EXAMINATIONS

6 April 2001 (pm)

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 A UK proprietary life insurance company (Co A), is interested in setting up an operation in an overseas territory which it believes has significant new business potential. Another UK proprietary company (Co B) has a subsidiary life insurance company (Co C) in this overseas territory which it has just put up for sale. Co C sells with and without profits business, and distributes surplus to its with profits policyholders using reversionary and terminal bonuses. All surpluses arising are shared between Co C with profits policyholders and shareholders in the ratio 80:20.

You are a consulting actuary who has been asked to advise Co A on the potential purchase of Co C.

(i) Discuss the advantages and disadvantages to Co A of purchasing Co C rather than setting up a new operation in the overseas territory. [12]

(ii) List the information which you would request in respect of Co C under the following headings in order to advise Co A on a suitable purchase price:

(a) product and new business details [4]
(b) experience analyses and bonus distribution [6]
(c) financial reports [3]
(d) other information [4]

(iii) Describe how you would calculate the embedded value of Co C (a basis is not required). [13]

(iv) You have been asked by the directors of Co A to produce a report to help them determine a suitable purchase price and so that they can assess whether or not to purchase Co C.

Describe what information you would include in you report. [16]
[Total 58]

2 A large mutual life insurance company has a portfolio of conventional with profits low cost endowment assurances sold in conjunction with domestic mortgages. The maturity proceeds from each policy are designed, though not guaranteed, to repay the mortgage.

The policies were sold when investment returns were higher than those currently expected to apply in the future. As a result, the projected maturity proceeds under many of the policies have now fallen below the amount borrowed. It has been decided to offer some form of compensation to the policyholders affected.

Three possible compensation packages have been identified:

- Option A: Introduce a guarantee that the maturity value under the policy will be sufficient to repay the mortgage. No charge would be made for the guarantee, nor would the investment policy of the with profits fund be altered.

- Option B: Introduce a conditional guarantee that the maturity value will be sufficient to repay the mortgage provided that the average investment return net of tax on the company's with profits fund over the remaining term of the policy is at least 6% p.a. Again, no charge would be made for the guarantee, nor would the investment policy of the with profits fund be altered. Where the return falls below 6% p.a., compensation would be limited to the shortfall, if any, that would have arisen if the return had been 6% p.a.

- Option C: Offer to pay an enhanced surrender value under the policy. The surrender value would be sufficient to reduce the mortgage down to an amount which could be repaid in level instalments of interest and capital over its remaining term. The initial monthly outgo would be unchanged from that currently payable under the endowment policy and mortgage, allowing for the continuation of life cover.

You are the Appointed Actuary:

(i) Discuss the possible financial implications to the company of each of the compensation packages. You should describe any investigations you would perform to assess the implications.

- Option A [12]
- Option B [6]
- Option C [9]

(ii) Describe the relative advantages and disadvantages to the company and the policyholders of each of the compensation packages. [15]

[Total 42]