KABARAK UNIVERSITY

UNIVERSITY EXAMINATIONS

2009/2010 ACADEMIC YEAR

FOR THE DEGREE OF BACHELOR OF COMMERCE

COURSE CODE: **FNCE 423**

COURSE TITLE: **OPTIONS AND FUTURE MARKETS**

STREAM: **Y4S2**

DAY: **MONDAY**

TIME: **4:00 – 6:00P.M.**

DATE: **07/12/2009**

INSTRUCTIONS

This paper contains five questions:

1. Question **ONE** is **Compulsory**
2. Answer **ANY** other **THREE** questions from the rest of the questions
3. Be clear and neat
4. Begin a new question on a new page

TIME ALLOWED 2 HOURS

Note:

Black Scholes Model:

$C = SN(d_1) – Ee^{-rt} N(d_2)$

Where :

$d_1 = \{In (S/E) + (r +½\delta^2)t\}/\sqrt{\delta^2 t}$

$d_2 = d_1 - \sqrt{\delta^2 t}$

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 (3 marks)

(ii) Strike price and option premium (3 marks)

(iii) Out-of-the money and At-the- money (4 marks)

b) George Wills is interested in a European call option on a share that does not pay dividends. The call option has 4 years left to expiration. The share is currently selling at $ 220. The volatility (variance) of the share is estimated as 36 percent per annum while the exercise price of the call option is $ 140. The risk free rate is assumed to be 10 percent per annum.

(i) If the value of the call option is $ 160, advice Uncle Joe whether to invest in this call option or not (12 marks)

(ii) Calculate the value of the put option in the scenario above (3 marks)

QUESTION TWO

a) Discuss the role of margins in the trading of futures clearly pointing out the difference between initial margin and maintenance margin (8 marks)

b) Explain how investors use financial futures (7 marks)

QUESTION THREE

Differentiate between the following concepts:

(i) Interest rate caps and interest rate floors (4 marks)

(ii) Plain vanilla swaps and callable swaps (4 marks)

(iii) Basis risk and sovereign risk as used in currency swaps (7marks)

QUESTION FOUR

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 $ 3 dividend on 50th day. The current stock price is $ 100. The risk free interest rate (continuously compounded) is 9.53 % p.a.

Required:

(i) If the futures contract is $ 95, calculate the futures value and advice 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 advice an investor in the long position (5 marks)

QUESTION FIVE

a) Differentiate between Over the counter Derivatives and Organized exchange Derivatives citing relevant examples (5 marks)

b) Discuss the main participants in the derivatives market (10 marks)