

EXAMINATION

20 October 2022

Subject F203 — General Insurance Specialist 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 Examyty 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. You will be provided with a Word template within the ASSA Exam Platform to download and use to complete your questions. Submit your answers in Word format **ONLY** using the answer template provided. No uploads of answers (handwritten or otherwise) will be accepted.
4. Ensure that your candidate number appears in the Header of your Word template. [Double-click on the header, input your candidate number only, then press “Esc” to close the header.] Do not use your name or member number anywhere in your answer document nor as file name.
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 file, 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.** 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

You are an actuary working at a well-established, multi-national short-term insurance company with its headquarters based in South Africa. The insurance company writes significant business in both personal and commercial lines of business in all countries that it operates in.

The South African Insurance Association (SAIA) has recently formed a Climate Change Task Group to understand the potential impact of climate change on the short-term insurance industry. You have been chosen to represent your organisation on this Task Group.

- i. Suggest potential impacts that climate change could have on your organisation.

[5]

One of the first outcomes of the Task Group will be an industry-wide quantitative impact study as SAIA would like to understand the monetary impact of climate change on different insurance companies. SAIA has asked that companies quantify the impact of climate change on their Solvency Capital Requirement (SCR) by using pre-defined stress and scenario testing as well as sensitivity testing.

- ii. Recommend **five different** stress and scenario and/or sensitivity tests that could be prescribed (to all companies) to show the possible impact of climate change. Furthermore, consider the impact of each stress on the standard formula.

[15]

A colleague, in the Task Group, notes at one point that he does not believe most insurance companies will be impacted by the physical risks of Climate Change given that SASRIA will cover these claims.

- iii. Discuss whether you agree with your colleague's point of view, explaining what is covered by SASRIA and what is excluded.

[2]

The chief actuary of your organisation believes that climate change also represents an opportunity to potentially develop new insurance products and would like to explore the possibility of selling insurance specifically for electric vehicles.

- iv. Provide reasons as to why the claim experience for electric vehicles may differ compared with traditional motor insurance.

[5]

- v. Identify and list both potential new and existing exclusions that would apply to these electrical vehicle insurance policies.

[2]

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- vi.
- a. Firstly, describe how you would set the office premium for vehicle insurance. [8]
 - b. Describe the adjustments you would make in the above to allow for factors unique to electric vehicles. [4]
- vii. Explain the data and reserving methodology factors you would consider when determining the year-end reserves for the electric vehicle insurance cohort at the end of the first year of sales. [4]

[Total 45]

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QUESTION 2

i. Describe the requirements under IFRS 4 related to the valuation of liabilities. [2]

ii. Detail the best practice guidance (under APN 401) on the calculation of liabilities for statutory and financial reporting purposes. [5]

You are the Head of Corporate Actuarial of a large short-term insurance company that underwrites as part of its portfolio a motor line of business. As part of the reserving exercise, you know that there is seasonality in the claims triangle - specifically the September to November origin periods showing higher claims frequency due to the rainy season.

iii. Outline possible methods that could be used to allow for inherent seasonality in your claims triangle when setting your reserves. [5]

At year-end, you have noted that the link ratios have decreased in the first and second development periods. Upon further investigation, the claims function noted they have improved their claims process which results in faster settlement of damage claims.

You have historically used a paid triangle to set your reserves.

iv. Explain what the impact of the changed claims process would be on your reserving process. [5]

For the year-end reserves, you have calculated a best estimate view of reserves allowing for your assessment of the impact of the claims process changes. Your professional actuarial recommendation is to book these best estimate reserves with an additional risk margin for the inherent uncertainty. The management team opted to book a lower reserve amount, and has stated that this is for commercial reasons rather than as a result of disagreement with your analysis. Detail what your response would be to the management team, given the suggested release of provisions.

[5]

[Total 22]

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QUESTION 3

You are an actuary of a medium-sized listed general insurer (with a strong capital base) that underwrites two lines of business and has recently launched a vehicle warranty line.

Your CFO asked you to form part of the due diligence team that will validate the feasibility of a possible purchase of a portfolio of single premium vehicle warranty business including the transfer of management team and operations. These are 5-year warranty products that take effect after the vehicle original warranty expired.

- i. State the potential benefits of purchasing the portfolio of business.

[5]

The CFO asked you to review the material aspects of the transaction to help validate the purchase price. This includes your views on the following:

- Projected Premium Volume
- Expected Performance
- Capital requirements and investment returns

- ii. Outline the key data, methods and assumptions you would review to respond to the CFO's request.

[14]

As part of the transfer of the portfolio of business, there will have to be a capitalization of the business under the Financial Soundness Standards for Insurers.

- iii. Give an overview of the IFRS to SAM adjustments that you would expect to make prior to calculating the capital requirements.

[4]

- iv. Discuss the need for a possible out-of-cycle ORSA in this instance as well as the factors you would consider in determining the need for one.

[5]

The board has expressed concern that the company does not have much experience in the Warranty line of business and hence expressed uncertainty on the appropriateness of the capital requirements using the standard formula.

- v. Discuss whether the standard formula is appropriate to determine the capital requirements for this line of business and the analysis you carried out to assess its appropriateness.

[5]

[Total 33]

[Grand Total 100]

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END OF PAPER