**MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**P.O. Box 972-60200 – Meru-Kenya.**

 **Tel: 020-2069349, 061-2309217. 064-30320 Cell phone: +254 712524293, +254 789151411**

**Fax: 064-30321**

**Website:** [**www.mucst.ac.ke**](http://www.mucst.ac.ke) **Email:** **info@mucst.ac.ke**

**University Examinations 2014/2015**

THIRD YEAR, SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF COMMERCE

**HBF 2304: INVESTMENT ANALYSIS AND PORTFOLIO MANAGEMENT**

**DATE: DECEMBER 2014 TIME: 2 HOURS**

**INSTRUCTIONS:** *Answer question* ***one*** *and any other* ***two*** *questions. Question one is compulsory*

**QUESTION ONE**

1. Give a brief comparison of money market and capital market (4 marks)
2. Briefly explain the five steps investment procedure (5 marks)
3. (i) A portfolio consists of two assets, 1 and 2, with weights w1 and w2 and standard deviations $δ\_{1}$ and $δ\_{2}$ respectively. Obtain an expression for the minimum variance portfolio that can be obtained by combining the two assets (6 marks)

(ii)What should be the proportions for assets 1 and 2 in (i) above if $δ\_{1}$=10%, $δ\_{2}=12\%$ and COV12=1.8 (5 marks)

1. You are considering constructing a portfolio containing two assets F and G. Assets F will represent 40% of the value of portfolio and asset G will account for the other 60%. the expected return for each of these assets are shown below

**Probability of occurrence Expected rates of return**

 F G

0.1 6% 2%

0.2 8% 6%

0.4 10% 9%

0.2 12% 15%

0.1 14% 20%

Calculate: (10 marks)

1. Expected rate of return for the two assets
2. Standard deviation of the two assets

**QUESTION TWO (20 MARKS)**

1. Distinguish between single and multi-factor asset pricing models giving an example of each (4 marks)
2. Suppose three stocks A,B and C are sensitive to two common risk factors 1 and 2 and have the following characteristics:

$λ\_{0}$=0%

E (RA) =0.8$λ\_{1}$+0.09$λ\_{2}$

E (RB) =0.3$λ\_{1}$+1.50$λ\_{2}$

E (RC) =1.60$λ\_{1}+0.8λ\_{2}$

1. What returns will be expected by the market over the next one year if $λ\_{1}=3\%$ and $λ\_{2}=5\%$ (5 marks)
2. Assume the three stocks, A, B and C are currently priced at sh. 30, sh. 22.20 and sh. 46.50 and will not pay a dividend over the next one year. What will be their expected prices? (5 marks)
3. Suppose an investor “knows” that in one year, the actual prices of the stocks A, B and C will be ksh. 30.80, ksh. 27.20 and ksh. 50.60 respectively. State how best the investor can take advantage of what he considers to be market mispricing. (6 marks)

**QUESTION THREE (20 MARKS)**

1. Write short explanatory notes on the following:
2. Derivative securities (2 marks)
3. Option contract (3 marks)
4. Debt securities (3 marks)
5. Equity securities (2 marks)
6. In a certain economy, the risk free rate is 6% p.a. A stock call option has a strike of ksh. 100 and matures after one month. The price of the stock changes every two weeks as shown in the following binomial tree.

Now 2 weeks 1 month

 sh. 110

 sh. 104.88

sh. 100 sh. 100

 sh. 94.86

 sh. 90

Calculate the value of the call option today (10 marks)

**QUESTION FOUR**

1. You have been employed as an investment analyst. You are provided with the following information on three investments A, B and C.

Investment Beta (B) Projected returns (%)

A 1.2 15%

B 0.8 14%

C 1.5 19.5%

The risk free rate of return is 4.5%, whereas the expected market returns is 14.5%. (10 marks)

1. Using the capital asset pricing model, determine the expected return for each of the three investments
2. On the basis of the projected returns, explain whether each of the three securities is “overpriced”,”underpriced” or fairly priced if you base the decision on the security market line.
3. Select any three money market investment vehicles and briefly explain the main features of the selected vehicles (10 marks)

**QUESTION FIVE (20 MARKS)**

1. Explain four assumptions of the capital asset pricing model (8 marks)
2. Explain the elements of the portfolio theory (4 marks)
3. Melbourne Ltd has a 12% bond (per value shs. 1000). This bond pays interest at the end of each year and has four years to maturity. Determine the value of this bond (4 marks)
4. Risk-premium should be paid only on systematic risk. Discuss this statement (4 marks)