UGANDA MARTYRS UNIVERSITY

FACULTY OF SCIENCE

DEPARTMENT OF MATHEMATICS/ STATISTICS

UNIVERSITY EXAMINATIONS

SEMESTER I, 2013/14

THIRD YEAR EXAMINATIONS FOR BACHELOR OF SCIENCE

(FM)

COPORATE FINANCE AND MANAGEMENT

DATE: 16TH DECEMBER 2013

TIME: 2:00 - 5:00 PM

Instructions:

i) Attempt any four (4) questions.

ii) All questions carry equal marks.

iii) Do not write on the question paper.

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1) a) What are the assumptions of Markowitz model (5 marks)

b) Using Markowitz model discuss how the optimal portfolio is arrived at? (10 marks)

c) Using the well labeled efficient frontier, discuss how the introduction of a risk –free asset gives the investors an additional investment option (10 marks)

2) An investment has three (3) states of nature. Its cash flows are as follows with their corresponding probabilities of occurrence.

Possible cash flow	Probability of occurrence
300	0.70
400	0.20
500	0.10

a) Calculate the expected return and the risk associated with investment (10 marks)

b) What is the standard deviation of a portfolio which is invested 40% in stock A and 60% in stock B. the standard deviation of returns of stock A and B are 5% and 7.5% respectively and the coefficient of correlation of returns of the two stocks is 0.45. (10 marks)

c) How does the correlation between returns of stocks comprising the portfolio affect the variance of the portfolio? (5 marks)

3) Kakuru ltd is currently using the following sources of funds

Bonds	400,000,000
Preference shares	300,000,000
Ordinary shares	500,000,000
Reserves	300,000,000
	1,500,000,000

The bonds were issued as irredeemable bearing an interest rate of 25% and have nominal value / face value of shs 200,000 each, the going market rate for these bonds is shs 280,000.The preference shares are in denominations of shs 20,000 per share and with a divided rate of $12\frac{1}{2}$%. Ordinary shares were issued at a face value of shs 80,000 per share and initial dividends were estimated at 16%. The shares are trading for shs 110,000 in the market and are anticipated to grow at a rate of 12% p.a. floatation cost on these shares are shs 2,000 per share and the business is in the 30% tax bracket

Required

Determine the overall cost of capital for kakuru ltd (25 marks)

4)

a) State the single index model and its major assumption (5 marks)
b) How is the portfolio risk diversified? (5 marks)
c) Consider a stock which has return on the market index of 15% α_1=2% and β_1=0.8. What is the expected return on this stock (5 marks)
d) Explain the use of regression equation for the measurement of return on an individual stock (10 marks)

5)

a) What is the capital market line (3 marks)
b) Using capital market line, explain how aggressive and averse investors behave along the line (10 marks)
c) What are the systematic and unique risks in investment (5 marks)
d) How is capital line system from security market line (5 marks)
e) What are the problems encountered in estimating betas (2 marks)

END