

EXAMINATIONS

7 April 2003 (am)

Subject 403 — UK Fellowship General Insurance

Paper One

You must answer this subject only, you may not attempt another subject in the 400 series.

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 all 7 questions, beginning your answer to each question on a separate sheet.*

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 Actuarial Tables and your own electronic calculator.

- 1** Explain with examples why insurers write exclusion clauses in their policy wordings. [7]
- 2** You are an actuary who has been asked to prepare a report and statutory opinions on the adequacy of technical reserves for a general insurance company that is a Lloyd's corporate name on a syndicate that writes business in Europe and North America.
- (i) Outline the relevant professional guidance that you would need to consider. [8]
- (ii) Explain why professional guidance is both needed and helpful for actuaries working in general insurance. [3]
- [Total 11]
- 3** You are an actuary working for a general insurance company that writes a number of lines of business including Employers Liability and Public Liability. At the beginning of 2002 there was a change in the basis of recording the notifications of incidents considered highly unlikely to materialise into a liability claim payment. Previously these incidents were recorded on the main claims system with a standard initial reserve estimate. The new system does not record these initial notifications as claims; they are only recorded on the main claims system when further information is provided.
- (i) Discuss the problems that might arise from this change in respect of management information relating to claims. [3]
- (ii) Discuss the problems that might arise from this change in respect of reserving, for Statutory Accounts, using a range of statistical methods. [7]
- [Total 10]
- 4** You are an actuary working for a large general insurance company (Company A) and you have been asked to price a motor fleet policy for a large multinational company (Company X) with offices worldwide.
- Company X will always pay the first £5,000 of each claim. Company A will pay all claims above £250,000. Claims between £5,000 and £250,000, up to an aggregate limit, will be paid by Company X but handled by Company A. Company A will pay all further claims occurring in the policy period once the aggregate limit is breached.
- This insurance policy will be annually renewable. Company A is not the current insurer, but has written similar risks in the past.
- (i) Outline the considerations you would take into account when agreeing the aggregate limit. [7]
- (ii) Outline the data you would want in order to calculate the gross of reinsurance risk premium. [10]
- [Total 17]

- 5** (i) Define the terms reinstatement and reinstatement premium, and state how they normally operate. [3]

An excess of loss reinsurance treaty has the following terms and loss history in the year it was written.

- cover of \$5m xs \$5m
- up front premium of \$500,000
- 1 free reinstatement, followed by 1 reinstatement at 150% additional premium

In chronological order the only losses (from ground up) to potentially impact this treaty are:

1. \$6.5m
2. \$20m
3. \$9.5m
4. \$50m

- (ii) (a) Calculate how much of each loss is recoverable.
- (b) Calculate the reinstatement premiums generated by each loss.
- (c) Calculate the rate on line of this contract.

[7]

- (iii) You are the actuary for a UK general insurance company. It has been suggested that in order to save money on reinsurance the company should increase its retention levels.

Describe the factors you would take into account when formulating your response.

[11]

[Total 21]

- 6** You are the actuary for a small general insurance company that writes only one class of business. You have been asked to undertake a “high level” interim review of the risk premium for this business. The business has been underwritten for just four years. For this review you have been provided with only the following information.

Paid claims information by year of inception of cover and development by payment year.

The number of policies written in each year.

The number of claims settled by year of inception and development year.

- (i) Outline how you would review the risk premium being charged, stating any assumptions needed. [6]
 - (ii) You are aware that the claims information for the most recent calendar year appears to be inconsistent with respect to prior years.

Describe why this may have occurred. [5]
 - (iii) Explain what the effects may be of not allowing for the inconsistency in part (ii). [5]
- [Total 16]

- 7** You are the actuary responsible for advising on pricing decisions for a large general insurance company that provides a wide range of insurance products, including home insurance for house-boats.

- (i) List the rating factors that you would expect to be used in pricing home insurance for house-boats. [7]
 - (ii) Describe, with reasons why, steps you would take in reviewing the appropriateness of the current rating factors used in pricing this line of business. You are not required to describe the actuarial techniques in respect of pricing. [11]
- [Total 18]