

Actuarial Society of South Africa

EXAMINATION

1 November 2013 (am)

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.*
- 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>
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Question 1

You are an actuary employed by a South African short-term insurer writing all classes of business. The insurer has started its preparations for the proposed Solvency Assessment and Management (SAM) framework.

- a) Outline the basic structure of the SAM framework. [5]
- b) Identify potential sources of relevant data as well as the data items that you would need to assess the following risks under SAM:
 - i) Credit risk [7]
 - ii) Natural catastrophe risk [6]

The managing director has informed you that the insurer has been approached by an independent company from abroad which collects, standardises and reports operational risk loss data for the insurance industry. He has given you a brochure that he received at the meeting with the company's representatives. From the brochure you have learned that this company created an international consortium of insurers whose members submit information which is then captured according to certain standards. The database captures the causes and amounts of operational risk events. The managing director is of the opinion that joining this consortium will be beneficial to the insurer in its preparation for SAM.

- c) Discuss the factors that would be taken into consideration to determine whether it would be suitable for your organisation to join this consortium. [8]

The managing director has informed you that senior management is considering introducing a cash-back benefit on one of the insurer's personal lines' motor policies. However, they need further information on the reserving and solvency implications of this benefit.

- d)
 - i) Explain how the reserves for a cash-back benefit will likely be calculated in a SAM environment.
 - ii) Consider what the likely impact of introducing such a benefit will be on the insurer's solvency position.

[9]

[Total 35]

PLEASE REMEMBER TO SAVE

Question 2

You work for a large short-term insurer, “All-Risk”, in a developed market which writes predominantly personal lines cover. You are currently performing a due diligence on the potential acquisition of a small short-term insurer, “Emerge”, in an emerging market in a foreign country. This target insurer writes predominantly private motor business. Your role in the due diligence is to investigate the potential purchase price to be paid by All-Risk to acquire Emerge.

- a) List the factors that would be considered in determining the purchase price. [15]

The management of All-Risk have concluded their negotiations with the target, Emerge, and you have accepted a secondment to the newly acquired company. Your first task is to provide information back to head-office on the performance of Emerge to inform strategic decision making. This information will be included as part of the pack presented by the Chief Actuary to the Board of All-Risk on a quarterly basis. The pack includes sections on profitability, sales, portfolio management and capital management.

- b) Explain what would be included to provide management with information on these items. [10]

[Total 25]

PLEASE REMEMBER TO SAVE

Question 3

You are an independent consultant and your client, a short-term insurer, is planning on introducing a product which provides mortgage indemnity guarantee insurance to banks. You have been asked to assist in the product design and risk analysis of this new product.

- a) Define mortgage indemnity guarantee insurance and describe its key characteristics. [5]
- b) Set out the factors that would be considered in constructing a model to assess the profitability of this product. [13]
- c) Discuss the risks to the insurer should they write this product. [9]
- d) Explain the mitigating actions that can be put into place to manage the risks of writing this product. [9]
- e) Assess the possible benefits to both the insured banks (as potential buyers of this product) as well as to your client of launching this product. [3]
- f) Give an opinion on whether this product should be pursued. [1]

[Total 40]

TOTAL 100

END OF EXAMINATION