THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

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MAIN EXAMINATION

AUGUST - DECEMBER 2015 TRIMESTER

FACULTY OF COMMERCE

REGULAR / EVENING

MBA PROGRAMME

CFI 611: ADVANCED SECURITY AND PORTFOLIO MANAGEMENT

Date: DECEMBER 2015	**Duration: 3 Hours**
INSTRUCTIONS: Answer Question ONE and ANY OTHER THREE Questions	

Q1. a) In the study of security and portfolio management briefly explain any TWO assumptions relating to:

i Investors **(2 marks)**

ii Markets **(2 marks)**

iii Securities **(2 marks)**

b) Two assets have the following characteristics

	Asset 1	Asset 2
Expected return	E (R1)	E (R2)
Standard deviation	$\delta 1$	$\delta 2$
Weighted in portfolio	W1	W2

Required:

i Expression for expected return on portfolio of the two assets. **(2 marks)**

ii Derivation of the minimum variance portfolio weights. **(6 marks)**

iii The weights and variance of the portfolio at minimum variance if $cor_{12} = 0.8$ $\delta 1 = 8\%$ and $\delta 2 = 12\%$ **(6 marks)**

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c) Briefly explain why international portfolio bond management may be equated to a domestic equity portfolio. **(5 marks)**

Q2. a) Explain the following terms as used in the study of options

i Call option **(2 marks)**

ii Out –of –the money option **(2 marks)**

iii In – the – money option **(2 marks)**

iv European and American options **(2 marks)**

b) The current price of ABC Ltd stock is ksh 18.60. The price of the stock is expected to increase or decrease every two weeks by a factor of 1.2 and 0.8333 respectively. A call option (with an exercise price of ksh 22 expiring after four weeks exists on the stock.

Required:
Using the binomial options pricing model calculate the price of the call option (take risk – free rate of return = 6% pa) **(17 marks)**

Q3. a) Briefly discuss the following derivative instruments

i Forward contract **(3 marks)**

ii Futures contract **(3 marks)**

iii Interest rate swap **(2 marks)**

b) XYZ Ltd enters into a two year ksh 20 million notional principal plain vanilla interest rate swap with AB swaps Limited in which it pays a floating rate based on the LIBOR and AB swaps pays fixed rate based on a 30 day calendar month and a 360 day year. The term structure of the LIBOR is as follows

Days	Rate (%)
90	8.00
180	9.20
270	10.00
360	10.80
450	11.20
540	11.80
630	12.20
720	12.80

Required:

i AB swaps' fixed rate **(9 marks)**

ii AB swaps' payment installment **(3 marks)**

c) Discuss the uses of swaps in investment. **(5 marks)**

Q4. a) Distinguish between the security Market line (SML)) and the capital market line (CML) **(4 marks)**

b) Explain the following terms as used in security and portfolio management

i Short selling **(3 marks)**

ii Optimal portfolio **(3 marks)**

c) Stocks A and B and the market have the following probability distribution of returns

Return %

Probability			
	Stock A	Stock B	Stock C
0.10	9.00	15.10	10.000
0.30	12.20	14.50	13.20
0.20	16.50	10.20	11.10
0.40	13.30	16.20	14.20

Required:

i Analyze the stocks and comment on their suitability to be combined into a portfolio. **(7 marks)**

ii Calculate the Betas of stock A and B **(8 marks)**

Q5. a) Five stocks A, B, C, D, and E have the following characteristics

Stock	Beta	Current price (ksh)	Future price (ksh)	Dividend paid (ksh)
A	1.02	22.80	24.00	0.80
B	1.26	40.50	43.50	1.00
C	1.15	60.20	67.05	1.05
D	0.90	18.40	21.20	1.20
E	1.31	16.30	15.80	0.50

Required:
Using the capital asset pricing model (CAPM) analyze the stocks and identify the ones that are mispriced. What advice would you give to an investor who is keen on benefiting from what she considers a market mispricing of the securities **(20 marks)**

b) Briefly discuss the short comings of the CAPM model. **(5 marks)**

Q6. a) Compare bond valuation with equity valuation. **(4 marks)**

b) Distinguish between the terms
- i Strategic and tactical asset allocations
- ii Passive and active management strategies. **(4 marks)**

c) A semi-annual coupon bond has a face value of ksh 1,000 and annual coupon rate of 10% with a maturity of 15 years. Investors require a rate of return of 14% per annum on this bond.

Required:
Current market price of the bond. **(8 marks)**

d) The current dividend on a stock is ksh 2.20 per share and investors require a rate of return of 14%. Dividends are expected to grow at the rate of 16% per year over the next three years and then at a rate of 6% per year from that point on.

Required:
Calculate current stock price. **(9 marks)**

END

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