



EXAMINATION

19 May 2023 (am)

Subject F203 — General 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

You are an actuary working for a large multi-national insurance company, LargeCo. LargeCo specialises in writing personal and commercial property insurance. Due to its size and global footprint, LargeCo already has significant catastrophe exposure.

LargeCo is thinking of selling a stand-alone catastrophe product which pays out when a naturally occurring (e.g. Floods, Earthquakes, Hurricanes etc.) event breaches the policy criteria threshold. The criteria will be determined by LargeCo and will activate once the number of damaged properties, by the event, breaches the threshold.

The product will act in a similar way to how SASRIA provides amongst others terrorism and riot cover.

Due to its market size (world-wide) LargeCo's opinion is that it already has sufficient capital and operational structures in place to efficiently manage such a product.

To sell the policy, the company would partner with local insurers in each market and charge the insurer a premium for each property policy the insurer sells. The Insurance Company will be responsible for the fulfilment of premiums and claims.

The policy would be offered with a simplified and transparent rating table based on sum insured and CRESTA zone.

i. Suggest with reasons the advantages and disadvantages to LargeCo of the proposed offering. [6]

ii. Suggest with reasons the advantages and disadvantages to the local participating insurers of the proposed offering. [6]

As part of the product approval process, your department has been tasked with building a financial model to estimate the profitability of the new product over a 5-year time horizon.

iii. Describe the basic structure of a catastrophe model. [10]

iv. Assuming that you can use the outputs from your catastrophe model, outline further assumptions you would need to determine the likely profit profile of the product. [5]

Currently LargeCo uses reinsurance brokers to run its exposures through some of the proprietary catastrophe models available in the market.

v. Suggest why the company might use its reinsurance broker to complete its catastrophe modelling and how this would work in practice. [6]

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LargeCo is now considering taking its catastrophe modelling in-house and therefore licensing the software directly.

- vi. Outline the advantages and disadvantages of this approach.

[7]

LargeCo is considering what reinsurance they could buy for the exposure from the new stand-alone catastrophe product.

- vii. List the different types of treaty reinsurance cover available to LargeCo, commenting on whether they would be appropriate for this purpose.

[7]

A non-executive member of the board mentioned that there has been a recent surge in global inflation. This surge is mostly being driven by an increase in demand for products and services as well as supply side shocks on some of the materials.

- viii. Describe what is meant by demand surge inflation and particularly how this could affect LargeCo's new product.

[3]

[Total 50]

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QUESTION 2

- i. Define the term ‘Captive Insurer’. [2]
- ii. List the advantages and disadvantages of setting up a captive. [5]
- iii. Outline the key features of Professional Indemnity Insurance using the following headings:
 - a. policy coverage
 - b. claims profile
 - c. rating factors.[12]

A financial conglomerate is a group or subgroup of companies that operate in the banking, investment and insurance sector. XYZ is a financial conglomerate in South Africa.

The CFO is concerned at the level of spend on insurance to cover the bank and intends to set up a first party captive insurer to cover some or all of their Banking insurance requirements.

- iv. Explain why “lighter” regulatory requirements may apply to first party captive insurance companies [2]
 - v. Suggest with reasons the factors XYZ should consider when deciding which insurance lines of business should be transferred to the captive. [5]
 - vi. Describe the factors that should be considered when advising on the level of insurance premiums that should be paid to the captive. [8]
 - vii. Outline the factors that might affect the regulatory capital requirements for XYZ’s new captive. [8]
- [Total 42]

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QUESTION 3

- i. Describe the responsibilities of the head of the actuarial control function. [3]
- ii. Describe the professional responsibilities of actuarial control function heads, especially regarding the selection and appropriateness of assumptions and methodologies used in actuarial models. [5]
- [Total 8]
- [Grand Total 100]

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END OF EXAMINATION