EXAMINATION

13 April 2007 (pm)

Subject ST5 — Finance and Investment
Specialist Technical A

Time allowed: Three hours

INSTRUCTIONS TO THE CANDIDATE

1. *Enter all the candidate and examination details as requested on the front of your answer booklet.*

2. *You have 15 minutes at the start of the examination in which to read the questions. You are strongly encouraged to use this time for reading only, but notes may be made. You then have three hours to complete the paper.*

3. *You must not start writing your answers in the booklet until instructed to do so by the supervisor.*

4. *Mark allocations are shown in brackets.*

5. *Attempt all 9 questions, beginning your answer to each question on a separate sheet.*

6. *Candidates should show calculations where this is appropriate.*

AT THE END OF THE EXAMINATION

Hand in BOTH your answer booklet, with any additional sheets firmly attached, and this question paper.

In addition to this paper you should have available the 2002 edition of the Formulae and Tables and your own electronic calculator.

1 (i) (a) Define risk-free return.

(b) List three types of asset that would be expected to provide such a return.

[2]

(ii) Write down an equation for the required return on an asset. [1]

(iii) Explain why it is necessary to estimate the equity risk premium from historical data. [2]

(iv) Give examples of:

(a) the types of distortion that need to be allowed for in any analysis of historical risk premia.

(b) the likely impact of allowing for these adjustments. [6]

[Total 11]

2 (i) Describe how the economic cycle can impact companies' price/earnings ratios. [5]

A stock market comprises three securities:

	Stock A	*Stock B*	*Stock C*
Market capitalisation 31/12/2005	$100m	$500m	$200m
Earnings 31/12/2005–31/12/2006	$10m	$25m	$25m
Share price 31/12/2005	$20	$20	$20
Dividend yield 31/12/2005	3%	2.8%	4%
Share price 31/12/2006	$24	$25	$16
Dividend yield 31/12/2006	3.2%	2.5%	4.5%

(ii) Describe the characteristics of growth and value stocks. [2]

A value investor constructs a portfolio at 31 December 2005 comprising 10% stock A, 30% stock B and 60% stock C. In contrast a growth investor has a portfolio of 20% stock A, 70% stock B and 10% stock C.

(iii) Explain why the two investors may have constructed their portfolios as they did. [3]

(iv) Calculate the portfolio returns over the period for each of the two investors. [3]

(v) Describe three other equity styles that other investors may be using. [3]

[Total 16]

3 (i) (a) Explain what is meant by an agency cost.
(b) Explain how agency costs can arise.
[4]

(ii) (a) Explain why conflicts of interest may arise between equity and bond holders in a company.

(b) Give three examples of such conflicts of interest including details of who gains and who loses from the action. [4]
[Total 8]

4 A professional fund manager invests in the constituent shares of the FTSE 100 index and weights the investments of the fund on an arithmetic average basis using the market capitalisation of the constituents of the FTSE 100 index. The fund manager adjusts the constituent shares and their weights in line with changes in the weights used in the construction of the index. To all intents and purposes, the fund attempts to track the price and yield performance of the FTSE 100 index.

The investors in the fund asked an independent investment consultant to evaluate the total return performance of the professional fund manager relative to the total return performance of the FTSE 100 index over the last ten years. The independent investment consultant's report examined the fund manager's total return and concluded that the professional fund manager had under performed the FTSE 100 Total Return Index over the ten year period in question.

(i) Describe the most likely reasons for the fund manager's under performance relative to the FTSE 100 index over the past 10 years. [12]

(ii) Outline two ways of reducing the under performance of the fund manager relative to the FTSE 100 index. [2]
[Total 14]

5 (i) Sketch, on the same diagram, the payoff at maturity of the following options on a quoted share assuming that they have the same strike price, same maturity date and that the ratio of premiums is 2:1 with the call option being the more expensive option:

(a) a put option
(b) a call option
[3]

(ii) Using the same diagram as in part (i) of this question, sketch the payoff profile of an equally weighted portfolio consisting of options (i)(a) and (i)(b). [3]

(iii) Suggest an investment scenario in which the payoff profile in part (ii) might be of interest to an investor. [2]
[Total 8]

6 (i) Describe three reasons why regulation is considered important in the financial services industry. [3]

(ii) Outline the direct and indirect economic costs of regulation. [6]
[Total 9]

7 (i) Describe the concept of a trust as it arises in trust law. [5]

(ii) Suggest the advantages of a debenture trust deed. [3]
[Total 8]

8 You are the finance director for a regional Japanese bank and are considering the issue of a bond. You have the option of issuing the bond in sterling or in local currency and have available the following information:

	Spread over government bonds	*Government bond yield*
Sterling issue	+125bps	4.50%
Domestic issue	+175bps	2.00%

You should assume the yield curve is flat across all maturities in both the sterling and the domestic market.

(i) List the main reasons for issuing a bond. [4]

(ii) Discuss why the spread over government bonds may differ between the UK and Japanese markets for the same issuer. [6]

(iii) Calculate the return an investor would achieve, in yen terms, by investing and holding each bond to maturity. State any assumptions made. [6]

(iv) Outline the steps you would take to lock into the lowest funding cost. [2]
[Total 18]

9 You are a portfolio manager for a "high alpha" actively managed bond fund. Your annual performance target is 1.5% p.a. above the return on the "all stocks" government treasury bond index. This target is after deduction of your 0.4% annual management fee.

One of your bond dealer contacts has invited you to subscribe to a new innovative 20 year amortising bond whose return is linked to the mortality experience on a pool of insured annuitants. Under this bond, the coupon and principal payments are reduced (or increased) if more (or fewer) annuitants survive than expected, within minimum and maximum amounts.

The dealer has made a compelling pitch to you that this is the first of a number of such bond issues and that the spreads on these bonds will narrow considerably over time as the market gains familiarity with these issues. The Chief Investment Officer of your investment house requires you to submit a formal analysis of the bond issue for consideration at the next Investment Committee meeting.

(i) Outline the issues you would consider in your analysis of the opportunity to generate outperformance for the bond fund by participating in the offer. [6]

(ii) Describe what further investigations and information you would require before you could make a recommendation on whether to participate and how much to invest. [2]

[Total 8]

END OF PAPER