return of a security. A % change in inflation will affect the expected return by 40% while a unit change in economic growth will have a multiple effect on the return on asset by 1.60. Suppose that inflation grew by an average of 0.5 % in the last year while economic growth rate grew by 6% in the same year and the autonomous return on the security is 3.8%

#### **Required:**

- i. Determine the Arbitrage Pricing Model (APT) function of the expected return of the security (8 Marks)
- ii. Determine the expected return in the year expected above (4 Marks)
- iii. Discuss the role of Nairobi Securities Exchange in the capital market (8 Marks)

### **QUESTION THREE (20 MARKS)**

- a) An investor is contemplating purchasing a 3 year bond worth ksh.40,000 carrying a nominal coupon rate of interest of 10%. The investor required rate of return is 6%. What would she be willing to pay now to purchase the bond if it matures at par? (8 Marks)
- b) Kenya Airways Ltd pays a dividend of 15% on its ksh.60 par value ordinary shares. This company uses a discount rate of 15%. Assuming there is a growth of 5% what would be the value of the company's ordinary shares (4 Marks)
- c) Describe the importance of stock market indices in the stock exchange (8 Marks)

### **QUESTION FOUR (20 MARKS)**

- a) Mrs. Kwamboka has an investment capital of ksh.1,200,000. She wishes to invest in two securities A and B in the proportion of Ksh.400,000 in security A and Ksh.800,000 in security B. The returns of the two securities depend on the state of the economy as shown below:

State of the economy	Probability	Return of	
		Security A	Security B
Boom	0.3	18 %	24%
Normal	0.6	14 %	20%
Recession	0.1	12%	18%

**Required:**

- i. Compute the expected portfolio return (4marks)
  - ii. Determine the correlation coefficient between security A and B (8 Marks)
- b) Mabati rolling mills is a private company and wishes to raise more funds by issues shares in the securities market. They have approached you as a consultant in search for an advice on the process of listing their company. Discuss the steps the company would follow to list the company in the securities market (8 Marks)

**QUESTION FIVE (20 MARKS)**

- a) Discuss and any two main types of firm financing (4marks)
- b) Ouru superstores company ltd sells plumbing fixtures .its financial statements as at 31/12/2023 are as follows:

	<b>sh '000'</b>
Cash	300,000
Accounts receivable	200,000
Inventory	400,000
Accruals	800,000
Bank loan, short term	100,000
Long term debt	300,000
Common stock	100,000
Retained earnings	500,000
<b>Additional information</b>	
Sales	4,000,000
Cost of goods sold	3,200,000
Net profit	300,000

**Required:**

Calculate the following ratios

- i. Acid test ratio
  - ii. Total debt/equity
  - iii. Net profit margin
  - iv. Return on assets (8marks)
- c) Differentiate between the following terms as used in investment:
- i. Fowards and futures
  - ii. Speculation and investment
  - iii. Sinking fund and investment trusts
  - iv. systematic risk and unsytematic risk (8marks)