ACTUARIAL SOCIETY
OF SOUTH AFRICA

EXAMINATION

17 October 2025 (am)

Subject F201 — Health and Care
Fellowship Applications

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. *The question paper is only available on 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.*

2. *Download the Word answer document template from the ASSA Exam Platform. Save this Word answer document on your desktop using your* ***full Candidate Number****, which starts with "F201-exa-2025-…", as filename.* ***Do not name your answer script with your name or member number.***

3. *Ensure that your* ***full 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.***

4. *You are required to submit your answers in Word format ONLY using the answer document template from the ASSA Exam Platform. No answers in any other format (e.g. handwritten) will be accepted. Save work regularly.*

5. *You may not access any file from your computer, open or 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.*

6. *You must save your answer template to your local machine's desktop and have 'Autosave' switched off (top-left button in Word). You must not save your answer template to OneDrive or any other cloud storage device.*

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 15 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 document).*

11. *Show calculations where appropriate. You may not use other materials except blank paper for calculations. You may use a calculator from the ASSA-approved list only.*

12. *Your examination countdown timer reflects your TOTAL examination time. Reading and writing time is 3 hours and 15 minutes. Audio prompts will remind you of the remaining writing time and when you should stop writing to start saving and uploading.* ***You may NOT continue to write during the 5 minutes upload time as this could lead to disqualification from the examination.***

13. *Upload one version of your Word answer document only onto 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 check that you have uploaded the correct version of your answer script (****Review Attempt****) if you have time. Remember that you may not type answers in the last 5 minutes of upload time.*

14. *Once you are satisfied with your uploaded document, click* ***Finish Attempt*** *and* ***Finish all and Submit****. Candidates are responsible for the content they upload as their examination attempt, which must be presented in the format, size and location as communicated by ASSA. Once your answer file is submitted, it cannot be changed or retracted and must be done within the scheduled examination time.*

15. ***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

You are a Healthcare Actuary employed at a South African consulting firm. This firm provides actuarial pricing services to each of the South African clients listed in ***Table 1*** below, where each client offers a distinct healthcare-related product or contract.

Table 1 – List of Products for specified clients

Set	Client	Product (or Contract)
1	A Large Open Medical Scheme	A New Low-Cost Benefit Option
2	An Established Health Insurer	Gap Cover
3	Managed Care Organisation	Capitation with a Profit Share Arrangement
4	Reinsurer	Quota Share Treaty with respect to Accident Cover
5	Hospital Group	Global Fee Arrangement

As part of the firm's internal training course for the newly appointed Actuarial Analysts, you have been asked to highlight how the actuarial pricing approach differs across these client-product combinations.

Describe the **material differences** in the **actuarial pricing approach** between Client-Product combination:

i. **Set 1** and **Set 2** as it pertains to their respective **benefit designs**. [8]

ii. **Set 3** and **Set 5** as it pertains to their respective **profitability considerations**. [8]

iii. **Set 2** and **Set 4** as it pertains to their respective **regulatory requirements**. [8]

iv. **Set 1** and **Set 5** as it pertains to their respective **provider networks**. [7]

v. **Set 1** and **Set 4** as it pertains to their respective **underwriting practices**. [7]

vi. **Set 2** and **Set 3** as it pertains to their respective **competitive dynamics**. [6]

vii. **Set 4** and **Set 5** as it pertains to their respective **pricing structures**. [6]

[Total 50]

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QUESTION 2

You are a healthcare actuary employed by a reputable South African consulting firm as a Senior Actuarial Consultant with extensive experience in performing liability valuations of Post-Retirement Medical Aid (PRMA) subsidies for recognition under International Accounting Standard 19 (IAS 19).

You have been tasked with preparing the annual PRMA subsidy liability valuation for *Protea Business Solutions Pty Ltd (PBS)* as at 31 December 2025. In doing so, you have investigated the previous valuation assumptions to refine the basis for this new valuation.

The table below provides an extract of the key financial valuation assumptions used for PBS over the last three valuations:

Table 2 – Key Financial Valuation Assumptions for Protea Business Solutions Pty Ltd (PBS)

Assumption	31 December 2022	31 December 2023	31 December 2024
Discount Rate	12,00%	11,50%	12,70%
General Inflation	7,50%	6,50%	7,30%
Contribution Inflation	9,00%	8,00%	8,30%
Discounted Mean Term (DMT)	17 years	16 years	14 years

The previous three actuarial valuation reports note that this PRMA liability is unfunded. Under the subsidy policy of PBS:

- Employees can choose from among 10 benefit options offered by *Best-of-the-Best Medical Scheme (BOB)*.
- The monthly subsidy equals 100% of the monthly gross contribution for those benefit options.
- This subsidy applies only after retirement; no subsidy is paid during active employment.
- Employees eligible for this benefit must have been appointed before 31 December 2010, and the subsidy extends to their adult dependants.

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i. Explain the experience investigations you would perform to set the financial assumptions for the PRMA subsidy liability valuation as at 31 December 2025.

[10]

During these experience investigations, you discover that the contribution inflation assumed each year has been lower than the actual rate observed by *Best-of-the-Best Medical Scheme (BOB)*.

ii. Outline the reasons why the contribution inflation may have been understated annually, and explain how you would incorporate the insights from this root-cause analysis when setting the assumption for the upcoming valuation at 31 December 2025.

[10]

After completing the draft valuation for 31 December 2025, you present your findings in a draft report to the Board of Directors of PBS. A Director, who greatly values the organisation's paternalistic culture, asks for your view on the impact of the following possible scenarios on the valuation results, as well as the impact on the employees:

a) If medical schemes can no longer recover healthcare costs related to motor vehicle accidents.

b) If National Health Insurance (NHI) is implemented in 2026, and medical schemes play only a complementary role.

c) If the South African Reserve Bank's Monetary Policy Committee significantly increases the repo rate in 2026 to contain rising inflation.

d) If the Board of Directors decides to expand the subsidy eligibility to include child dependants.

e) If the Board of Directors decides to extend subsidy eligibility to graduates appointed after 31 December 2025.

iii. For each of the five scenarios above, explain the likely impact on the PRMA liability valuation results to address the Director's query.

[20]

iv. For each of the five scenarios above, discuss how the scenario might impact employees, and how the employer could support its employees financially (or otherwise) in each scenario.

[10]

[Total 50]

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END OF EXAMINATION

