KABARAK UNIVERSITY

EXAMINATIONS

2008/2009 ACADEMIC YEAR

FOR THE DEGREE OF BACHELOR OF COMMERCE

COURSE CODE: **FNCE 423**

COURSE TITLE: **OPTIONS AND FUTURES MARKETS**

STREAM: **Y4S2**

DAY: **TUESDAY**

TIME: **8.30 – 10.30 A.M.**

DATE: **9/12/2008**

INSTRUCTIONS:

1. Attempt question ONE and any other three questions
2. Question ONE carries 25 marks and the rest 15 marks each
3. Be clear and neat
4. Begin a new question on a new page

PLEASE TURN OVER

Note:
Black Scholes Model

$C_0 = S_0 N(d_1) - Ee^{rt} N(d_2)$

Where:
$d_1 = \left\{ \ln(S/E) + (R+½S^2)t \right\} / \sqrt{S2t}$

$d_2 = d_1 - \delta t^2$

and $Po = Co - So + Ee^{-rt}$

Attached: Cumulative probabilities of the standard normal distribution function.

QUESTION ONE

(a) Differentiate between the following concepts as used in options:

(i)	American options and European options	**(2 marks)**
(ii)	Call option and put option	**(2 marks)**
(iii)	Out-of-the-money and at-the money	**(2 marks)**
(iv)	A short call and a long call	**(2 marks)**
(v)	Financial future and commodity futures	**(2 marks)**

(b) With relevant examples, describe the effect of the following factors on the value of a call option

(i)	Stock price	**(2 marks)**
(ii)	Exercise Price	**(2 marks)**
(iii)	Option life	**(2 marks)**

(c) The following information has been obtained from an investment available for KABU Ltd:
Stock price = $ 20.00
Exercise = $ 20.00
Time to expiration = 3 months
Risk free rate = 12%
Stock return variance = 0.16

Required:
Using black – scholes option pricing model advice KABU Ltd on how much they should pay for this call option? **(9 marks)**

QUESTION TWO

(a) State why commercial banks, investment banks, mortgage companies and other investors use interest rate swaps. **(6 marks)**
(b) Discuss the risks involved in the trading of currency swaps. **(9 marks)**

QUESTION THREE

(a) Explain the strategies adopted by hedgers and speculators in the trading of futures. **(5 marks)**

(b) Assume the pricing of 90 day futures contract on a stock that pays and 3 dividend on 50^{th} day. The current stock price is \$100. The risk free interest (continuously compounded) is 9.53% per annum.

Required:

(i) If the futures contract is \$95, calculate the futures value and advise an investor in the short position. **(5 marks)**

(ii) If the company pays \$ 1.50 as dividends in the above stock and that the futures contract is \$ 110, calculate the futures value and advise an investor in the long position. **(5 marks)**

QUESTION FOUR

(a) Discuss the role of margins in the trading of futures clearly pointing out the difference between initial margin and maintenance margin. **(9 marks)**

(b) Differentiate between the following concepts

(i) Interest rate caps and interest rate floors **(2 marks)**
(ii) Plain vanilla swaps and callable swaps **(2 marks)**
(iii) Basis risk and sovereign risk as used in currency swaps **(2 marks)**

QUESTION FIVE

You have been invited to give a keynote address in a workshop organized by Investment and Securities Analysts (ISA). The theme of the workshop is “The role and place of forward contracts in the achievement of “vision 2030.”

Required:
Explain to the workshop participants what your understanding is on forward contracts. Include in your talk meaning, characteristics, trading and importance of forward contracts. **(15 marks)**