.NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

FACULTY OF COMMERCE

DEPARTMENT OF FINANCE

BACHELOR OF COMMERCE HONOURS DEGREE IN FINANCE

RISK MANAGEMENT [CFI 4204]

SUPPLEMENTARY EXAMINATION AUGUST 2011

TIME ALLOWED: 3 HOURS

Instructions to Candidates

1. Answer any **FOUR** questions
2. Show **ALL** calculations
3. All questions carry 25 marks each

QUESTION 1

(a) 'Risk appetite is key to achieving effective risk management and it is essential to consider it before moving on to consideration of how risks can be addressed.' Discuss the concept of risk appetite in the context of a commercial bank's operations. **(15 marks)**

(b) Examine the two types of liquidity gaps. **(10 marks)**

QUESTION 2

Suppose it is 1 April and a fund manager in the UK is expecting to receive dividend payments of $2million on his investments in the USA on 1 June. The dividends will be repatriated immediately and the fund manager is concerned that the pound will strengthen against the US dollar between 1 April and 1 June and therefore decides to hedge the position using currency futures contracts. On 1 April the spot exchange rate is $1.70 per pound and the June LIFFE futures price is $1.72.

Required

(a) What action should the fund manager take in the futures market? **[2 marks]**
(b) Calculate the number of sterling contracts required to hedge this exposure. **[5 marks]**
(c) Calculate the value of the contracts in US dollars. **[3 marks]**
(d) Suppose that on 1 June the spot rate has risen to $1.77 and the futures price has risen to $1.78. Calculate the profit or loss on both the cash and futures position. **[6 marks]**
(e) Calculate the hedge efficiency. **[3 marks]**

(f) Comment on what caused the efficiency of the hedge not to be 100 percent. **[6 marks]**

QUESTION 3

(a) Mr Gumbo has just been appointed the risk manager of Sovereign Bank. He observes that the bank has not been adjusting its fund managers' performance for risk taken and he decides to introduce it immediately. Justify his actions. [**15 marks]**

(b) Discuss the criteria used by hedgers in deciding whether to use options or futures contracts in hedging their portfolios. **[10 marks]**

QUESTION 4

(a) Discuss the major flaws that are inherent in Basel I that necessitated the birth of Basel II. **[16 marks]**

(b) Analyse the three allowable approaches to calculating the Basel II operational risk charge. **[9 marks]**

QUESTION 5

(a) Share prices move according to the following binomial process: during any six month period, there is a 50% chance that share prices will rise by 8 percentage points and a 50% chance that share prices will fall by 8 percentage points. On the other hand, Treasury bills generate a safe return of 4% during any six month period. Design a minimum-cost portfolio strategy that guarantees a year end portfolio value of $1 million whatever happens to share prices, but which takes advantage of favourable share price movements. **[20 marks]**

(b) Briefly discuss the concept of perturbation-based hedging. **[5 marks]**

QUESTION 6

(a) Calculate the number of December futures contracts on the FTSE100 index needed to hedge an equity portfolio currently valued at £2 659 474.00, with a beta of 0.95. The current value of the FTSE100 index is 1961.20 while the December contract is quoted as 2021.20. **[7 marks]**

(b) Examine how a bank whose balance sheet comprises of floating rate deposits and fixed rate loans can manage its interest rate risk exposure. **[18 marks]**

END OF PAPER. GOOD LUCK.