



## AFRICAN ECONOMIC RESEARCH CONSORTIUM

Collaborative MA Programme in Economics for Anglophone Africa  
(Except Nigeria)

JOINT FACILITY FOR ELECTIVES (JFE) 2010

JUNE – OCTOBER

CORPORATE FINANCE AND INVESTMENT I

First Semester: Final Examination

Duration: 3 Hours

Date: Friday, August 13, 2010

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INSTRUCTIONS:

Answer ANY FOUR (4) Questions

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### Question 1

- (a) Differentiate between cash cycle and operating cycle of the firm. (6 marks)
- (b) (i) What do you understand by the term *time-adjusted rate of return*? (2 marks)
- (ii) Giants Real Estate Ltd decided to invest in the shares of XL Textile Ltd on 1<sup>st</sup> January, 2009. The Giants Real Estate Ltd purchased a total of 100 shares at \$100 per share. Suppose you are provided with information on the price pattern of the shares of XL Textile Ltd, and with dividends paid to Giants Real Estate Ltd as follows:

Date	Dividend per share (\$)	Market price per share (\$)
1-Jan-2009		100
20-Feb-2009	2	80
20-Mar-2009	4	90
20-Apr-2009	3	100

Compute the time-weighted rates of return to Giants Real Estate Ltd for February, March and April, 2009 by using the index method. (12 marks)

- (c) Write short notes on initial public offering (IPO) and seasoned equity offering (SEO). (5 marks)



## Question 2

- (a) Explain the two main components of short-term corporate financing policy. (4 marks)
- (b) (i) What do you understand by the term “simple prospect” in risk management? (2 marks)
- (ii) An amount worth \$1000 can be put in risky investment,  $R$ , of two scenarios: a first scenario with probability of 0.6, which yields \$1500; and a second scenario with probability 0.4, which yields \$890. Alternatively, there is a risk free T-bill opportunity with yield of 10%. Find the expected profit and risk of investment  $R$ . How do you compare the profit from  $R$  with (the profit) that could be obtained from the alternative investment in T-bill? (12 marks)
- (c) In Africa, many financial transactions take place outside the boundaries of regulated formal sector. This is due to existence of a number of limiting factors in the formal financial markets. Discuss (7 marks)

## Question 3

- (a) Briefly explain the role of financial institutions in economic development. (6 marks)
- (b) Suppose you are provided with an asset  $i^{\text{th}}$  beta as  $\beta_i$ ; its returns covariance with that of the market's portfolio defined as  $\sigma_{i,m}$ , while the variance of the market portfolio is  $\sigma_m^2$ . Expected return of the asset  $i$  is denoted  $E(R_i)$  and that of the market portfolio,  $E(R_m)$ . If the risk free rate is  $r$ , prove that, “with efficient portfolio risk and return of an asset can be equally well measured by using *beta* (security market line) or a *standard deviation* (capital market line)”. (10 marks)
- (c) Mrs. Gambler won an annuity lottery amounting to \$400,000 receivable over 25 years. The Lottery Authority discussed with Mrs. Gambler on three options she could choose for payments at her discretion. With interest rate of 13%, to:
- Take annuity starting payments immediately.
  - Change annuity into perpetuity starting payments in the next 25 years.
  - Change annuity into perpetuity starting payments immediately.

Which option you would recommend Mrs. Gambler to take and why not the other two options, respectively? (9 marks)



#### Question 4

- (a) Holding short-term assets involves two types of costs: (i) carrying costs and (ii) shortage costs. Explain and illustrate these two types of costs. **(6 marks)**
- (b) You are provided with information in the table indicating prices of three stocks:  $P_1$ ,  $P_2$  and  $P_3$  respectively, for five periods. The rates of price changes are also indicated accordingly.

Security	Price	Period (t)				
		1	2	3	4	5
1	$P_1$ (\$)	150.00	165.00	181.50	181.50	181.50
	%change		10	10	0	0
2	$P_2$ (\$)	100.00	110.00	110.00	121.00	121.00
	%change		10	0	10	0
3	$P_3$ (\$)	50.00	55.00	55.00	55.00	60.50
	%chnage		10	0	0	10

Use this information to compute the *equally weighted* stock market indices for these periods by application of multiplicative/geometric method (*show the procedure clearly*).

**(12 marks)**

- (c) There are important factors that facilitate trading in the securities market, which constitute what is referred to as the market microstructure. Explain briefly **(7 marks)**

#### Question 5

- (a) Describe the ideal model of short-term financing. **(6 marks)**
- (b) In the context of arbitrage pricing theory (APT), assume the identified key systematic risks in the market are *inflation*, *GDP* and *interest rate*. Suppose these factors were forecasted at the beginning of the year as follows: inflation ( $I$ ) = 5%; GDP growth = 2% and interest rate ( $r$ ) was expected to remain stable. Suppose also that the stock of a company named A-Z Motors Ltd has the following betas:  $\beta_I = 0.5$ ;  $\beta_{GDP} = 1$ ;  $\beta_r = -1.2$ , and the expected return of the A-Z Motors Ltd for the year was 6%. In the course of the year, the company's dependable CEO resigned and that was expected to reduce the annual returns by 3%. At the end of the year, the actual values of the major risk factors were announced as:  $I = 6.5\%$ ;  $GDP = 1.5\%$  and interest rate decreased by 2%.
- What was the total systematic risk on the return of A-Z Motors Ltd?
  - Find the total annual return on the stock of A-Z Motors Ltd.
- (12 marks)**
- (c) What do you understand by the proxy fights, and how does the management take an advantage of proxy fights to get their proposals passed by the Board? **(7 marks)**



**Question 6**

- (a) There are several ways the Government can make finance work. Explain (7 marks)
- (b) Auto Spares Wholesalers Ltd wrote a standardized futures contract on 1<sup>st</sup> January 2010 to sell an A-16 Engine worth \$15,000 at 94 cents per dollar to REX Spares Retailer Ltd. The engine was deliverable on 31<sup>st</sup> March 2010. With presence of effective futures Clearing House, show all the respective payments (cash flows) made to the buyer and seller during the contract period. The pattern of price of the A-16 Engine was as follows:

	1 <sup>st</sup> January 2010	20 <sup>th</sup> February 2010	5 <sup>th</sup> March 2010	31 <sup>st</sup> March 2010
Closing Price	94 cents per \$	91 cents per \$	96 cents per \$	96 cents per \$

(12 marks)

- (c) Distinguish between primary and secondary markets.

(6 marks)