EXAMINATION

23 April 2007 (pm)

Subject ST2 — Life Insurance
Specialist Technical

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 6 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 Describe the principal items that may be deducted when determining the asset share of a life insurance policy. [5]

2 A life insurance company sells a large volume of unit-linked endowment savings policies. At maturity the policyholder receives the bid value of the units. On death, the policyholder receives the bid value of units, subject to a minimum guaranteed death benefit, as specified in the policy literature. On surrender, the policyholder receives the bid value of units, subject to a surrender penalty.

The premiums are invested in capital units for the first 5 years of the contract. The annual management charge is 5% per annum of the bid value of capital units. Thereafter premiums are invested in accumulation units, where the annual management charge is 1% per annum of the bid value of accumulation units.

(i) Explain how the company could use actuarial funding to reduce new business strain on this contract. [4]

(ii) Explain the criteria that must be satisfied in order for the company to be able to use actuarial funding. [4]

The marketing manager has suggested an alternative product design which specifies a low allocation rate in the first two years of the contract, with a higher allocation rate in subsequent years.

(iii) Discuss this suggestion. [5]
[Total 13]

3 A life insurance company sells a wide range of products through insurance intermediaries. It is about to perform a profit test to assess what premium rates would be appropriate for its without profits non-linked whole life assurance business.

(i) List the assumptions that would be required to carry out this exercise. [4]

The company is considering performing an analysis of its expenses to determine the expense assumptions to use in this exercise

(ii) Describe how this analysis would be carried out in order to reach appropriate assumptions. [15]
[Total 19]

4 A young couple are looking for appropriate life insurance. They have just bought their first house and have two young children. One of them is in paid work, the other looks after the children.

(i) Explain why a convertible term assurance policy may be the most appropriate product for this couple. [5]

(ii) Discuss whether you would expect the product to be written on a single life, joint life payable on the first death, or joint life payable on the second death basis. [4]

(iii) Discuss the main risks to the life insurance company of writing a convertible term assurance policy and the ways that the company might mitigate these risks. [11]
[Total 20]

5 A well established life insurance company, which currently sells a full range of life insurance products, is seeking to set up a branch in a new territory. Initially it intends to sell without profits level immediate annuity policies to the local population.

(i) Describe the additional risks to which the company will be exposed when it sets up the new branch. [13]

(ii) Discuss how these risks can be managed. [8]
[Total 21]

6 A well established life insurance company that sells only with profits business defines its free asset ratio as $(A - L)/L$

where A = the value of the assets as reported for supervisory purposes
L = the value of the liabilities as reported for supervisory purposes.

This free asset ratio has been gradually falling over the last three years.

(i) Discuss how the investment strategy of the company may have contributed to the fall in the free asset ratio. [9]

(ii) Discuss possible courses of action that the company could take to improve its free asset ratio in both the short and the long term. [13]
[Total 22]

END OF PAPER