

EXAMINATION

11 September 2006 (am)

Subject SA3 — 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.

- 1** You are the newly appointed actuary for a small UK general insurance company that writes liability insurance through regional UK brokers and Lloyd's. The company is newly established having started writing risks on 1 July 2005. The professional indemnity class of business currently accounts for most of the business written by the company.

One of your first tasks as the company's actuary is to estimate outstanding claims and IBNR requirements as at 31 December 2005 for the purposes of the company's year-end accounts. The company accounts for its business on a one-year accounting basis. In addition to the company's own detailed policy and claims information, you have decided to obtain benchmark claims development and loss ratio information from publicly available sources. You have collected paid, incurred and ultimate loss ratios by year of account from the UK statutory returns submitted by 10 different insurance companies. You have selected each of the 10 companies because they present a professional indemnity classification within their returns.

Having collected these data, you realise that it may not be appropriate to include data relating to all of the 10 companies within your benchmarks. Your company's professional indemnity underwriter has agreed to assist you in identifying those companies whose data should be used for benchmarking purposes.

- (i) Suggest two main reasons why UK statutory returns are more useful than Companies Act accounts for deriving reserving benchmarks for your company. [2]
- (ii) Explain the distinguishing aspects of each professional indemnity account that you would wish to investigate when selecting the most appropriate loss ratio benchmarks for reserving purposes. [18]

Following your discussions with the professional indemnity underwriter, you have made your informed selection from the 10 benchmark accounts and you have combined the information, weighted by volumes of business, to produce the following summary table.

<i>Accident Year</i>	<i>2002 Returns</i>			<i>2003 Returns</i>			<i>2004 Returns</i>		
	<i>PLR</i>	<i>ILR</i>	<i>ULR</i>	<i>PLR</i>	<i>ILR</i>	<i>ULR</i>	<i>PLR</i>	<i>ILR</i>	<i>ULR</i>
2001	21%	88%	125%	43%	105%	123%	85%	118%	122%
2002	5%	36%	91%	21%	64%	85%	38%	76%	86%
2003				7%	29%	70%	23%	46%	65%
2004							2%	23%	60%

Notes to table:

1. PLR = paid loss ratio = paid claims at valuation date divided by earned premium at valuation date
2. ILR = incurred loss ratio = incurred claims at valuation date divided by earned premium at valuation date
3. ULR = ultimate loss ratio at valuation date

The underwriter has additionally provided you with his estimates of market premium rate changes over the past 3 years and these are shown in the table below.

<i>Underwriting Years</i>	<i>Premium Rate Change</i>
2001–2002	+ 50%
2002–2003	+ 25%
2003–2004	+ 10%
2004–2005	– 5%

- (iii) Describe how you might use the information provided in the tables above to estimate a benchmark ultimate loss ratio for the 2005 accident year, stating additional information that you might require from the underwriter. [14]
- (iv) (a) Estimate average paid and incurred claims cumulative development percentages for an accident year at the end of the first, second, third and fourth development years.
- (b) Comment briefly on the reliability of your results. [10]
- (v) Suggest, with reasons, the extent to which you would expect to use your company's own claims data versus benchmark information for reserve reviews as at 31 December 2005 and 31 December 2006. [14]
[Total 58]

2 You are an actuary working for a large UK general insurance company.

A motor manufacturer has approached your company to underwrite a new scheme that provides gap insurance cover to purchasers of new vehicles sold by its network of dealers. Under the terms of this policy, the insurance company will pay out the difference between the original purchase price and the amount paid out by the insured's own private car insurance policy in all events of the vehicle being written off. The insurance cover is for the first three years of vehicle ownership, provided the vehicle remains under the ownership of the original vehicle purchaser. The manufacturer has expressed a preference that all purchasers of vehicles in the UK pay the same flat monthly premium for the cover. The premium will be payable for a period of 12 months from vehicle purchase.

- (i) Discuss the advantages and disadvantages to the new vehicle purchaser of this policy. [6]
- (ii) Describe risks that are likely to exist in this scheme for the insurer, suggesting ways in which these risks can be mitigated. [16]
- (iii) Discuss the data you will require to calculate the risk premium, including possible sources for this information. [14]
- (iv) State the other data or information you would consider in deciding whether or not to underwrite the scheme. [6]
[Total 42]

END OF PAPER