EXAMINATION

24 May 2022

Subject F202 — Life 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 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 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

Due to the economic impact of COVID-19 and the lock-downs instituted in South Africa over 2020 and 2021, insurers allowed additional flexibility in their premium payment terms and conditions. This was to prevent the automatic lapsing of a policy due to non-payment of premiums. This was achieved by considering premium holidays on request, subject to certain requirements.

i. State the factors that would need to be considered in allowing and designing a premium holiday feature into a risk product. [10]

ii. Discuss the advantages and disadvantages of the following four premium holiday options for the company's risk products. For each of these options a premium holiday of three months will be allowed during 2022 under certain circumstances:
   a. No premium payable and full cover remains in force.
   b. No premium payable but no cover will be in place.
   c. No premium payable but only 50% of any claim occurring during the premium holiday will be payable.
   d. No premium payable and full cover remains in force but a repayment of missed premiums will be required in order to reinstate the policy.

   [10]

[Total 20]

QUESTION 2

i. Explain the main purpose of each of the pillars in the Solvency Assessment and Management (SAM) framework. [5]

A South African life insurance company has been selling unit-linked investment business and without profits immediate annuities for a number of years.

ii. Describe how the components of the assets and liabilities within the SAM balance sheet are valued. [10]

iii. State with reasons the assumptions that would be required to calculate the best estimate liability for this company. [5]

iv. a. Explain why there is the potential for circularity in the SAM balance sheet calculation.
   b. State the simplification that is allowed should a company not want to follow an iterative approach.
   c. Discuss the advantages and disadvantages of implementing the iterative approach.

   [10]

[Total 30]

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QUESTION 3

When considering the value of a life insurance company, stakeholders may have various objectives for requiring a realistic valuation of the company.

i. a. List the stakeholders
   b. State the possible reasons for requiring a realistic valuation of the company. [5]

ii. Describe how the goodwill of a life insurance company is calculated. [5]

iii. Discuss the relationship between the market capitalisation and the published embedded value of a life insurance company. [10]

iv. Give reasons for the share price of the company being higher or lower than the published embedded value per share. [10]

[Total 30]

QUESTION 4

A listed South African life insurer writes only whole of life non-profit risk and unit-linked endowment business. The non-profit risk policy offers lump sum mortality benefits. The policyholders have a choice of a level or compulsory growth premium pattern.

Each year the company analyses the change in embedded value. It also projects the expected transfers between the policyholder funds and the shareholder fund.

The actual transfer from the policyholders' funds to the shareholders' fund in recent years has often differed considerably from that predicted at the start of the year.

i. Discuss the possible causes of these differences and the extent to which they can be mitigated by the company. [16]

Over the last year there has been a significant increase in the yields available on fixed interest securities and equities. Assume this economic environment is expected to continue for the foreseeable future**.**

ii. Explain the impact that this might have on the analysis of the change of embedded value over the year for the whole of life non-profit risk business and the shareholder assets only.

[4]

[Total 20]

[Grand Total 100]

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END OF PAPER

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