EXAMINATION

22 October 2018

Subject F202 — Life Insurance
Specialist Applications

Time allowed: Three hours

INSTRUCTIONS TO THE CANDIDATE

1. *Follow log in and saving instructions issued to you at the exam venue.*

2. *Save your work throughout the exam.*

3. *You are required to submit your answers in Word format only using the template provided. You MAY NOT use any other computer program (e.g. Excel) during the examination.*

4. *You have 15 minutes at the start of the exam 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.*

5. *You must not start typing your answers until instructed to do so by the invigilator/supervisor.*

6. *Mark allocations are shown in brackets.*

7. *Attempt all questions, beginning your answer to each question on a new page.*

8. *You should show calculations where this is appropriate. If necessary, an answer book may be used for this purpose.*

Note: The Actuarial Society of South Africa will not be held responsible for loss of data where candidates have not followed instructions as set out above.

AT THE END OF THE EXAMINATION

Check that you have saved your work as per instructions given to you.
Hand in your question paper with any additional sheets firmly attached.

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

QUESTION 1

A South African life insurer is investigating the impact of the Solvency Assessment Management (SAM) framework on its required capital and the management actions that could be used to reduce the capital it needs to hold.

i. Explain how management actions can be used to reduce the life insurer's Solvency Capital Requirement (SCR), and the practical limitations thereof. [9]

ii. Discuss the possible management actions, and potential shareholder actions, that the insurer could utilise to deal with adverse experience for the following types of products:
   - Pure Risk Products
   - Discretionary Participation Investment Products
   - Universal Life Products
   - Annuities [18]

iii. Explain the effect that Required Capital (and the Cost of Required Capital) has on a company's return from Operational Embedded Value Earnings. [5]

[Total 32]

QUESTION 2

A large South African conglomerate listed on the JSE operates in a number of different sectors. These include asset management, insurance, provision of loans to individuals and small corporate clients, and private healthcare services.

For many years one of the businesses wholly owned by the conglomerate has been a small subsidiary life insurance company. The subsidiary has sold low volumes of individual term assurance contracts, key person insurance and regular premium unit linked savings products. These products have primarily been sold to clients of the conglomerate's other businesses through the use of mailshots, internet offers and a small direct salesforce.

A new Chief Executive Officer of the conglomerate has recently been appointed and is considering a number of possible courses of action.

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The potential courses of action include:

- closing the life insurance company to new business and allowing the existing book to run off over time;
- selling the life insurance company or;
- investing in the life insurance company to achieve growth of new business premium income.

i. Discuss the factors to consider in closing the life insurance company to new business and allowing the existing book to run off over time.
(Do not discuss why the company might have come to the decision to close for new business.)

Discuss:

a. General factors to consider when closing the life insurance company to new business. [9]

b. The impact of closure to new business on the statutory solvency position of the company. [5]

c. The impact of closure to new business on the investment policy of the company. [4]

d. The impact of closure to new business on the unit-linked funds in which policyholders invest. [4]

ii. Discuss the factors to consider in whether or not to sell the life insurance company.
(Do not consider any quantitative assessments to determine the selling price and do not repeat factors discussed in part i.) [10]

iii. Discuss the factors to consider in investing in the life insurance company to achieve growth of new business premium income (measured as annual premium plus 10% of single premium) from its current level of R200m to R1,600m in three years (i.e. doubling the previous year's new business premiums each year).

Discuss:

a. the business plan and capital implications, [8]

b. product and distribution strategy and, [5]

c. re-insurance strategy, staff impact and asset management. [5]

[Total 50]

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QUESTION 3

A South African life insurer is considering a quota share reinsurance arrangement on its range of risk-only products. It is also considering including a financial reinsurance transaction on this business. The quota share reinsurance would apply to the in-force book and new policies. The financial reinsurance transaction would apply to the in-force book at the date of the transaction only. The impact of these reinsurance decisions on the company's embedded value (EV) is being considered.

i. Discuss the potential impact on the EV through reinsuring the risk-only products on a 50% quota share basis. Include details of the impact on the cash flows that would be used in the EV calculation. [12]

The financial reinsurance transaction involves the reinsurer providing a payment of R250m on the transaction date to the life insurer. In return the life insurer will pay an additional 5% of the reinsurance rates (for the quota share arrangement) on all policies in-force at the transaction date.

ii. Describe the additional impact on the EV resulting from this transaction. [6]

[Total 18]

[Grand Total 100]

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END OF PAPER

