ACTUARIAL SOCIETY OF SOUTH AFRICA

# EXAMINATION

14 April 2026 (am)

# Subject A311 — Actuarial Risk Management Core Principles

# Paper One

*Examination writing time: Three hours and fifteen minutes (includes reading time)*

*Upload time: Five minutes*

*[Total time on examination countdown timer: Three hours and twenty minutes]*

*Total marks: 100*

***INSTRUCTIONS TO THE CANDIDATE***

***Failure to adhere to any of these instructions could incur examination sanctions including disqualification from the examination.***

1. *Your examination countdown timer reflects your TOTAL examination time. Reading and writing time is three hours and fifteen minutes.* ***You may NOT continue to write during the five minutes upload time as this could lead to disqualification from the examination.***

2. *The question paper is available on the ASSA Exam Platform as a PDF download only 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 may not access any file from your computer, use any other computer software (e.g., Email or Excel), or open or use any other browser, collaboration tools or AI tools, including those embedded in MS Word and Adobe AI assistant (e.g. Copilot, ChatGPT etc.) during the examination. Embedded AI tools must be disabled. You may not use Grammarly, Grammarly Premium or similar built-in language and grammar tools which must also be disabled. Microsoft Word spellcheck is allowed.*

4. *Use only the Word answer template provided in your personal folder under the "Exam" icon on your desktop. The file has already been named using your candidate number. Please confirm that your candidate number matches the candidate number used in the file name. If there is any discrepancy, notify an invigilator immediately. Do not rename your file and do not create multiple versions.*

5. *Ensure that your* ***full Candidate Number*** *is entered 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. Your candidate number must be the only identifier used. Submissions that are incorrectly labelled or cannot be clearly identified by candidate number may not be marked and may result in forfeiture of the examination attempt.***

 

6. *You are required to submit your answers in Word format ONLY. No answers in any other format (e.g. handwritten) will be accepted. Save work regularly.*

7. *You are not permitted to bring any other material into the examination (e.g. a Formulae and Tables book). Any such information/material that may be required will be provided to you in the examination.*

8. *You are strongly encouraged to use the first fifteen minutes as reading time only, however, you may start answering the paper whenever you are ready.*

9. *Mark allocations are shown in brackets.*

10. *Attempt all questions, starting each on a new page (as provided for in the Word answer template).*

11. *Show calculations where appropriate No materials may be used other than blank paper for calculations. Only calculators from the ASSA-approved list are permitted.*

**12.** *Upload a single version of your Word answer document only to the ASSA Exam Platform. Once uploaded, click **Finish Attempt.** You may still use **Return to attempt** to check that the correct version has been uploaded, provided you have time remaining. When you are satisfied with your upload, you must click **Submit all and Finish** to complete your submission. After selecting this option, no further changes can be made. Candidates remain fully responsible for ensuring that the correct file is uploaded, in the required format, size, and location, within the scheduled examination time. The submitted file will be treated as the final version and cannot be replaced or amended. **Please note that no typing or editing of answers is permitted during the final five minutes allocated for upload time.***

13. *ASSA will not retrieve, replace or amend answer scripts where incorrect, incomplete or unintended versions are uploaded, nor where candidates subsequently notify ASSA after the conclusion of the examination session that an incorrect file was submitted.*

14. ***You must submit your Word answer document onto the ASSA Exam Platform BEFORE the time on your examination countdown timer runs out.***

**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. The onus remains on you to read and implement all examination instructions.**

***END OF INSTRUCTIONS***

 

**QUESTION 1**

i. Explain what is meant by data governance and outline what guidelines may be contained in a data governance policy.

[4]

ii. List examples of sensitive data that a high school might have on their systems.

[3]
[Total 7]

**QUESTION 2**

A consultancy is giving advice on the actuarial calculations of provisions to be included in the audited financial statements of a life insurer.

List key stakeholders involved, and state how each may be affected by the consultancy's actuarial advice.

[Total 8]

**QUESTION 3**

A development bank makes loans to small businesses. The terms of the loans vary between two and five years and are repaid by regular payments. This is the bank's only form of business.

The head of the bank's credit management team has suggested that, when deciding whether to grant a loan, the bank should analyse, manage and model the expected performance of its loan portfolio based on the industry of the borrowing companies.

i. Explain why it makes sense for the bank to analyse its portfolio of loans according to industry.

[4]

To evaluate the bank's financial strength, the finance manager is required to project future cashflows under a variety of economic scenarios.

ii. Outline the main inputs and assumptions required for such a deterministic projection model.

[4]

The finance manager is satisfied with the workings of the deterministic cashflow model, but she is curious about whether the model can be adjusted to generate economic scenarios stochastically.

iii. Describe the high-level steps involved in adjusting the deterministic model to produce a stochastic model.

[2]
[Total 10]

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## QUESTION 4

A small local municipality in a rural area has identified a large, arid area of private farmland nearby which would be suitable for erecting a wind farm to supply power to the town. A large offshore consortium will fund the project with a loan, provided that national government approves the project and that it will be completed within two years. Once completed, electricity will be sold to the municipal residents, and this revenue will be used to repay the loan.

i. Outline the main steps needed to identify and clarify the risks inherent in this project.

[4]

ii. Outline ten (10) key risks for this project, and for each risk outline one possible mitigation option.

[10]
[Total 14]

## QUESTION 5

As more people are having children and/or dependants late in their career, a life company is developing a term assurance product that will be targeted at providing a death benefit post-retirement.

i. Describe the main factors the life company should consider when developing this new product.

[8]

The product development is finalised, and the actuaries derived a set of expected mortality rates to be used in the office premium calculation.

ii. List the other factors to consider when determining the final office premium rates for the product.

[4]
[Total 12]

## QUESTION 6

A general insurer is considering a new injury insurance product targeted at persons competing in sporting events, e.g. marathons, cycling races, etc. The insurance policy will provide a lump sum benefit refunding the cost of an entry to such a sporting event should the participant be unable to take part due to an illness or injury. Additionally, should the event be cancelled by the organisers, the insurance policy will also refund the entry fee paid by the insured for the event.

i. Discuss whether this insurance product meets the requirements of insurability.

[9]

ii. Describe the moral hazard risk the insurer is exposed to and outline the product design features available to the insurer to manage these risks.

[6]
[Total 15]

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## QUESTION 7

Autosure is an established general insurance company that insures vehicle risks in a certain country, including many motor third-party liability policies covering liability due to death and bodily injury.

i. Describe Autosure's claims liabilities.

[5]

ii. List reasons why Autosure would perform an analysis of surplus each year.

[5]

Autosure's net profit after tax for the current year has decreased from the prior year, despite gross written premiums being higher.

iii. Outline features of the most recent year's experience that may be contributing to the result deteriorating.

[6]

[Total 16]

## QUESTION 8

i. Compare unit trusts and direct investment as options to gain exposure to listed equities.

[4]

MaLife is a small life company in a large, developed nation. They have a significant immediate annuity portfolio. The assets matching the annuity portfolio are only made up of domestic government bonds.

ii. Describe the advantages and disadvantages to MaLife of investing only in domestic government bonds relative to other possible strategies.

[8]

You are tasked with investigating the option of including equities in the portfolio to enhance the return of assets backing the annuity book.

iii. Outline the key issues you would consider in your investigation.

[6]

[Total 18]

[GRAND TOTAL 100]

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**END OF EXAMINATION**

 