ACTUARIAL SOCIETY OF SOUTH AFRICA

EXAMINATION

17 October 2025 (am)

Subject F207|B200 — Banking 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 "F207-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 the Head of Credit Risk for the mortgage portfolio at Brown Bank, a large retail and commercial bank operating across multiple jurisdictions. The following table shows the portfolio-level credit risk appetite thresholds for the mortgages portfolio:

Metric	Threshold	Measurement is calculated as:
Loan-to-Value (LTV) Ratio	80%	the mortgage amount divided by the appraised value of the property
Debt-to-Income (DTI) Ratio	35%	total monthly debt payments divided by gross monthly income
Probability of Default (PD)	2%	an estimate using historical data and credit scoring models
Loss Given Default (LGD)	40%	the potential loss in the event of default, after accounting for recovery rates
Exposure at Default (EAD)	$500 million	the total outstanding balance of the mortgage portfolio
Non-Performing Loans (NPL) Ratio	3%	the proportion of loans that are in default or close to being in default
Credit Loss Ratio (CLR)	1.5%	the total credit losses divided by the total loan amount

The CEO of the mortgages business has challenged the current risk appetite practice, highlighting that the measures considered are biased towards past performance on the portfolio, and has suggested that the risk appetite be enhanced to consider more forward-looking measures.

i. Comment on the CEO's suggestion, highlighting advantages and disadvantages of incorporating forward-looking measures into risk appetite for the mortgage portfolio.

[8]

Brown Bank's risk office has developed a climate risk management framework, which requires that metrics measuring exposure to climate risk on lending portfolios are considered in risk appetite.

ii. Suggest risk appetite metrics that can be used to measure and monitor exposure to climate risk on lending portfolios and explain how each of these metrics can be calculated.

[10]

iii. Suggest strategic initiatives that could be employed to reduce climate risk exposure, as reflected in these metrics, over time.

[5]

[Total 23]

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QUESTION 2

i. Outline the elements (as defined under the Basel accords) that may contribute to the total capital requirement for a global systemically important bank (G-SIB).

[3]

ii. Explain the objectives, from the regulator's point of view, for the inclusion of hybrid instruments as eligible instruments in the capital structure, and outline how the features of hybrid instruments support or detract from these objectives.

[10]

You are an Actuary working within Balance Sheet Management at Too Big To Fail Bank (TBTF Bank). The bank has recently updated its capital adequacy assessments. Recent periods have been disappointing from a profitability perspective, and financial forecasts point to losses in the near term. This expectation, as well as changes in the minimum capital requirements within the jurisdiction, indicates that the bank is likely to dip below its regulatory capital requirements within the next financial year.

iii. Discuss considerations and options to improve the capital adequacy of the bank over the short and medium term.

[16]

[Total 29]

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QUESTION 3

Quartz Bank is a full-service retail bank and is currently reviewing its current account pricing structures. This includes a review of monthly account fees charged as well as fees charged per transaction.

i. Outline factors that banks should consider in setting current account pricing.

[4]

The following tables contain the details of Quartz Bank's current pricing structure for a selection of current account transactions:

Transaction Type	**Fee (in $)**
Withdrawal (native ATM)	1.90 per 100 withdrawn
Withdrawal (other ATM)	9 + 1.90 per 100 withdrawn
Withdrawal (branch)	60 + 1.90 per 100 withdrawn
Deposit (ATM)	0.95 per 100 deposited
Deposit (branch)	60 + 2.10 per 100 deposited
Payments (card)	Free
Payments (internal)	3.75 per payment
Payments (external)	4.25 per payment
Debit order	3.75 per debit order

The CEO of the bank has stated that the current pricing structures are too complex, and has suggested that a fixed monthly account fee, varying by account type, is charged instead and that all transactions are free of charge.

ii. Outline the advantages and disadvantages of the CEO's suggestion.

[5]

Selenite Bank, a competitor of Quartz Bank, has recently published its revised current account pricing. Under this structure, no monthly account fees are payable, and transactions are priced as per the following table:

Transaction Type	**Fee (in $)**
Withdrawal (any ATM)	10 per 1000 withdrawn
Deposit (ATM)	1 per 100 deposited
Payments (card)	Free
Payments (internal)	1 per payment
Payments (external)	2 per payment
Debit order	3 per debit order

iii. Discuss Selenite Bank's pricing structure and the possible competitive implications for Quartz Bank.

[11]

[Total 20]

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QUESTION 4

A large retail bank, AlphaBank, is considering securitising $5 billion of its portfolio of unsecured loans. The proposed structure involves creating a special purpose vehicle (SPV) that will issue four asset-backed securities (notes) with different levels of seniority (senior, mezzanine, subordinated and equity respectively).

The senior note is expected to receive an AAA credit rating, the mezzanine note an A rating and the subordinated note a BB rating whilst the equity note will remain unrated. AlphaBank will be contracted by the SPV as servicer to administer the underlying assets on behalf of the SPV.

The bank has engaged a credit rating agency to provide an opinion on the transaction. You are part of the risk team tasked with evaluating the proposal.

i. Discuss the potential advantages and disadvantages to AlphaBank of securitising unsecured loans, considering both strategic and financial perspectives.

[7]

ii. Outline and explain the key factors that a credit rating agency is likely to consider when assigning ratings to the different notes of this securitisation.

[7]

In securitisation, loss attachment and detachment points define the boundaries of loss exposure for a given note in a structured finance deal.

The "loss attachment point" is the minimum level of cumulative losses at which a note begins to absorb losses. For example, if the attachment point is 5%, the note will not suffer any losses until the underlying asset pool has lost more than 5% of its value.

The "loss detachment point" is the maximum level of cumulative losses that a note can absorb before the next seniority will be affected. If the detachment point is 10%, the note will not carry any future value should cumulative losses reach or exceed 10%.

iii. Describe the potential modelling approaches you can use in your task of determining the loss attachment and detachment points for each note as well as key assumptions that would underpin the outcome.

[8]

iv. Evaluate how actual performance outcomes may differ from initial expectations by discussing the likely impact on note yields and the distribution of losses between notes if:

- The macroeconomic environment turns out to be more or less favourable for consumer finances than anticipated; and
- The default correlations between individual unsecured loans are higher or lower than initially assumed.

[6]
[Total 28]

[Grand Total 100]

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END OF EXAMINATION

