UNIVERSITY OF LONDON

279 0100 ZB

BSc degrees and Diplomas for Graduates in Economics, Management, Finance and the Social Sciences, the Diploma in Economics and Access Route for Students in the External Programme

Banking Operations and Risk Analysis

Wednesday, 14 June 2006 : 2.30pm to 5.30pm

Candidates should answer **FOUR** of the following **EIGHT** questions: **ONE** from Section A, **ONE** from Section B and **TWO** further questions from either section. All questions carry equal marks.

Workings should be submitted for all questions requiring calculations. Any necessary assumptions introduced in answering a question are to be stated.

A hand held calculator may be used when answering questions on this paper but it must not be pre-programmed or able to display graphics, text or algebraic equations. The make and type of machine must be stated clearly on the front cover of the answer book.

SECTION A

Answer **one** question from this section and **not more than** a further **two** questions. (You are reminded that four questions in total are to be attempted with at least one from Section B.)

1. Describe and evaluate the relative importance of the different risks faced by banks, and assess the extent to which the liquidity transformation services offered by banks make them vulnerable to 'bank runs'.

2. Describe and explain the nature and importance of credit risk and its constituents, and the role of the credit allocation decision and credit enhancement for credit risk management.

3. Explain the reasons for asset and liability management by banks and discuss the use of gap analysis in managing bank risk.

4. Explain why capital adequacy is such an important consideration for the banking sector, and outline the nature of current regulatory requirements concerning bank capital.

PLEASE TURN OVER

SECTION B

Answer **one** question from this section and **not more than** a further **two** questions. (You are reminded that four questions in total are to be attempted with at least one from Section A.)

5. Consider two assets with the following expected returns and standard deviations:

Asset	E(R)	σ
1	0.12	0.15
2	0.22	0.35

(a) For portfolios formed from these two assets, explain in detail how the portfolio return and variance depends on correlation and asset weights.

(10 marks)

(b) Explain how the availability of more than two risky assets and a risk-free asset enables the CAPM representation of the mean-variance optimisation problem.

(15 marks)

6. Consider the following scenario with three states of nature and three assets:

Security	Price	Payoff ($) State 1	State 2	State 3
A	$0.95	1	1	1
B	$0.50	1	0	1
C	$0.30	1	0	0

(a) Use the above example to explain the role of complete markets and Arrow-Debreu securities in the state preference framework.

(20 marks)

(b) Calculate the risk-free rate of return in the above example, and identify the determinants of Arrow-Debreu securities prices.

(5 marks)

7. Explain the relevance of covered interest parity to the pricing of currency forwards and analyse its role in the comparison between forward hedging and money market hedging.

8. Using examples, explain the mechanics of managing interest rate risk and exchange rate risk with swaps, and discuss the valuation of swaps.

END OF PAPER