KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2016/2017

SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF COMMERCE

BAC 309: FINANCIAL DERIVATIVES

DATE: Thursday, 11th May, 2017 TIME: 4.30 p.m. - 6.30 p.m.

INSTRUCTIONS:

- Answer **ALL** the questions.
- Ensure your work is neat and tidy.
- Marks will be awarded on the basis of logical clear presentation.

QUESTION ONE

a) Briefly explain the various functions of derivative market and types of players. (10 marks)

b) In futures market, cotton contract has a standardized contract size of 5,000 bushels of cottons. What advantages does this have over the well-known forward market practice of negotiation case-by-case basis? What disadvantages does standardized contract size have? (10 marks)

(Total: 20 marks)

QUESTION TWO

You own a stock currently worth Kshs.100,000 today. You plan to sell it in 60 days. To hedge against a possible decline in price, you enter into the forward contract to sell the security. The annualized risk-free rate is 3.5 percent.

a) Calculate the forward price on this contract. (3 marks)

b) Suppose a market dealer offers an off-market contract at Kshs.100,200. How you could earn an arbitrage profit? (3 marks)

c) Suppose that a market dealer offers an off-market contract. Calculate an up-front fee and indicate whether payment is made by the long to the short or vice versa. (3 marks)

d) After 30 days, the security sells for Kshs.110,000. Calculate the gain or loss to your position. (3 marks)

e) At expiration the price of the asset is Kshs.120,000. Calculate the value of the forward contract. (3 marks)

(Total: 15 marks)

QUESTION THREE

a) Discuss the determinants of option prices. (5 marks)

b) Assume that the following information has been obtained by an investor intending to invest in a call option.

Market price per security	=	Kshs.20
Exercise price (X)	=	Kshs.20
Time (t)	=	3 months (0.25 years)
Risk free rate (rf)	=	12%
Variance (δ^2)	=	0.16

Required:

a) Determine the value of the value of the call option and a corresponding put option. Advice the investor. (8 marks)

b) Discuss the assumptions made in the determination of the value of the option above. (10 marks)

c) Suggest the factors limiting the application of black schools model. (2 marks)

(Total: 25 marks)

QUESTION FOUR

What is swap? Describe various types of swaps. (10 marks)