KABARAK UNIVERSITY

EXAMINATIONS FOR THE DEGREE OF BACHELOR OF COMMERCE
FOURTH YEAR SECOND SEMESTER EXAMINATIONS
AUGUST 2008

OPTIONS AND FUTURES MARKETS – FNCE 423

INSTRUCTIONS

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:

$C_0 = S_0N(d_1) – Ee^{-rt} N(d_2)$

Where :

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

$d_2 = d_1 – \sqrt{} \delta^2t$

And

$P_0 = C_0 – S_0 + Ee^{-rt}$

Attached: Cumulative probabilities of the Standard Normal Distribution Function

QUESTION ONE

a) Discuss the main types of futures contracts (15 marks)
b) Explain why an investor may opt for futures contracts rather than forward contracts (10 marks)

QUESTION TWO

Walter Shallom, an upcoming investor, has approached you for advice in regard to interest rate swaps.

Required:

a) Explain to Shalom the meaning of interest rate swaps citing two examples of the types of interest rate swaps he could consider (6 marks)
b) Explain to him the factors that influence the pricing of interest rate swaps (9 marks)

QUESTION THREE

a) Differentiate between the following concepts as used in options
   (i) American options and European options (2 marks)
   (ii) Call option and call premium (2 marks)
   (iii) Out-of-the money and At-the- money (2 marks)

b) Bwana Mali (BM) is interested in a European call option on a share that does not pay dividends. The call option has 5 years left to expiration. The share is currently selling at $ 250. The volatility (standard deviation) of the share is estimated as 60 percent per annum. Bwana Mali would like the exercise price to be $ 100. If the risk free rate is assumed to be 10 percent per annum, advice Bwana Mali on how much he should pay for this call option (9 marks)

QUESTION FOUR

a) Joe Ltd expects to receive 55,000 sterling pounds from exporting products to Europe at the end of each of the next 3 months. The spot rate of the sterling pound is shs. 134.70. The forward rate of the sterling pound for each of the next three months is also shs. 134.70.

Required:

(i) If at the end of the 3 months the sterling pound has depreciated to shs. 130.20 calculate the losses or gains for Joe ltd for having not hedged with the forward contract (2½ marks)

(ii) If, on the other hand at the end of the 3 months, the sterling pound appreciates to shs. 136.50, calculate the losses or gains for Joe ltd for having hedged with the forward contract (2½ marks)

b) What is the motivation behind currency swaps markets? (4 marks)

c) Differentiate between basis risk and sovereign risk as used in currency swaps (6 marks)

QUESTION FIVE

a) As an investor, explain how you can invest in the futures market (9 marks)

b) With relevant examples, show the meaning of taking a long position and a short position in forward contracts (6 marks)