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MAIN EXAMINATION

MAY – JULY 2016 TRIMESTER

FACULTY OF COMMERCE

MBA REGULAR / EVENING PROGRAMME

CFI 611: ADVANCED SECURITY AND PORTFOLIO MANAGEMENT

Date: JULY 2016	**Duration: 3 Hours**
INSTRUCTIONS: Answer Question ONE and any other THREE Questions	

Q1. a) Briefly explain the investment environment. **(4 marks)**

b) State any TWO assumptions of the modern portfolio theory relating to the behaviour of the

i Assets **(2 marks)**
ii Markets **(2 marks)**
iii Investors **(2 marks)**

c) An investor is considering constituting a portfolio by using assets with the following characteristics

Probability	Return on asset A%	Return on asset B %	Return of market
0.20	12	10	13
0.25	14	11	16
0.30	15	15	8
0.25	18	13	14

Required

i Expected Return of asset A,B and the market **(3 marks)**
ii Covariance between A and B **(3 marks)**
iii Expected return on portfolio formed by combining A and B in the ratio 1:3 **(3 marks)**
iv Beta coefficient for asset B **(4 marks)**

d) Two assets 1 and 2 have the following characteristics

Asset	Expected return	Standard deviation
1	E (R1)	δ 1
2	E(R2)	δ 2

Required
Derive the minimum variance portfolio formula if the weights of assets 1 and 2 are respectively W1 and W2. What is the value of W1 and minimum variance if δ_1 = 4%, δ 2 = 4% and cor_{12} = -0.8? **(5 marks)**

Q2. a) Distinguish between
i Passive and active portfolio management **(6 marks)**
ii Technical and fundamental analysis **(4 marks)**

b) The current dividend on a stock is ksh 5.00 per share and investors require a rate of return of 12%. Dividends are expected to grow at a rate of 16% per year over the next four years and then at a rate of 5% per year from that point on.

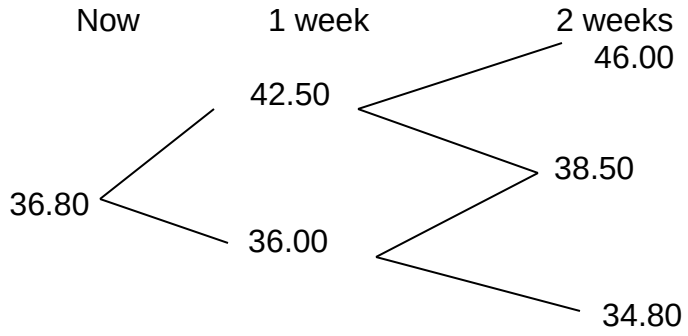
Required
Find the current price of the stock. **(10 marks)**

c) Compare bond valuation with equity valuation **(5 marks)**

Q3. a) Distinguish between in-the-money and out-of-the- money option **(4 marks)**

b) Explain any THREE factors that affect option pricing. **(3 marks)**

c) The price (kshs) of a stock varies according to the following stock price tree



A call option that expires after two weeks and has a strike price of kshs 37.00 exists on the stock.

Required
Calculate the current fair value of the call option if the risk free rate in the market is 6%. Assume each month has only 4 weeks. **(15 marks)**

d) Explain the difference between the use of the black-scholes model and the binomial model **(3 marks)**

Q4. a) State any FOUR assumptions of the capital market theory. **(4 marks)**

b) Distinguish between the security market line (SML) and the capital market line (CML) **(4 marks)**

c) The following information concerns stocks A, B, C, Dand E

Stock	Current price	Expected price	Beta	Expected dividend
A	28	30	0.80	0.50
B	43	45	1.00	0.50
C	36	42	1.25	1.00
D	67	68	1.50	1.10
E	53	57	-0.20	0.00

Additional information
Risk free rate in the market = 5%
Return of the market portfolio = 12%

Required
Identify overvalued and undervalued assets. In each case suggest an appropriate action. **(17 marks)**

d) Distinguish between
i Passive and active portfolio management strategies. **(4 marks)**
ii Tactical and strategic asset allocations **(4 marks)**

Q5. a) Write short explanatory notes on the following
i Forwards **(2 marks)**
ii Futures **(3 marks)**
iii Swaps **(5 marks)**

b) ABC Company Limited enters into a two year kshs 20 million notional principal swap with modern swaps Ltd in which ABC company pays fixed rate while modern swaps Ltd pays floating rate based on the LIBOR. The payments are made every six months using a 30-day month and a 360 – day year calendar. LIBOR term structure of interest rates is given below

No of days	Rate (%)
180	9.20
360	10.80
540	11.20
720	12.00

Required

i The fixed rate interest **(6 marks)**

ii Amount of fixed installment **(3 marks)**

iii Value of the swap **(6 marks)**

END