CHUKA   **UNIVERSITY**

UNIVERSITY EXAMINATIONS

EXAMINATION FOR THE AWARD OF MASTER OF BUSINESS ADMINISTRATION

MBAD 833:   INVESTMENT FINANCE

STREAMS: MBA Y2SI   **TIME: 3 HOURS**

DAY/DATE: FRIDAY 8/12/2017   **2.30 P.M - 5.30 P.M.**

INSTRUCTIONS:
- **Answer Question ONE and any other THREE Questions.**

QUESTION ONE [40 MARKS]

(a) Explain the term *security analysis* and describe two approaches to security analysis.
[5 Marks]

(b) An investor tends to prefer maximization of expected return, minimization of risk, safety of funds and liquidity of investments. Explain these concepts.   [8 Marks]

(c) Distinguish between active and passive portfolio revision strategies.   [4 Marks]

(d) Henry is considering investing in a bond currently selling for Kshs.878.50. The bond has four years to maturity, Kshs.100 par value and 8% coupon rate. The next annual interest payment is due one year from today. The approximate discount factor for investment of similar risk is 10%. Calculate the intrinsic value of the bond and state whether Henry should purchase the bond.   [5 Marks]

(e) Muriungi has a capital of Kshs.100,000 which he wishes to invest in three sectors of the stock market; Agriculture, Service and Manufacturing. The funds will be allocated as follows,

Sector	Amount Invested Kshs.000,000
Agriculture	0.4
Service	0.2
Manufacturing	0.4

(f) Details of the possible economic states, their probabilities of occurrence and expected return for each of the sector is shown below:

Future Economic State	Probability	Expected return on each sector (%)		
		Agriculture	Service	Manufacturing
Recession	0.1	16	14	3
Average	0.4	14	19	5
Boom	0.5	20	22	6

Required:
(i) Determine the risk associated with the investment in each of the three sectors. [6 Marks]
(ii) Determine the portfolio return. [6 Marks]

(g) An investor is evaluating three portfolios with the following characteristics:

Portfolio	Portfolio Estimated return %	Portfolio Beta
1	16%	1.2
2	14%	0.8
3	13.5%	0.9

The expected return on market portfolio is 14.5%. The risk-free rate of interest is 4.5%.

Required:
Use the Capital Asset Pricing Model to identify which among the above portfolios are undervalued, over-valued or correctly priced. [6 Marks]

QUESTION TWO
(a) (i) Explain the meaning of portfolio revision. [2 Marks]

(ii) Explain the circumstances under which the Sharpe and Treynor performance measures would be appropriate to measure the performance of a given portfolio. [2 Marks]

(b) Fund A has a sample of mean of 0.13 and Fund B has a sample mean of 0.18. Fund B has a beta of 2.0, double that of Fund A. The standard deviations of Fund A and B are respectively 15% and 19%. The mean return for the market index is 0.12 with a standard deviation of 0.08 while the risk-free rate on the bond market is 8 percent. Make inferences on the fund performance in relation to the market portfolio on the basis of

Required:
(i) Jensen's index [4 Marks]
(ii) Treynor index [4 Marks]
(iii)Sharpe index [4 Marks]

(c) An investor holds 5000 shares in SGL Ltd, a listed Company. SGL has been paying average dividends of Kshs.2 per share per annum in recent years. The dividends are expected to grow at a rate of 15% p.a over the coming 3 years, then at a rate of 10% over

the next three years and finally at a rate of 5% p.a to perpetuity.   The required rate of return is 9%.

Required:
Calculate the current value of the 5000 shares in SGL Ltd, using the dividend growth model.

[4 Marks]

QUESTION THREE
(i) Explain price risk and reinvestment risk under bond investment.   [6 Marks]

(a) You are asked to consider the following bond for possible inclusion in your company's fixed income portfolio:

    Issuer   :   Kengen
    Maturity   :   10 years
    Coupon Rate: 8%
    YTM   :   8%
    Duration   :   7.25 years

(i) Explain why Kengen's bond duration is less than its maturity.   [2 Marks]

(ii) Explain whether a bond's duration or its maturity is a better measure of the bond/s sensitivity to changes in interest rates.   [2 Marks]

(iii)Explain the impact on duration of Kengen company bond if the maturity is 7 years rather than 10 years.   [2 Marks]

(b) Two portfolios were constructed, one consisting of equity shares and the other consisting of bonds. The market capitalization of equity shares at the time of constructing the portfolio was Shs.60,000 at a rate of Shs.100 per share and that of bonds (defensive portfolio) was Shs.40,000 which represents the investment made. The investor opts to use constant value plan strategy and fixes a revision point of 10%. The share prices show fluctuations at periodical intervals as under:

Period	Share Price Shs.
1	100 (at the time of portfolio construction)
2	90
3	85
4	75

Determine the total portfolio value after revision at the end of period 4.   [5 Marks]

QUESTION FOUR

(a) Distinguish between European and American call option. [4 Marks]

(b) SIB Investment Bankers will use combined earnings and dividend model to determine the value of Prime Time Ltd. Estimate EPS for Prime Time Ltd for the next 5 years are:

Year	EPS Sh.
2015	4.00
2016	4.40
2017	4.84
2018	5.32
2019	5.85

Prime Ltd has a policy of paying out 35% of earnings in dividends. Prime Ltd's beta is 1.05 and has equity risk premium of 6.4%. At the time of analyzing, Long term interest rates had 5.3% yield. It is anticipated that the stock will trade at a P/E of 17 times 2019 earnings for the purpose of estimating the stock price at that point in time. What is the present value of the stock based on future expectations? [6 Marks]

(c) (i) Use Black-Scholes Model to calculate the value of a call option given the following information:

Current market price of the share:	Sh.100
Historical standard deviation	0.4
Exercise price	Sh.95
The current annualized market interest rate for T-bills	10%
Time remaining before expiration	3 months

[5 Marks]

(iii) Suppose analysts expect an increase in stock beta because of new debt issue. As a result, the expected standard deviation will be 0.5 determine the proportion of change in the option value. [5 Marks]

QUESTION FIVE

(a) Explain the role of maintenance margin and variation margin in future trading. [4 Marks]

(b) The fact that not the entire risk of a portfolio can be diversified away, no matter how many securities are included, makes it possible to divide the risk factors into two groups- Systematic and Non-systematic risk. Discuss. [6 Marks]

(c) In late June 2014, Margin purchased two August silver futures contracts. Each contract size is 5,000 ounces of silver and the future price on the date of purchase was USD 18.62 per ounce. The initial margin required was USD 6,000 and maintenance margin of USD 4,500. You are given the following price history for the August silver futures:

Day	Futures Price (USD)
29 June 2014	18.62
30 June 2014	18.69
01 July 2014	18.03
02 July 2014	17.72
06 July 2014	18.00
07 July 2014	17.70
08 July 2014	17.60

Required:
(i) The days which on which Martin receives a small margin call.   [5 Marks]
(ii) The balance in Martin's account at the end of July 8.   [5 Marks]

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