

EXAMINATION

1 November 2013

Subject F202 — Life Insurance Specialist Applications

Time allowed: Three hours

INSTRUCTIONS TO THE CANDIDATE

- 1. Candidates will be issued with instructions to log-in using a password (which you will be provided with at the exam center).*
- 2. Candidates are required to submit their answers in Word format only using the template provided.*
- 3. Save your work continuously throughout the exam, on your computers' hard drive that you have been provided.*
- 4. You have 15 minutes at the start of the examination 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 on exam papers.*
- 7. Attempt all questions, beginning your answer to each question on a new page.*
- 8. Candidates should show calculations where this is appropriate.*

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

Save your answers on the hard drive.

<p><i>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.</i></p>
--

QUESTION 1

A listed South African life insurance company has two wholly owned subsidiaries, a general (short term) insurance company and a loan originating company. The life insurance company writes a combination of unit linked and traditional risk business. The general insurer only writes standard motor insurance. The loans company provides long term personal loans mainly to high net worth individuals.

- i. Describe the elements that make up the shareholder value of the life insurance company and briefly explain how this value will change from year to year. [5]

You are part of the senior management of the life company and have been asked to be involved in preparing the published results of the life company. You can assume that both the general insurance and loan companies are material to the overall results of the life company.

- ii. Describe how you would determine the value of the life company to be included in the published financial statements, mentioning any specific actuarial guidance you would consider. [No detailed explanation is required of how any models that might be needed would be constructed] [20]
- iii. Describe the four fundamental accounting concepts that a South African life company needs to adhere to in calculating the profits that have arisen during the past year and how the methods described in part ii. deal with each of these concepts. [12]

Subsequent to publishing the results, one of the directors approaches you regarding a potential merger of the Life Company with another player in the industry.

- iv. Explain how you would determine the price of the life company should they consider selling the company, highlighting how this would differ from the published value of the life company. [7]

Although the general insurance company and the loans company are separate legal entities, the majority of the administration and day to day functioning of the two entities are performed by staff of the life company.

- v. Explain how you would allocate an appropriate expense allowance for the two subsidiaries to allow each entity to publish realistic results. [6]

[Total 50]

PLEASE REMEMBER TO SAVE

QUESTION 2

An established life insurance company sells only conventional risk products. The company eliminates all the negative liabilities and holds this as a discretionary margin. In anticipation of the Solvency Assessment and Management (SAM) regulatory changes the company has decided to test the impact of allowing for negative liabilities on its actuarial balance sheet.

- (i) Discuss the impact on the company's solvency position, embedded value and CAR cover if it allows for negative liabilities. [8]
- (ii) Describe the further changes that the company will have to make to the valuation methods and assumptions in order to calculate the technical provisions under SAM regulations. [7]

[Total 15]

QUESTION 3

You work for a South African niche life insurance company which only sells a range of disability products. The company sells both group and individual policies and also offers both disability lump sum (DLS) and disability income (DI) products. The company is part of a group which includes other insurance holdings in Africa.

Interest rates and bond yields in South Africa have been impacted by the continued economic downturn during 2012 as well as the inclusion of a number of South African government bonds in the World Government Bond Index.

- (i) Describe the likely impacts of these events on the profits arising on the DI business line in 2012. [10]

One of the insurance companies within the group sells life cover in a number of African countries. A potential partnership has been proposed whereby your company could utilise this infrastructure to sell disability products in these countries.

- (ii) Discuss the factors that would need to be considered in assessing this proposal. [10]

The company has the opportunity to place a large group scheme on its books. The company is concerned that the experience of this scheme could dominate the profitability of the company as a whole. The company has requested that stop loss cover for this scheme be investigated.

PLEASE REMEMBER TO SAVE

(iii) Set out what stop loss cover is and describe how it could be used in this scenario as a risk management tool. Describe how you would go about determining an estimate for the likely cost of such cover.

[15]

[Total 35]

[Grand Total 100]

END OF PAPER