Actuarial Society of South Africa

EXAMINATION

27 May 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.

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

You are an actuary employed by a large insurance company, Gemini Insurance Co. Ltd., with a growing corporate division in the South African market. The company has underwritten a comprehensive motor fleet policy for a large South African transport and logistics company, Rover Freight and Haulage, over the last five years. Rover provides comprehensive logistics solutions to mines and engineering companies through its extensive fleet of light and heavy commercial vehicles. Currently, the total insured value of the fleet is R100 million. The policy is annually renewable with a single minimum and adjustable premium payable at the start of each policy year.

a) Define and briefly describe "fleet rating" (excluding fleet rating in relation to marine hull insurance). **[2]**

b) Discuss the information required to perform a formal rate review under a typical motor fleet policy. **[12]**

Rover is considering setting up a captive as an alternative to its current insurance arrangement.

c) Discuss the advantages and disadvantages to Rover of using a captive structure to self-insure the motor fleet risk. **[10]**

Rover has decided against a captive and has issued a public tender for the underwriting of its motor fleet for the next policy year. The chief financial officer of Gemini has informed you that Gemini intends to be competitive in order to retain Rover's business since it has a profitable underwriting history.

The fleet underwriter has stated that discounted rates (compared to the rates that Gemini normally offers) will be possible if Rover introduces an improved risk management system for its fleet.

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d) List measurable factors of driver ability, applicable to Rover’s list of appointed commercial vehicle drivers, that are expected to have a direct relation to the expected claims cost under the policy. **[5]**

e) Discuss the practical risk management practices that may be implemented in Rover’s day-to-day business in order to reduce the total expected losses under the policy. **[4]**

f) Discuss how Gemini could implement risk monitoring systems to assess the effectiveness of Rover’s risk management practices as suggested above. **[6]**

After the tender process had been completed, Rover renewed the policy with Gemini. Gemini’s chief financial officer emphasised that actuarial involvement in corporate underwriting will be instrumental to future growth of the company’s corporate division.

g) Describe the main aspects that should be covered in actuarial reporting on the performance of the underwriting department, and the actuarial performance of the portfolio overall. **[11]**

Total: [50]

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Question 2

A medium-sized South African personal lines short-term insurer has recently started a small commercial insurance division. As a next step in its plan of expanding its commercial book, the insurer is investigating the opportunity to enter into the employers' liability market.

The head commercial underwriter has been informed that two important pieces of South African legislation, namely the Occupational Diseases in Mines and Works Act (ODMWA) and the Compensation for Occupational Injuries and Diseases Act (COIDA) play a part in an employer's liability offering.

a) Describe the differences in the scope of benefits that employers are obliged to cover as set out in the ODMWA and COIDA. **[2]**

b) State the benefits payable under ODMWA and COIDA. **[4]**

In order to assist in the business decision to underwrite employer's liability cover to top-up the legislative requirements of employers, the financial director has requested a dynamic cash flow model to be built to test the effect of various scenarios on the underwriting profit for this product over a three-year time period.

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c) Discuss the parameters that should be included in the projection model and their impact on the underwriting results. **[10]**

d) Discuss the factors that would need to be considered in the calculation of the technical provisions at the end of the first financial year of underwriting this product. **[8]**

e) Briefly state how the capital adequacy requirement is calculated and then discuss what the impact will be on the insurer's capital adequacy requirement over the next few years (based on current "interim measures" capital requirements), should the employer's indemnity liability product be introduced. **[15]**

The financial director is considering alternative risk transfer (ART) as an alternative to traditional reinsurance for the employers' liability product.

f) List the reasons why the financial director would consider using ART for this new line of business. **[3]**

g) Discuss the likely structure of the following methods of ART under employers' liability cover, highlighting the specific benefit it might hold for the insurer:

i) Financial quota share
ii) Spread loss cover

[6]

h) Give an opinion on whether either of the options mentioned in (g) above would be suitable in this situation. **[2]**

[Total 50]

TOTAL 100

END OF EXAMINATION

