EXAMINATION

14 April 2008 (pm)

Subject SA3RSA — South African General Insurance Specialist Applications

Time allowed: Three hours

INSTRUCTIONS TO THE CANDIDATE

1. *Enter all the candidate and examination details as requested on the front of your answer booklet.*

2. *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.*

3. *You must not start writing your answers in the booklet until instructed to do so by the supervisor.*

4. *Mark allocations are shown in brackets.*

5. *Attempt both questions, beginning your answer to each question on a separate sheet.*

6. *Candidates should show calculations where this is appropriate.*

AT THE END OF THE EXAMINATION

Hand in BOTH your answer booklet, with any additional sheets firmly attached, and this question paper.

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 a product development actuary at an insurance company specialising in providing insurance solutions for small businesses. Your company provides a standardised insurance product to a franchise group. The franchise group sells software packages and other computer equipment and provides consulting advice to clients on their IT requirements. Your company's policy provides cover against damage to or loss of the property and the stock held by the policyholder, as well as professional indemnity insurance for advice given to clients.

Approximately half of all franchisees in the group have purchased the policy. Premiums are charged as a percentage of the turnover for each franchisee. There has been no rate change since 2004.

The experience on the product since inception is shown in the table below:

Period	**Number of franchisees**	**Earned premium**	**Incurred claims**
2004	50	R 5,000,000	R 3,100,000
2005	52	R 5,460,000	R 3,276,000
2006	55	R 6,063,750	R 3,698,888
2007	75	R 7,366,938	R 5,893,550

Reporting occurs on a financial year basis. Premiums and claims are reported net of reinsurance.

The loss ratios have always been very stable, but there was a significant deterioration in 2007.

(i) Consider possible reasons for the poor experience in 2007. [13]

Due to the deteriorating experience, you have been asked to develop a new pricing model for this product, avoiding cross subsidy between policyholders where possible.

(ii) Describe in detail the process that you would follow to determine revised premiums for this product, specifically including any data considerations. [13]

Your pricing exercise recommends significant changes to the current pricing structure. Management is considering deviating from your proposal, including charging lower premiums.

(iii) Consider all factors that Management should take into account when deciding whether to deviate, as proposed, from these recommendations. [7]

The franchisor has asked you to provide a compulsory product that covers the franchise group as a whole.

(iv) Recommend to management what to take into account when considering the merits of this proposal. [6]

In addition the Franchisor has informed management that they want to administer this product at head office. The insurance company will receive monthly bordereaux which aggregate the information of the individual franchisees.

(v) Explain the risks involved in accepting this proposal and possible ways of mitigating each of these risks. [11]

[Total 50]

Question 2

You are the consulting actuary to a medium sized South African general insurance company. For the 2007 financial year the company wrote premium income, as follows:

Motor	R 500 million
Commercial Property	R 200 million
Marine	R 50 million

The 2007 reinsurance structure for the company is as follows:

Motor:	Aggregate excess of loss
Reinsurance premium:	R20 million
Commercial Property:	Surplus with excess of loss arrangement covering the net retention.
Reinsurance premium:	R120 million
Marine:	50% Quota Share placed with unapproved reinsurer

Additional information:

Total Assets:	R1 billion
Total Liabilities:	R700 million
Prescribed Model Minimum Capital Requirement	R264 million
Dividend policy:	Capital in excess of a 50% solvency margin is declared as dividends

The Board of Directors has asked for a recommendation on how the company should proceed with regards to Financial Condition Reporting (FCR) regulation.

(i) Describe the different FCR capital calculation methods and assess the appropriateness of each for this company. [20]

The Board has decided to adopt the internal model method.

(ii) Discuss the practical challenges that this company could experience when building an international model and suggest ways in which to overcome them. [10]

The Board has expressed its concern about the company's ability to pass the FSB's "use test" when obtaining approval for the internal model.

(iii) Explain the use test, why it is important and how the FSB is likely to assess it. [4]

(iv) Discuss in detail how the capital model can be successfully integrated into the company's overall risk management strategy, to mitigate the Board's concern, covering all areas of the business including, but not limited to:

- Underwriting,
- Investments,
- Information technology and
- Reinsurance.

[16]
[Total 50]

END OF PAPER