

EXAMINATION

19 May 2016

Subject F203 — General 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. You MAY NOT use any other computer program (e.g. Excel) during the examination.*
- 3. Save your work continuously throughout the exam, on your computer's 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.

Hand in your question paper with any additional sheets firmly attached.

<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>
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QUESTION 1

You are an actuary working for a large specialised general insurance company writing Liability, Accident and Health and Credit Guarantee business in South Africa.

The insurer writes direct business as well as accepting inwards reinsurance from other insurers in the market. The company writes both domestic and international business.

- i) Describe the claim characteristics of each of the lines of business the insurer writes. [6]
- ii) List the main components of an Asset Liability Matching (ALM) policy. [4]
- iii) Describe a possible asset liability matching strategy for the insurance company. [10]

Ratings agencies have recently downgraded South Africa's credit status to one notch above "junk" and remained with a still negative outlook. This was due to a slowing economy and rising public sector debt.

Your board is concerned about the implications of sovereign "junk" status on the company's balance sheet. They have asked you to present your findings on the possible implications thereof.

- iv) Describe the impact of a sovereign downgrade on:
 - a. The matching of your liabilities.
 - b. The likely impact on your new business volumes. [8]

You have decided to quantify the impact of South Africa's sovereign rating downgrade to "junk status" on the company's Solvency Capital Requirement (SCR) by making use of stress and scenario testing as well as sensitivity testing.

- v) Describe five different stress and scenario and/or sensitivity tests you would use to show the possible impact of the sovereign downgrade to "junk status", and consider the impact on the different modules within the standard formula. [15]

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The board has set the following risk appetite showing the different risk tolerance levels with regards to the capital requirements.

Capital Requirements	Red Level	Amber Level	Green Level
Capital Coverage Ratio (Regulatory Own Funds / Required Regulatory Solvency Capital Requirement)	< 125%	From 125% to 150%	> 150%

Following your analysis (from part v), after applying the scenarios or sensitivities the Capital Coverage Ratio drops to the range of 110% to 75%.

- vi) Define the terms risk appetite and risk tolerance. [3]
- vii) Outline advantages and disadvantages of stating the risk appetite in the abovementioned form. [5]
- viii) Taking account of the effects of a possible sovereign downgrade, describe three different solvency relief remedies the board could use to increase the SCR coverage ratio of the company, describing the advantages and disadvantages of each remedy. [9]

[Total 60]

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QUESTION 2

You are the Chief Actuary of a medium sized insurance company that specialises in distributing products via a combination of an intermediated network and UMAs. The company's licence does not permit you to write cell captive business.

Your Marketing Director has approached you to evaluate the viability of starting a new UMA. The members of the South African Wedding Photographers' Association (SAWPA) approached him to provide a product that has the following benefits:

- Provides cover for their equipment in the event of theft or **accidental damage**.
- Provides income protection in the event of a wedding where a deposit has been paid being cancelled less than 1 month from the wedding ceremony. The income protection will be the difference between the level of protection selected and the deposit paid by the client.
- Provides a lump sum indemnification to their clients of R100,000 in the event of failure of a camera to properly record vital aspects of the wedding ceremony.

The SAWPA have given your Marketing Director the following additional information:

- The wedding photography industry has become **competitive and lucrative**. Remuneration for events can range from R10,000 to R100,000 or more. Cancellation of an event can therefore be punitive to a photographer if it happens too close to the date of the event as the time frame will be too short to find another event to photograph.
- Clients have become increasingly litigious and often threaten to sue photographers in the event of vital aspects of a ceremony not being properly recorded. SAWPA wants to alleviate some of this risk by providing a benefit to clients if there is a **mechanical failure of camera or memory equipment** rather than a failure on behalf of a photographer

- i) Describe what a UMA is and how it functions. [5]
- ii) Describe how the capital to start a UMA is provided and how the owners of a UMA are generally remunerated. [5]

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- iii) Describe the information you would request and collect to determine whether you would consider underwriting the UMA, with specific reference to:
- a. The viability of the business plan
 - b. The ability to price, set the reserves and design the proposed products

[16]

- iv) Discuss whether you expect this UMA to have a significant effect on your level of solvency capital required.

[3]

The strategic outcomes required by the board of your company are growth of net premiums, growth of net profit after tax and a return on equity sufficiently higher than the weighted cost of capital.

- v) Describe how to launch this UMA with a very low risk to the balance sheet and how the objectives of SAWPA can be aligned to the outcomes desired by the board of your company.

[8]

- vi) List other operational considerations that SAWPA needs to take into account if they want to trade as a UMA on behalf of their members.

[3]

[Total 40]

TOTAL 100

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END OF EXAMINATION