COURSE CODE: WN 3023 FUTURES AND OPTIONS

DATE: 8 HB MAC 2003

TIME: 2.30PM – 5.00PM

PLACE: DP 3/3,

INSTRUCTION:
1. This paper consists of SIX (6) questions.
2. You are required to answer ALL question within the time allowed.
3. You must return the question paper and the answer sheet after the test. You are not permitted to take these out of the examination hall.

MATRIC NO:  (in word) (in numbers)

IDENTITY CARD NO:  

LECTURER NAME:  GROUP:

DO NOT OPEN THIS QUESTION PAPER UNTIL YOU ARE PERMITTED TO DO SO

CONFIDENTIAL
Futures and Options Markets
Answer all questions

Question 1  (12 marks)
Briefly explain the differences between forward contracts and futures contracts.

Question 2  (20 marks)
A portfolio manager with a portfolio of shares value of RM5 million predicts that the current market might fall further. (Thus decreasing it portfolio value, he therefore would like to manage its portfolio risk by hedging it in the futures market). Prove by using your own assumptions figures and calculations.

Question 3  (20 marks)
i) You need to borrow RM10 million three months from now. A finance institution promises to lend it at 2% above KLIBOR. Currently the 3month KLIBOR is traded at 94.5. If you fear that the interest rate might increase in three months time and you are willing to incur current effective rate, how would you hedge your position using KLIBOR futures? (show your calculation using your own assumptions)

ii) If you roll-over your loan for another 3 months at 9.5%, what is the effective annual borrowing rate for the whole six months.

Question 4  (14 marks)
A one-year call option on a stock with a strike price of RM30 costs RM3 and a one-year put option on the stock with a strike price of RM30 cost RM4. Suppose a trader buys two call options and one put option.

a) What is the breakeven stock price, above which the trader makes a profit?
b) What is the breakeven stock price below which the trader makes a profit?

Question 5  (14 marks)
Determine the lower bound for the price of two year European call option on a stock when the stock price is RM20, the strike price is RM15 and the risk-free interest rate is 5%, assume that there are no dividend paid.

Question 6  (20 marks)
Calculate the price of a European call option on the non-dividend paying stock when stock price is RM52. The strike price is RM50, the risk-free interest rate is 12% per annum, the volatility is 30% per annum and the time to maturity is three months? (Use Black-Scholes Model)