# EXAMINATION

26 May 2014 (am)

## 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 computer's hard drive with which 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.***

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| 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 medium sized proprietary life insurance company in a developing country sells a wide range of with-profit business and non-profit business. The regulatory requirements and guidance on the calculation of liabilities, solvency and the capital adequacy requirements follow the South African requirements.

The with-profit policyholders and shareholders share in all profits (including profits from non-profit business) of the company in a 90: 10 ratio (policyholders: shareholders). There has not been an appropriate analysis and allocation of profits for a number of years and the company has built up a large fund of unallocated profits (an orphan estate) which is included in their free assets. The shareholders' funds cover a portion of the required risk capital and the rest is backed by the orphan estate.

The company is considering the allocation and distribution of the orphan estate. The shareholders claim that the current generation of policyholders are not the rightful owners of 90% of the orphan estate and that the shareholders should have more than 10%.

(i) Define the orphan estate and discuss the factors that should be considered when deciding on a fair split of the orphan estate between the different stakeholders [14]

The company has agreed to allocate a specified portion of the orphan estate to the with-profit policyholders' funds by increasing their bonus stabilisation reserve (BSR) and reducing the remaining free assets.

(ii) Discuss the factors that should be taken in account in deciding on a method for allocating the additional funds and in developing a distribution policy. [12]

(iii) List the different methods that can be used to distribute the profits to the policyholders and describe their impact on the key factors discussed in Part (ii). [14]

As part of a new strategy, the shareholders have decided to 'buy out' the non-profit business from the with-profit policyholders.

(iv) How would the non-profit business be valued for the purpose of the buy out, and what are the implications of this strategy? [5]

A further suggestion was made whereby the shareholders would take responsibility for the total regulatory capital requirements going forward.

(v) Discuss the implications of this suggestion. [5]

Total [50]

## QUESTION 2

A well-established South African insurance company currently invests its assets in excess of those required to back its liabilities (which it calls its "capital") in a balanced portfolio of assets. The company has a capital adequacy requirement CAR cover ratio of 2. The company has a new CEO, who proposes a more aggressive approach to investment for the company's capital. He suggests that 100% should be invested in equities. He also suggests that the company should hold as little capital as possible to avoid a situation where the company has "idle" capital.

(i) Discuss the possible reasons for the CEO proposing the switch to equities and the risks of this approach for policyholders and shareholders. [8]

The chief financial officer proposes a more conservative approach of de-risking the capital backing the statutory capital requirements. He proposes a 100% cash investment strategy and supports the CEO's view that the company should employ as little capital as possible. He further proposes that the cash should be invested with banks with an S&P credit rating of AA or higher.

(ii) Describe and estimate the expected impact of this proposal on the statutory solvency. [7]

Total [15]

**PLEASE REMEMBR TO SAVE**

 

## QUESTION 3

An established life insurer in South Africa writes a substantial volume of risk products, among other lines of business.

For many years any application for cover by HIV-positive individuals has been declined. There have been smaller niche companies offering this cover but not the larger established insurers in the market.

A few press releases have started emerging indicating that some of the more established insurers will start offering cover to HIV-positive individuals on their standard lump sum risk products. It has been reported that this is in response to emerging research suggesting that HIV is not too dissimilar to other chronic diseases (in terms of disease management and mortality risk) for which cover is available.

Your company is deciding how to respond to this development in the market.

(i) Describe the features of risk products in South Africa. [10]

(ii) Describe the considerations that need to be taken into account in assessing whether to offer the standard lump sum risk products to HIV-positive individuals. [11]

(iii) Describe how the company would determine a pricing basis for life cover for HIV-positive lives (mortality risk only, not office premiums) as well as how it could attempt to mitigate the risks posed by offering this cover. [14]

Total [35]

**Total [100]**

**PLEASE REMEMBER TO SAVE**

**END OF EXAMINATION**

 