

# EXAMINATION

22 September 2008 (pm)

## 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 from the approved list.*

- 1 You are an actuary working for a large, diversified insurance group based in the UK. You have been recently transferred to the Megarisks Division (MAD). MAD writes high layer product liability insurance. It accepts business via the slip system in the London Market. It tends to take large lines on the policies it writes, and does not participate on policies with excess points less than £100 million. The policies cover a range of major multinational companies.

The director of MAD has asked for your assistance. Like you, the director has only recently transferred to MAD. He previously managed the UK household property division, and has no experience of product liability business. The director would like to understand more about product liability insurance.

- (i) Define product liability insurance. [1]
- (ii) Give an example of a claim that could be covered by an insurance policy written by MAD. [1]
- (iii) List the main factors MAD would be likely to consider when assessing the risk under each policy, stating why each factor is relevant to the risk. [9]

MAD started writing business in 2002. The written premium, paid and incurred losses for each underwriting year as at 31 December 2007 are summarised below. Amounts are in £ millions. MAD does not purchase reinsurance.

<i>Underwriting Year</i>	<i>Written Premium</i>	<i>Paid Claims</i>	<i>Incurred Claims</i>
2002	5.0	0.0	0.0
2003	10.0	0.0	30.0
2004	15.0	0.0	0.0
2005	20.0	0.0	0.0
2006	20.0	0.0	0.0
2007	15.0	0.0	0.0

There is only one claim for which a reserve for indemnity is held. This claim is on the 2003 underwriting year and was reported during 2005.

- (iv) Describe the claim characteristics of the product liability business written by MAD. [4]
- (v) Describe how you would produce a best estimate of unpaid claims for this business, in respect of all underwriting years as at 31 December 2007. Both discounted and undiscounted estimates are required. Note that you are not required to produce an estimate, but rather to describe how you would go about producing one. [19]

The director of MAD has told you that he does not want the reserves to deteriorate. He would like to understand how confident you are that the actual unpaid claims will be no more than your undiscounted best estimate.

- (vi) Outline points you would make in a meeting with the director regarding:
  - (a) The requirements in GN12 for an actuary to comment on uncertainty in a formal report.
  - (b) The likelihood of future claims payments for this portfolio differing significantly from the estimated undiscounted reserve.

[7]

The director is keen to monitor changes in the adequacy of premium rates in the portfolio.

- (vii) Describe ways in which you could monitor changes in the adequacy of premium rates from 2007 to 2008, commenting on the practicality and likely effectiveness of each.

[16]

The director has recently read an article about insurance-linked securities (ILS). He is considering creating a bond which could be sold to the capital markets, which would provide funds to MAD in the event of a deterioration in the reserves.

- (viii) Comment on whether the director's plan is likely to be viable for MAD, including a recommendation to the director on whether to proceed.

[5]

[Total 62]

- 2 Quote-u-online is a new UK general insurance company that has recently been set up with the aim of selling personal lines insurance direct to the UK public exclusively through the internet. The company will advertise in newspapers, on television and the internet and will also be included on all the major price comparison websites. All quotes given and claims notified will be through online screens only. Telephone support is only offered to sales and claims enquiries.

The company's underwriters devised the premium rating structure and rating levels. At the time of the launch, the Chief Executive (CEO) has asked you, as a consulting actuary, to explain the areas of uncertainty that may exist within the premium rates. He has not shown you the proposed premium rates but asked for your report to focus on the issues rather than the proposed rates.

- (i) Discuss the matters that you will need to cover in your report, with reference to the main products that are likely to be sold. [18]

It is now two years since the launch and the company has been successful in acquiring business, especially in the private motor account.

The CEO has requested that you provide an independent assessment and report of how profitable the current private motor account is. You will be given access to whatever company data you require. However, the CEO confides in you that he believes that the information from the company's case estimators is of little use.

- (ii) Explain what GN12 requires you to include in your report in respect of information and data you use. [5]
- (iii) Describe how you would produce such an assessment assuming that the case estimate information is of poor quality. [15]
- [Total 38]

**END OF PAPER**