MURANGA UNIVERSITY COLLEGE

(A constituent College of Jomo Kenyatta University of Agriculture & Technology)

TOWN LEARNING CENTRE

ORDINARY EXAMINATIONS

2014/2015 ACADEMIC YEAR

THIRD YEAR SECOND SEMESTER EXAMINATIONS

FOR THE DEGREE
OF
BACHELOR OF COMMERCE

COURSE CODE: **HBF 2304**

COURSE TITLE: **INVESTMENT ANALYSIS AND PORTFOLIO MANAGEMENT**

DATE: **14th DECEMBER, 2015** **TIME:** **2Hours**

INSTRUCTIONS TO CANDIDATES

Question ONE (1) is compulsory

Answer ANY OTHER TWO (2) questions

Present your answers in two decimal places and make your workings in four decimal places

MRUC observes ZERO tolerance to examination irregularities

QUESTION ONE (COMPULSORY)

a. A bond has a face value of Sh. 100,000 and pays interest at the rate of 10 percent per annum with a maturity period of 5 years. The current market price of the bond is Sh. 90000.

   i. Compute the bonds approximate yield to maturity using the formula method (4 marks)

   ii. Calculate the bond's sensitivity to interest rate changes using duration if interest rates increased by 1 percent (8 marks)

   iii. Duration is usually not a good measure of bond interest rate sensitivity; why is this the case (3 marks)

   iv. If interest rates decreased by one percent, what would be the price of the above bond after adjusting for sensitivity. (5 marks)

b. Using a well labelled diagram, to show the relationship between risk and return, explain the benefit of diversification in the context of risk (5 marks)

c. Differentiate between American and European options (3 marks)

d. What steps are involved in portfolio selection as prescribed in separation theorem (2 marks)

QUESTION TWO

a. Explain the difference between "investment" and "speculation" (10 marks)

b. With reference to Markowitz Mean-Variance concept of efficient frontier, when is a portfolio said to be inefficient (3 marks)

c. Host electrical corporation paid dividends at Sh. 2.40 in the last 12 months. An investor is interest in this share and his required rate of return is 14 percent.

   i. Compute the value of the share (1 marks)

   ii. Assuming a constant growth rate at 5 percent, what would be value of this share (2 marks)

   iii. Further scrutiny by an analyst has revealed that the 5 percent growth in this stock is supernormal and lasted for two years after which it leveled at 3 percent. Compute the value of the stock considering this new information (4 marks)

QUESTION THREE

a. An investor is contemplating an investment in a share and a protective put. The current share price in the market is sh. 100 and the investor has agreed a strike price of sh. 120 on the put. If the value of the share at expiration of the put is sh. 60; compute the value of this investor's portfolio (5 marks)

b. An investor holds a 10 percent 8 year Sh. 80,000 par value convertible bond. It has been established that the conversion price is Sh. 250 and the investors required rate of return is 12 percent. The common stock of the company is currently trading at sh. 320

   i. Using appropriate methods, advise the investor whether she can convert (5 marks)

   ii. Compute the value of the bond at the date of conversion (5 marks)

c. Return on a typical financial investment normally consists of two components. Identify and explain these components (5 marks)

QUESTION FOUR

a. You have been provided with two securities P and Q whose returns under different economic conditions are given below;

Economic state	Probability of occurrence	Returns [%]	
		P	Q
A	0.45	25	5
B	0.30	20	15
C	0.25	10	20

   i. Determine the risk and return of individual securities P and Q (4 marks)
   ii. Compute and interpret the covariance and correlation coefficient of P and Q (4 marks)
   iii. Determine the return and risk of the optimum portfolio consisting of P and Q (6 marks)

b. Highlight the various assumption that inform Capital Asset Pricing Model as a tool for investment management (6 marks)

Some Financial Formulas

$$D = \sum_{t=1}^{n} \left[\frac{CF_t / (1+k)^t}{P} \right] * t; \text{ where } P = \sum_{t=1}^{n} \frac{CF_t}{(1+k)^t}$$

$$W_t = \frac{CF_t / (1+y)^t}{P} \text{ and } D = \sum_{t=1}^{T} W_t * t$$

$$\frac{\Delta P}{P} = -D \left[\frac{\Delta(1+y)}{1+y} \right] = -D \frac{\Delta y}{(1+y)}$$

$$\text{Convexity} = \frac{1}{P(1+y)^2} \sum_{t=1}^{T} \left[\frac{CF}{(1+y)^t} (t^2 + t) \right]$$

$$\frac{\Delta P}{P} = -D^* \Delta y + \frac{1}{2} \text{ x Convexity x } (\Delta y)^2$$

$$W_A = \frac{\sigma_B{}^2 - COV_{AB}}{\sigma_A{}^2 + \sigma_B{}^2 - 2COV_{AB}}$$

$$D^* = -D \frac{\Delta y}{(1+y)}$$