EXAMINATIONS

September 1999

Subject 402 — UK Fellowship Life Insurance

Paper Two

You must answer this subject only,
you may not attempt another subject in the 400 series.

Time allowed: Three hours

INSTRUCTIONS TO THE CANDIDATE

1. *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.*

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

3. *Write your surname in full, the initials of your other names and your Candidate's Number on the front of the answer booklet.*

4. *Mark allocations are shown in brackets.*

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

AT THE END OF THE EXAMINATION

Hand in BOTH your answer booklet and this question paper.

In addition to this paper you should have available Actuarial Tables and an electronic calculator.

1 The gross redemption yields on government fixed interest securities in a certain foreign country have dropped from 10% p.a. to 5% p.a over the last year. A proprietary life insurance company has been reporting profits on an embedded value basis for several years in a period when interest rates have been fairly stable. The principal economic assumptions it has used in the embedded value calculations are as follows:

- Government fixed interest securities 10% p.a.
- Other fixed interest securities 10.5% p.a.
- Equities 12.5% p.a.

Both the method of distributing surplus under with profits contracts and the insurance regulations governing solvency valuations are similar to those in the UK. The country's tax base is such that tax can be ignored.

The company has a policy of matching the assets and liabilities as closely as possible.

The company writes:

- Without profit term assurances;

- Non-linked with profits and unit linked pension plans. The unit-linked product has a level unit allocation rate. Both types of contract provide a cash fund at retirement, which is used to purchase annuities in the open market, and a guaranteed minimum rate for converting the cash to annuity, which is based on an interest rate of 6% per annum.

(i) Describe the impact of the reduction in interest rates on the statutory valuation basis and the reserves held for each of the principal product types, and hence how surplus emerging may be expected to change. [24]

(ii) Discuss what changes may be made to the embedded value basis as a result of the reduction in the redemption yields. [10]

(iii) Describe how the embedded value for each contract would be affected if the company were to lower the investment assumptions and the discount rate. [8]

(iv) Discuss what action the company may take as a result of the large increase in the liabilities associated with the guaranteed minimum annuity rate under the pension contracts. [25]
[Total 67]

2 A bancassurer sells unit linked business, non-linked protection policies and derivative based single premium guaranteed products through a tied direct sales force. The board of the bank has asked the appointed actuary to prepare a presentation on the issues and benefits of acquiring another life insurance company.

Discuss:

(i) The possible rationale for such an acquisition. [12]

(ii) The principal reasons why such an acquisition may not proceed and the pitfalls which may arise. [11]

(iii) The possible alternatives to an acquisition. [10]

[No drafting style is required.] [Total 33]