



EXAMINATION

18 May 2023 (am)

Subject F202 — Life Insurance Fellowship Applications

Time allowed: Three hours and twenty minutes (which includes five minutes for downloading and uploading your answer document)

Total marks: 100

INSTRUCTIONS TO THE CANDIDATE

1. Ensure that you are logged in and authenticated through Examity before you attempt the examination.
2. The question paper is only available in the ASSA Exam Platform as a PDF download and may not be printed. Copy/paste of questions or parts thereof is allowed from the question paper to your Word answer document only.
3. Download the Word answer document template from the ASSA Exam Platform. Save this Word answer document on your desktop using your Candidate Number as filename. You are required to submit your answers in Word format ONLY using this document. No answers in any other format (e.g., handwritten) will be accepted. Save work regularly.
4. Ensure that your Candidate Number appears in the “header” of your Word answer document. [Double-click on the header at the top of the Word document, input your Candidate Number only in the header, then press “Esc” to close the header.] **Do not use your name or member number anywhere in your Word answer document.**
5. You may not access any file from your computer, use any other computer program (e.g., Email or Excel), or open any other browser during the examination.
6. You may not use any other material (e.g., a Formulae and Tables book) during the examination. Any such information that may be required will be provided to you within the examination.
7. You are strongly encouraged to use the first 15 minutes as reading time only, however, you may start answering the paper whenever you are ready.
8. Mark allocations are shown in brackets.
9. Attempt all questions.
10. Show calculations where appropriate. You may use blank paper to carry out rough work calculations. You may use a calculator from the approved list only.
11. Upload your Word answer document only into the ASSA Exam Platform. Once you have uploaded your document, you must click on **Finish Attempt** to save your document. You will still be allowed to go back and make changes (**Review Attempt**) if you have time.
12. Once you are satisfied with your uploaded document, click **Finish attempt** and **Finish all and Submit**. Once you have submitted you will not be able to make any changes.
13. **You must submit your Word answer document BEFORE the end of the allotted examination time.** You should stop writing and start uploading during the last five minutes. Take this into account when planning your review and submission. There will be no time announcements.

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.

END OF INSTRUCTIONS

QUESTION 1

A South African life insurance company sells a range of risk products on both an individual and group basis. The company is conducting an actual versus expected experience investigation for the disability benefits over the last 5 years.

The result of the investigation is that the risk experience has been:

- better than expected for the group and individual lump sum (permanent) disability benefits,
- as expected for the group income protection benefits, and
- worse than expected for the individual income protection benefits.

A colleague has remarked that it is strange that disability experience can run better and worse than expected over the same time period.

- i. Discuss why the different outcomes for the various investigations into these products is not unreasonable. You should include consideration of
- a. the nature of the investigations [3]
 - b. differences in the products [15]
 - c. any other relevant factors. [7]

There are concerns about the profitability of the individual income protection business. The company is considering the various options available to it to improve the profitability.

- ii. Discuss the actions that could be taken to improve the profitability of the individual income protection business and the issues that may be encountered in implementing them.
- [15]

When the company was completing the results for its annual published reporting, South Africa was in a high inflationary environment. Inflation was higher than the South African Reserve Bank's targeted band of 3% to 6%.

- iii. Set out the factors relating to inflation that will need to be considered when setting up the claims in payment reserves for the income protection business.
- [6]
- iv. Outline the likely impact of higher inflation on the reserves.
- [4]
- [Total 50]

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QUESTION 2

IFRS 17 is the new accounting standard for insurance business that comes into effect for accounting periods after 1 January 2023. Under IFRS 17 the Contractual Services Margin is the main mechanism for allowing insurance profits on a group of policies to be reported over the lifetime of the group of policies in line with general accounting principles.

- i. Outline what the IFRS 17 Contractual Services Margin (CSM) represents and how it is built up for policies valued using the General Measurement Model. [4]

The release of CSM in a reporting period is based on the proportion of services provided in that period relative to services provided over the entire service period. The mechanism for the release is coverage units, which represent the 'amount' of service provided in the reporting period. The formula for the release of the CSM (which is calculated on the end of period CSM) is $A/(A + B)$, where

- A represents the coverage units utilized in the reporting period; and
 - B represents the coverage units for the periods after the valuation date.
- ii. Discuss the suitability of using undiscounted and discounted coverage units for future service in the CSM release formula. [3]
- iii. Describe the appropriateness of the following coverage units for annuities, pure risk products, and savings products (that fall into the scope of IFRS 17). [11]
- Number of policies
 - Premiums
 - Sum Assured
 - Fund value
- iv. Outline the reasons for the CSM being calculated for cohorts of policies starting not more than 12 months apart. [3]
- v. Explain how the strengthening of the mortality basis for annuity products affects the profit for that reporting period under IFRS 4 and IFRS 17. [5]
- vi. Discuss how the components of the Embedded Value of a company might change when IFRS 17 is adopted. [9]

[Total 35]

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QUESTION 3

A South African life insurance company sells a wide variety of life insurance products. The company uses the standard formula approach for its Solvency Capital Requirement (SCR) calculation under the Solvency Assessment and Management (SAM) framework.

The regulator has required that the company hold additional capital (as a capital add-on) at the previous year end following a review of the company's solvency calculation.

- i. Suggest possible reasons why the regulator has imposed a capital add-on. [7]

Due to the capital add-on, the company is considering moving to an internal model.

- ii. Discuss the benefits of an internal model and the challenges in implementing such a model. [8]

[Total 15]

[Grand Total 100]

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END OF EXAMINATION