

EXAMINATION

18 October 2019

Subject F202 — Life Insurance Specialist Applications

Time allowed: Three hours

INSTRUCTIONS TO THE CANDIDATE

- 1. Follow log in and saving instructions issued to you at the exam venue.*
- 2. Save your work throughout the exam.*
- 3. You are required to submit your answers in Word format only using the template provided. You MAY NOT use any other computer program (e.g. Excel) during the examination.*
- 4. You have 15 minutes at the start of the exam in which to read the questions. You are strongly encouraged to use this time for reading only, but notes may be made. You then have three hours to complete the paper.*
- 5. You must not start typing your answers until instructed to do so by the invigilator/supervisor.*
- 6. Mark allocations are shown in brackets.*
- 7. Attempt all questions, beginning your answer to each question on a new page.*
- 8. You should show calculations where this is appropriate. If necessary, an answer book may be used for this purpose.*

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.

AT THE END OF THE EXAMINATION

**Check that you have saved your work as per instructions given to you.
Hand in your question paper with any additional sheets firmly attached.**

In addition to this paper you should have available the 2002 edition of the Formulae and Tables and your own electronic calculator from the approved list.

QUESTION 1

A South African resident has a savings policy that includes a guaranteed death benefit and a retirement annuity policy with an insurer. She is also a member of her company's pension fund to which she and the company contribute, which includes an approved Group Life scheme that provides death and disability income benefits.

- i. Compare the tax treatment of the premiums and benefits of the products from the point of view of the individual. [7]
- ii. Briefly describe the operation of the various tax funds and how the tax payable by life offices is determined. [11]
(*You do not need to specify tax rates.*)

With the introduction of the Taxation Laws Amendment Act of 2014, a South African insurer elected to retain its existing business in the IPF fund.

- iii. Compare the valuation bases (SAM, IFRS & EV) for this business and business sold after 1 January 2016. [6]

The insurer has a large amount of accumulated tax credits from previously written business. It is planning to launch a new endowment savings product.

- iv. Explain how the accumulated tax credits can be used for the benefit of the company and/or the policyholders of the new product, as well as the practical limitations. [8]

[Total 32]

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QUESTION 2

A South African life insurance company writes a range of risk products targeted predominantly at the upper socio-economic market. A possible expansion of the product range into the lower socio-economic market has been identified as part of its growth strategy. Recent market research has suggested that the current product range does not cater sufficiently for this segment of the South African population.

- i. List the main individual risk products available in the South African life insurance market and describe:
 - a. the risks these products expose the insurer to;
 - b. the specifics of these risks in relation to products sold in the lower socio-economic market. [15]

In order to assess the business case for a product range aimed at the lower socio-economic market, a proposal for a product range aimed at this segment of the market is required.

- ii. Describe the:
 - a. key product characteristics and; [7]
 - b. other relevant considerations [13]

that would be set out in such a proposal.

The company has decided to enter the new market and has an opportunity to partner with a third party that offers small loans and store credit in this market. It has been decided that the company will develop a credit life product to take advantage of this opportunity.

- iii. Describe the design and function of a credit life policy and set out how the National Credit Act will influence the product design. [15]

[Total 50]

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QUESTION 3

A South African life insurer is planning to launch a new smoothed bonus investment product. Bonuses will be declared monthly in advance with 80% of the bonus vesting. The monthly bonus is determined by an initial monthly bonus rate (IBR) that is adjusted by the funding level as follows:

$$\text{Actual bonus} = \max(0, \text{IBR} + (\text{Funding level} - 1.03)/m)$$

Where $m = 24$ if Funding level > 0.95 , else $m = 6$

There are 2 proposals for the calculation of the IBR

- a. IBR = expected monthly investment return less management and guarantee fees, where the expected investment return is determined from the 1-year point on the government bond yield curve, and the assumed asset composition of the portfolio.
 - b. IBR = monthly equivalent of the average last three year's published CPI inflation.
- i. Discuss whether these bonuses satisfy the principles of equity, and the advantages and disadvantages of each. [13]

The company plans to offer variants of the product to retail (individual) and institutional (group) clients.

- ii. Discuss the termination conditions for these two sets of clients. [5]
(*You do not need to specify tax rates.*)

[Total 18]

[Grand Total 100]

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END OF PAPER