

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

**EXAMINATION FOR THE AWARD OF DEGREE
OF MASTER OF BUSINESS ADMINISTRATION**

MBAD 833: INVESTEMENT FINANCE

STREAMS: MBAD Y2S1

TIME: 3 HOURS

DAY/DATE: WEDNESDAY 14/07/2021

8.30 A.M. – 11.30 A.M.

INSTRUCTIONS: Answer question one and any other three questions

QUESTION ONE (40 MARKS)

- (a) As an investment advisor, explain the essential considerations of an investment programme. (10 marks)
- (b) Discuss sources of non-diversifiable risk in the investment environment. (6 marks)
- (c) Using suitable examples, distinguish between the following investments: Treasury bonds, common stock and options. (9 marks)
- (d) Unilever plc has proposed to undertake two investment assets A and B. The finance department of the firm has estimated the following risk and return characteristics of the two assets.

Asset	A	B
Standard deviation	3.5%	705%
Expected return	10%	18%
Beta	0.5	1.5

Unilever plc plans to invest 60% of its available budgetary allocation in asset A and the rest in B. The correlation coefficient between the returns on the two assets is positive 0.1. The treasuries are yielding 6% in the bond market.

Required:

- (i) The covariance of the proposed portfolio comprising asset A and B. Interpret the implication of your result to an investor. (3 marks)
- (ii) Calculate the portfolio variance. (2 marks)
- (iii) Suppose that the correlation between A and B was adjusted to -1.0. How should Uniliver plc invest its funds in order to obtain a risk free portfolio (zero risk)? (4 marks)
- (iv) Calculate any two ratios that could appropriately measure the portfolio performance. (6 marks)

QUESTION TWO (20 MARKS)

- (a) Explain the following assumptions as they apply to portfolio selection
 - (i) Non-satiation (2 marks)
 - (ii) Risk aversion (2 marks)
- (b) Explain the following bond management concepts
 - (i) Maculay duration (3 marks)
 - (ii) Bond laddering (3 marks)
- (c) An investor is considering purchase an infrastructure bond with the following features:

Maturity	Coupon	par
5 years	11%	Sh. 100

- (i) If the investor requires a YTM of 13% on bond of equivalent risk and maturity, what does he believe is a fair market price of the bond?
- (ii) If the bond is selling for a price of Sh. 97.59, what is the promised YTM?
- (iii) Suppose the bond will be redeemed at par after 5 years and the current market interest rate is 12%, calculate the bond's duration and interpret your answer. (10 marks)

QUESTION THREE (20 AMRKS)

- (a) Justify the need for investment portfolio revision. (4 marks)
- (b) Consider the following statistics on portfolio A and the market portfolio over a given period.

	Portfolio A	Market portfolio M
Average Return	35%	28%
Beta	1.2	1.0
Standard deviation	42%	30%
Non-Systematic risk	18%	0%

The 91-days Treasury-bill rate during the period was 6%. Calculate and comment on the performance of portfolio A visàvis the market portfolio

- (i) Information ratio
- (ii) M^2 performance (6 marks)

- (c) A portfolio manager constructed two portfolios at the end of first quarter of 2019, one consisting of ordinary shares and the other consisting of corporate bonds. The ordinary shares at the time of constructing the portfolio were 1200 shares at a value of sh.100 per share while the bonds (defensive portfolio) were valued at sh.80, 000. The investor opts to use constant value plan strategy for portfolio revision and fixes a revision point of 10%. The share prices at the end of April, May and June are Sh. 90, Sh.85 and Sh.75 respectively. Determine the total portfolio value after revision at the end of June 2019. (10 marks)

QUESTION FOUR (20 MARKS)

- (a) In July 2019, the Nairobi Securities launched financial derivatives market to trade in futures contracts. Explain the essential roles of a futures exchange. (6 marks)
- (b) Use appropriate model to calculate the value of a call option given the following information:
- Current market price of a share: Sh.75
- Variance of the underlying stock 20.25%
- Exercise price Sh.80

Risk-free rate 12%

Time to expiration 6 months (4 marks)

- (c) D&B investment banker will use combined earnings and dividend model to determine the value of Nation Media Group Ltd. The total earnings attributable to ordinary shareholders of NMG Ltd for the next 5 years are estimated as follows:

Year	Ksh. Million
2021	400
2022	440
2023	484
2024	532
2025	585

NMG Ltd. has a policy of paying out 35% of earnings in dividends. NMG Ltd's beta is 1.05 and has equity risk premium of 6.4%. At the time of analysis, long term interest rates had 5.3% yields. It is anticipated that the NMG stock will trade at a P/E of 17 times the 2025 earnings for the purpose of estimating the stock price at the point in time. NMG issued 100 million shares of common stock years ago and will not issue any new shares in over the next 5 years. As an investment analyst working for D&B investment bankers, what value, based on future expectations, would you place on the NMG stock? (10 marks)

QUESTION FIVE

- (a) Write notes on the following futures investment concepts
- (i) Long position (2 marks)
 - (ii) Variation margin (2 marks)
- (b) An investor is evaluating three portfolios with the following characteristics: portfolio 1 has estimated return of 10% and a beta of 1.2 portfolio 2 has estimated return of 12.5% and a beta of 0.6. The equity risk premium is 10% and the interest rate on 91-days Treasury bill is 4.5%. Basing on a suitable equilibrium model, and by appropriate sketching, advice on which among the above portfolios are suitable candidates for buying. (6 marks)
- (c) A financial analyst is studying the bond market products at the NSE and comes across two bonds A and B. The face value on each bond is Sh. 1,000 and both bonds are

currently yielding 6%. Bond A is currently selling for Shs. 878.50 on the bond market with 8% coupon rate. The next annual interest payment is due one year from today. Bond B is currently selling at Shs. 975.80 and has a coupon rate of 7%. The approximate discount factor for investments of similar risk is 10%.

- (i) Calculate the intrinsic value for each bond and advice on the suitability of the bonds for purchase consideration.
 - (ii) What conclusion can you make regarding size regarding size of coupon payments and bond duration? Show relevant computations. (10 marks)
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