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KIRIRI WOMENS' UNIVERSITY OF SCIENCE AND TECHNOLOGY

UNIVERSITY EXAMINATION, 2022/2023 ACADEMIC YEAR
FOURTH YEAR, SECOND SEMESTER EXAMINATION
FOR THE DEGREE OF BACHELOR OF SCIENCE
(BUSINESS ADMINISTRATION)

Date: 28th July, 2022
Time: 2.30pm –4.30pm

KFI 406 - INVESTMENT ANSLYSIS 11

INSTRUCTIONS TO CANDIDATES

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

QUESTION ONE (30 MARKS)

In 2008, the world experienced a global financial crisis. Investors, both individual and institutional, had bet big on bundled mortgage bonds that eventually imploded, bringing down multiple major financial institutions and causing the worst economic downturns.

During this time, the value of derivatives rose more than 11 times higher than the Kes. 300 trillion or so recorded back at the turn of the century. Total OTC derivatives value, which accounts for the largest portion of the total derivatives value traded, hit just shy of Kes. 3.5 quadrillion in the second half of 2008 at their peak. Values have since come down quite considerably.

In sum, derivatives are open to all. They are an ideal choice in the current environment of volatility but are a double-edged sword. This means that a comprehensive understanding as to the inner workings of these particular instruments is a pre-requisite before venturing into this type of trading. Alternatively, an investor can also opt for other types of investment instruments and methods.

a) According to the above excerpt, it is clear that the use of derivatives is increasing, albeit slowly. As such, highlight their applications by investors. (6 marks)

b) Antony wishes to buy a contract worth Kes. 2,200 today. The risk-free rate is 7% and she expects to hold it for a period of 6 months. 3 months after buying the contract, she notices that the spot rate has changed to Kes. 2,240 and that the risk-free rate has also changed to 8.5%. Calculate to determine whether he should sell the contract or continue holding onto it. (6 marks)

c) Gordon's Growth model is commonly used as an asset pricing model. Outline the assumptions it relies upon. (6 marks)

d) The "beta" is a measure of risk commonly used in portfolio analysis. Highlight three applications of the beta. (6 marks)

e) Outline three disadvantages that question the validity of the capital asset pricing model theory. (6 marks)

QUESTION TWO (20 MARKS)

a) Summertime Enterprises Ltd (SEL) are a listed public company whose stock has a beta of 1.2.

i) What is their stock's intrinsic value if the Nairobi Securities Exchange NASI index has an average return of 14.5% and the rate of return on a riskless asset is 9.5%? (4 marks)

ii) Interpret the results obtained in (i) above with regard to the beta risk-return profile of SEL) in relation to the market. (2 marks)

b) The interest rates placed on bonds are subject to their maturities and risk profiles and this relationship is adequately described through yield curves. With the help of appropriate diagrams, illustrate three yield curves that describe this relationship. (10 marks)

c) Wilson is considering purchasing a forward contract with a market price of Kes. 1,000,000 today. The prevailing T-bill rate as per the CBK is 9.5%. If he is considering a 9-month forward contract

QUESTION THREE (20 MARKS)

a) The security market line shows the relationship between risk and expected returns of various securities and help investors choose the securities to invest in. Using appropriate illustrations, discuss how an investor would identify an over-valued and under-valued asset using the SML. (9 marks)

b) Nelius, an investor in the Kenyan bond market has been investing in bonds over the years. She is considering in investing in one of two bonds being issued by two firms in the real estate sector. The first bond (KPL) has a face value of Ksh. 6,400,000, coupon rate of 10% and matures in 7 years. The second bond (BEP) has a face value of Ksh. 10,800,000, coupon rate of 12.5% and matures in 5 years. Determine the profit she will make from these bonds and advise her on the most ideal. KPL has chosen to pay its coupon annually, while BEP will pay semi-annually, and the yield to maturity for both bonds is 15%. (8 marks)

c) Investors prefer a bond with a higher required rate of return compared to its coupon rate. In your opinion, explain why this is the case. (3 marks)

QUESTION FOUR (20 MARKS)

The following information on assets "J" and "Z" is available.

Chance of getting good returns		Returns of Asset J	Returns of Asset Z
Very high	10%	40%	-12%
High	20%	35%	25%
Moderate	40%	35%	35%
Low	20%	25%	40%
Very low	10%	-12%	45%

Required:

i) Calclulate the expected returns of assets "J" and "Z". (4 marks)

ii) Calculate the standard deviation of assets "J" and "Z". (6 marks)

iii) Calculate the expected return of a portfolio comprising 60% asset "J" and 40% asset "Z". (3 marks)

iv) Calculate the standard deviation of the portfolio and interpret. (7 marks)

QUESTION FIVE (20 MARKS)

a) Almanac Ltd. is a public company dealing with steel recycling. Their recent market analysis report shows that the firm's returns are affected by a number of factors to varying degrees. It indicates that they are exposed to three risk factors; inflation, interest rates and the price of the US dollar. Their risk premiums are 3%, 11% and 14% respectively, while their betas are 0.2, 0.5 and 0.6 respectively. In this regard, use the APT model to obtain the value of the asset and indicate whether their stock is a good investment for potential investors or not if their minimum rate of return is 12%. (6 marks)

b) "The Arbitrage Pricing Theory model is considered superior to the Capital Asset Pricing Model." Justify the reasons behind this statement. (10 marks)

c) When creating portfolios, one should know how the returns of the various assets contained relate to each other. This relationship is determined using various measures which give different output. As such, discuss the difference between the covariance and the correlation coefficient. (4 marks)