JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

BBA THIRD YEAR FIRST SEMESTER

ABA 320: INVESTMENT AND PORTFOLIO MANAGEMENT

KKISUMU LEARNING CENTRE: Final Examination

Duration: 2 Hours

You must answer Question 1 and any other TWO questions.

QUESTION 1

a) Consider the following three mutua1 funds:

Fund	Return	Standard Deviation	Beta
A	14	6	1.5
B	12	4	0.5
C	20	10	2.0

a)

i. What is the Sharpe excess return-to-variability ratio and the ranking implied ifthe risk-free rate is 3%? **(3 marks)**

ii. What is the ranking implied by the Treynor measure of performance? **(3 marks)**

iii. Discuss the similarities and differences with regard to the Treynor and SharpMeasures. **(3 marks)**

iv) What is the Jensen's (differential performance) index if the market return is 3%? **(3 marks)**

v) For funds A and B, how much would the return on B have to change to reversethe ranking using the excess return-to-variability measure? **(4 marks)**

b) You have invested in a fund suggested and managed by one of your closest friends. The fund has earned 15% in the last year and has had a variance of returns of 20% and a betaof 0.9. In the same year, the risk premium in the market has been 10%. Explain theconcept of, and compute, the "return from selectivity" with reference to your fundinvestment. The risk-free rate is 3%. (NB: Assume the variance of the market portfolio over the last year is 10%). **(10 marks)**

b) Characterize each of the investment objectives given below:

. i. Achieve returns in the top 50% of portfolio managers in Kenya.**(1 mark)**

ii. Achieve real returnof 17%per year. **(1 mark)**

iii. Limit the standard deviation of portfolio returns to 12%a year or less.**(1 Mark)**

IV. Achieve a tracking risk of no more than 3.5% per quarter with respect to the NSE-20 index. **(1 mark)**

(Total 30 Marks)

QUESTION 2

a) List and explain the steps in the investment management process **(4 Marks)**

b) The following data relates to a sample of shares in a portfolio owned by a local investor

Share	Possible rate of return ($R_{i)}$	Expected Return $E(R_i)$	Probability (P_i)
A	0.08	0.11	0.15
B	0.10	0.11	0.20
C	0.12	0.11	0.10
D	0.14	0.11	0.20
E	0.16	0.11	0.35

Required:

Calculate the standard deviation of the portfolio of shares and explain what this measure means **(4 Marks)**

c) Briefly explain the following;

i. Country risk
ii. Systematic Risk
iii. Business risk
iv. Interest rate risk **(8 Marks)**

d) The following information relate to stock "y" and stock "z";

	Stock "y"		Stock "z"
Expected return (r)	27		32
Standard Deviation	15		20
Coefficient of relation		0.65	

Required:

i. What is the covariance between stock "y" and stock "z" **(2 Marks)**
ii. What is the expected return and risk of portfolio in which stock "y" and "z" are equally weighted **(2 Marks)**

(Total 20 Marks)

QUESTION 3

(a) Explain the concept of covariance and its importance in diversification of portfolio risk. **(4 Marks)**

(b) Mr. Ahmed Ali had invested Kes 8 million each in KPLC and Bamburi Cement and Kes 4 million in Fine Corporation, only a week before his untimely demise. As per his will this portfolio of stocks was to be inherited by his wife alone. The extended family members had to wait for one year as per the terms of the will. The portfolio of shares had to be maintained as they were, for the time being. Meanwhile the widow of the deceased was very eager to know certain details of the securities and had asked your firm to brief her in this regard. For this purpose you are to run a few analyses using CAPM.

