

EXAMINATION

24 May 2022

Subject F203 — General Insurance Specialist Applications

Time allowed: Three hours and fifteen minutes, plus an additional five minutes to allow for uploading your file in the ASSA Exam Platform

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 only allowed between the Exam Platform and the Word answer document.
3. You are required to 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 answer template. [Select “Insert”, then “Header”, input your candidate number on the blank header template and select “Close Header”]. **Do not use your name or member number on your answer script.**
5. You may not access any file from your PC, 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 file only into the ASSA Exam Platform. Once you have uploaded your file, you must click on **Finish Attempt** to save your file. 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 file, click **Finish attempt** and **Finish all and Submit**. Once you have submitted you will not be able to make more changes.
13. **You must submit your answer file BEFORE the end of the allotted examination time.** Take this into account when planning your review and submission. There will be no time announcements.
14. An option to opt out of the exam will become available 1 hour after the official examination start time. If you select the Opt-Out option, you agree and understand that your entire script/answers will be deleted and cannot be retrieved at a later stage and that your script or part thereof will not be put forward for marking.

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 the chief actuary of a large short-term insurer that operates in the South African market. The insurer writes personal and commercial lines business. The company's 4 largest commercial lines of business include:

- Commercial Property with significant exposure to business interruption
- Commercial Vehicle Fleet Insurance
- Product Liability Cover
- Transport (Marine & Rail – incl. Liability for these lines)

The South African regulator is currently concerned about the potential exposure insurers have to non-affirmative cyber (“NAC”) claims, i.e. cyber claims on policies that had not been designed or priced to include claims from cyber-related events but where the policy wording is not sufficiently clear and could give rise to reasonable expectations of coverage.

- i. Give one example for each of the above lines of business where non-affirmative cyber (“NAC”) related claims could occur. [4]
- ii. Suggest, with reasons, two metrics you could use to measure the potential exposure your company has to cyber risk. [4]
- iii. State, with reasons, the benefits to the wider economy when insurance markets offer cyber risk coverage. [4]

Following the work you have done on the above to respond to the regulator, the CEO is interested in developing a cyber insurance product covering the following perils for the commercial segments:

- Privacy Breach - unauthorised disclosure of third party identifiable information
- Denial of Service - Leading to unavailability of functions within an organisation
- Cyber-Fraud - Illegitimate financial transfer made as a result of social engineering – e.g. Phishing* attacks
- Cyber-Extortion – ransomware that impede access to data or a network until a ransom is paid

**The fraudulent practice of sending emails purporting to be from reputable companies in order to induce individuals to reveal sensitive or confidential information, such as passwords and credit card numbers.*

- iv. Describe the rating factors you would use to determine the risk premium for the product as well as outlining the potential challenges in determining the appropriate risk premium for this product. [8]
- v. For each type of cover provided as set out above: Describe a potential loss event and how it could lead to a claim under the policy. [8]

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vi. The CRO is particularly concerned about unintentional coverage and wants to ensure sufficiently “tight” terms and conditions. **Recommend with reasons** potential policy exclusions or terms and conditions (including behavioural requirements) to limit these losses on the new policies being sold.

[8]

vii. Taking into consideration the size of the insurer, discuss reasons for the types of reinsurance coverage you would recommend for the new product as well as coverage for NAC risks to the wider portfolio.

[4]

Following a very successful launch of the product in the local market, the regulator is interested to understand the risk management process followed by the company.

One component that should be covered in the ORSA is the justification of the use of the Standard Formula Model to determine the capital requirements of the entity.

viii. Describe how you would classify the new product within the standard formula, as well as reasons for using (or not using) the standard formula to assess the capital requirements.

[7]

ix. The regulator is interested in the scenario testing you performed prior to the product launch. Detail 3 examples of possible scenarios you would have used to justify the viability of the product as well as informing your reinsurance purchase.

[3]

[Total 50]

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QUESTION 2

You are a qualified actuary, who has been appointed by Company ABC, upon instruction from the Prudential Authority to independently review the financial soundness of Company ABC. Company ABC is a relatively new national short-term insurer that only sells personal lines motor vehicle insurance.

- i. Give reasons why the Prudential Authority could have made this request.

[3]

Upon further investigation, it is revealed that the actuarial analyst, responsible for calculating the Solvency Capital Requirement, has since left the employ of Company ABC. There is minimal documentation regarding Company ABC's approach to the calculation, but you have noted the following in the latest annual regulatory return submitted to the Prudential Authority:

- The largest component of the SCR is Market Risk;
- Company ABC only has one reinsurance treaty in place, which is a quota share with 10% of all business ceded to one reinsurer;
- The current asset portfolio consists mostly of short-term deposits and fixed interest bonds in South African Banks and entities;
- The projected earned premium for the next 12 months is less than those earned in the 12 months prior;
- There are only Tier 1 Own Funds;
- The MCR has been reported as R10 million;
- Premium and Reserve Risk includes an allowance for geographical diversification;
- Longevity risk has been reported in the return;
- Company ABC currently has a deferred tax asset showing in their balance sheet and the company is expected to make a loss again in the next financial year; and
- Company ABC was impacted by a number of hail events and as a result, there has been a significant delay in claim settlement.

- ii. Explain how you would independently review the Solvency Capital Requirement calculation by explaining what you would review in each of the sub-risk modules and what you suspect may be incorrect given the above information.

[15]

As part of your investigation, you could not find any evidence of an actuarial reserving model being used and noticed the insurer was still using the previous solvency regime's interim measures.

- iii. State what impact a more data driven statistical approach could have on the financial position of the insurer.

[7]

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After correcting the standard formula calculation, Company ABC does not meet the solvency requirements.

iv. Define the term SCR coverage ratio. [1]

v. Describe four suitable solvency relief measures Company ABC could use to increase the SCR coverage ratio, describing the advantages and disadvantages of each. [12]

After interviewing the Board of Company ABC it is apparent that Company ABC has never submitted an ORSA report and there is general confusion as to what such a report entails.

vi. Describe what an ORSA is and list the items you would expect in the annual ORSA report. [5]

You have submitted your independent review to the Prudential Authority.

vii. What courses of action may the Prudential Authority take depending on the outcome of your report? [2]

Company ABC previously engaged the services of a Head of Actuarial Function.

viii. List the requirements that the HAF report should cover in its annual reporting to the board of the insurer. [5]

[Total 50]

[Grand Total 100]

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END OF PAPER