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**University Examinations 2015/2016**

FOURTH YEAR, SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF COMMERCE.

**BFC 3479: FINANCIAL RISK MANAGEMENT**

**DATE: AUGUST 2016 TIME: 2 HOURS**

**INSTRUCTIONS: -** *Answer question* ***one*** *and any other* ***two*** *questions*

**QUESTION ONE (30 MARKS)**

1. Idaho Slopes (IS) and Dakota steppes (DS) are both seasonal businesses. IS is a downhill skiing facility, while DS is a tour company that specializes in walking tours and camping. The returns on each company over the next year is expected to be:

Economy Idaho Slopes Dakota Steppes

Strong Downturn 10% 2%

Mild Downturn 14% 7%

Slow Growth 4% 6%

Moderate Growth 12% 4%

Strong Growth 20% 4%

1. Find the mean and variance of returns for each company
2. Find the covariance and correlation of returns for the two companies
3. If IS and DS are combined in a portfolio with 50% invested in each, find the portfolio expected return and standard deviation. (15 marks)
4. Discuss reasons why body corporate today pay close attention to financial risk management in their firms. (10 marks)
5. The Black and Scholes option pricing model (opm) was developed in 1973 and operates under several assumptions. Discuss such assumptions. (5 marks)

**QUESTION TWO (20 MARKS)**

1. Suppose that there are many stocks in the market and that the characteristics of Stock A and B are given as follows

Stock Expected Return Standard Deviation

A 10% 5%

B 15% 10%

Correlation =-1

Suppose that it is possible to borrow at the risk-free rate, Rf. What must be the value of the risk free rate? (Hint: think about constructing a risk-free portfolio form Stocks A and B). (10 marks)

1. Suppose the stock price is sh. 40 and we need to price a call option with a strike of sh. 45 maturing in 4 months. The stock is not expected to pay dividends. The continuously-compounded risk free rate is 3% year, the mean return on the stock is 7% year, and the standard deviation of the stock is 40% year. Find the value of the call option. (10 marks)

**QUESTION THREE (20 MARKS)**

1. Two investment advisors are comparing performance. One averaged a 19% rate of return and other a 16% rate of return. However, the beta of the first investor was 1.5, whereas that of the second was 1.
2. Can you tell which investor was a better predictor of individual stocks (aside from the issue of general movements in the market)?
3. If the T-bill rate were 6% and the market return during the period were 14%, which investor would be the superior stock selection?
4. What if the T-bill rate were 3% and the market return were 15%? (10 marks)
5. Discuss any three theories that explain the shape and behaviour of term structures of interest rate (10 marks)

**QUESTION FOUR (20 MARKS)**

1. Exchange rate exposure is the extent to which a firm is exposed or vulnerable to fluctuations in exchange rate. Discuss the contractual and non-contractual techniques of dealing with the transaction exposure. (15 marks)
2. Assume that the following quotation is given:

Spot rate £1:635-$1.6385

One month forward 0.5 – 0.47 cents premium

Required:

Compute the cost of the forward cover for a customer

1. Buying dollars 1 month forward
2. Selling dollars one month forward (5 marks)

**QUESTION FIVE (20 MARKS)**

1. While giving relevant examples in each case, discuss the taxonomy of risk. (10 marks)
2. Discuss the major determinants of the foreign exchange rate of the Kenyan shilling against the USA dollar. (10 marks)