You have obtained the following forecast of future returns of the three stocks from Zimele asset management firm:

State of the Economy	Probability	Treasury Bills Return	KPLC	Bamburi Cement	Rea Vipingo	NSE-20
Recession	0.3	7	5	15	-10	-2
Normal	0.4	7	18	8	16	17
Boom	0.3	7	30	12	24	26

You are also provided information regarding the beta sensitivities of the three stocks, the risk free rate, and the expected return on market portfolio:

B_{KPLC} =1.7 $B_{Bamburi\ Cement}$=0.8 $B_{ReaVipingo}$=1.6 E ($R_{NSE)}$=14% R_f=7%

Required:

i. Calculate the expected returns and standard deviation for the three companies and the NSE-20 **(8 Marks)**
ii. Determine the over pricing and under pricing of the stocks using CAPM **(3 Marks)**
iii. Explain the assumptions of CAPM **(3 Marks)**
iv. Differentiate between CAPM and APT **(2 Marks)**

(Total 20 Marks)

QUESTION 4

(a) The price of, a Kes. 100,000 par bonds carrying a coupon rate of 12% and maturing after 5 years, is Kes. 104,000

Required:

(i) What is the approximate yield to maintain (YTM)? **(3 Marks)**

(ii) What will be the realised YTM if the reinvestment rate is 7%? **(2 Marks)**

(b) Consider the CBK Investment Bond, CBK-01.

Kes

KIB-1

Face value 1,000,000
Redemption value 1,000,000
Current market price 950,000
Years to maturity 3 years
Coupon (interest rate) payable annually 13%

Required:

Calculate the following:

(i) Yield to maturity (use the approximate formula). **(4 Marks)**

(ii) Duration of bond. **(4 Marks)**

(iii**)** Volatility.**(3 Marks)**

(iv) Explain the term "Flight to Quality" as used investment banking**(2 Marks)**

(v)Explain the relationship between bond price and interest rate**(2 marks)**

(Total 20 Marks)

QUESTION 5

The Head of Research of Old Mutual Asset Management Limited is analyzing the stock of Sasini Limited to establish a buy/ sell/ hold opinion for the firm's portfolio managers. He has the financial information about the stock for five (5) years collected through various sources and corporate publications. He wants to assess the profitability of the stock, growth in sales and earnings per share (EPS), the riskiness of the stock, book value per share and price multiples and projected earnings and price multiples for the upcoming year.
The financial information of Sasini Limited are as under in Millions Kenya Shillings:

Year	1	2	3	4	5
Net sales	2,040	2,180	2,420	2,700	3,040
Cost of gods sold	1,468	1,614	1,766	1,918	2,190
Gross profit	572	566	654	782	850
Operating expenses	144	148	170	210	240
Operating profit	428	418	484	572	610
Non-operating surplus/ (deficit)	22	28	36	(24)	(10)
Profit before interests and taxes	450	446	520	548	600
Interest	80	90	120	132	110
Profit before tax	370	356	400	416	490
Taxation	70	76	80	104	100
Profit after tax	300	280	320	312	390
Dividends	120	120	130	130	140
Retained earnings	180	160	190	182	250
Equity share capital (Rs.10 par)	400	400	400	500*	500
Reserve and surplus	800	960	1,150	1,232	1,482
Shareholders' funds	1,200	1,360	1,550	1,732	1,982
Loan funds	800	900	1,100	1,200	1,230
Capital employed	2,000	2,260	2,650	2,932	3,212
Net fixed assets	1,200	1,300	1,420	1,700	1,800
Investments	100	110	120	140	160
Net current assets	700	850	1,110	1,092	1,252
Total assets	2,000	2,260	2,650	2,932	3,212
Market price per share (end of year)	120	110	130	114	150

*Bonus share were issued in the ratio of 1 : 4.

As the junior Research Analyst, you are required to support your boss to prepare the reportby carrying out the following specific tasks:
(a) Calculate the following:
(i) Return on equity for the Year-4 and 5. **(2 Marks)**
(ii) Book value per share for the Year-1 and 3. **(2 Marks)**
(iii) Earnings per share (EPS) for the Year-2 to 4. **(2 Marks)**
(vi) PE ratio (prospective) for the Year-1 and 4. **(2 Marks)**
(vii) Price to book value (PB) ratio (retrospective) for the Year-1 and 5. **(2 Marks)**
(viii) Retention ratio for the Year-4 and 5.**(1 Marks)**

(c) Calculate the sustainable growth rate based on the average retention ratio andaverage return on equity for the past three (3) years.**(3 Marks)**

(d) Decompose the ROE for the last two (2) years in terms of five (5) factors (extended Du Pont) and analyse the performance of the company based on the extendedDu Pont analysis. **(6 Marks)**

(Total 20 Marks)