EXAMINATION

18 May 2017

Subject F202 — Life Insurance
Specialist Applications

Time allowed: Three hours

INSTRUCTIONS TO THE CANDIDATE

1. *You will receive instructions to log in using a password which will be issued to you at the exam centre.*
2. *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 exam.*
3. *Save your work throughout the exam on your computer's hard drive.*
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 on exam papers.*
7. *Attempt all questions, beginning your answer to each question on a new page.*
8. *You should show calculations where this is appropriate.*

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

Save your answers on the hard drive.
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

Board Notice 158 of 2014 requires insurers to establish and maintain an effective risk management system which includes risk management policies.

i. Set out what would be included in a life insurance company's underwriting risk management policy.

[6]

A South African life insurance company has decided to launch a new limited underwriting version of its current life assurance product sold, where the only benefit payable is on death. The current life assurance product is fully underwritten. The underwriting of the new product will be limited to five questions and these questions can only be answered as "yes" or "no". The cover will be accepted or declined based on the answers provided. No medical assessments will be required.

ii. State the reasons that the company may have for launching this new product.

[6]

iii. Describe the risks that the company would be exposed to through the launch of this new product and describe how it could attempt to manage or mitigate the insurance risk.

[22]

iv. Describe the potential impact that the new product would make to the Pillar 1 solvency position under the Solvency Assessment and Management (SAM) framework, compared to the current product, through the use of the standardised formula approach for required capital. (Ignore any impacts on assets) [8]

Various innovations in general insurance products have recently taken place. There are general insurance products that allow a policyholder to switch parts of the cover on and off to match their needs. For example, for a product covering personal belongings, a policyholder could decide to cover an item only when they are out of the house or travelling and not all of the time. They can then switch the cover on when they leave the house or travel and switch it off when it is no longer required.

v. Discuss the use of this concept in relation to life assurance in general and outline any specific circumstances in which it could potentially be used.

[8]

[Total 50]

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QUESTION 2

A South African life insurance company has recently updated its range of risk-only individual products. The pricing criterion it uses is the value of new business (VNB) margin on a representative set of model points. The actual VNB margin has been calculated at the end of the first reporting period during which this business has been sold. The VNB is significantly lower than that priced for.

i. Set out the factors you would investigate in order to explain the difference in VNB margin.

[11]

ii. Describe the way in which the supervisory reserves for these products should be calculated (Statutory Valuation Method).

[5]

The company is considering introducing another product feature where premiums are refunded after 15 years.

iii. Discuss the modelling and valuation basis changes (from the existing product/basis) that will be required to allow for this new feature and include reasons for these changes.

[5]

[Total 21]

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QUESTION 3

A South African life insurance company sells a full range of group risk products (life assurance, dread disease and disability cover). Premium rates are reviewed annually. The company does not have detailed data of individual members for valuation purposes.

i. Describe the supervisory reserves (Statutory Valuation Method) that would be held for these products.

[7]

The company calculates the embedded value of the group risk business on an annual basis and performs an analysis of the change in embedded value.

ii. Describe in detail how the components of the expected transfer from the policyholders' fund to the shareholders' fund is calculated and how the items in the EV earnings analysis arise. (Formulae for the calculation of the items in the EV earnings analysis are not required.)

[22]

[Total 29]

[Grand Total 100]

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END OF PAPER

