

EXAMINATIONS

17 April 2000 (am)

Subject 303 — General Insurance

Time allowed: Three hours

INSTRUCTIONS TO THE CANDIDATE

1. *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.*
2. *You must not start writing your answers in the booklet until instructed to do so by the supervisor.*
3. *Write your surname in full, the initials of your other names and your Candidate's Number on the front of the answer booklet.*
4. *Mark allocations are shown in brackets.*
5. *Attempt all 10 questions, beginning your answer to each question on a separate sheet.*

AT THE END OF THE EXAMINATION

Hand in BOTH your answer booklet and this question paper.

*In addition to this paper you should have available
Actuarial Tables and an electronic calculator.*

- 1 Describe the consequences for a general insurance company of setting inappropriate levels of technical reserves. [5]

- 2 List the major areas of risk and uncertainty facing a general insurer. [3]

- 3 You are the chief actuary for a general insurance company that is currently assessing the possible takeover of another insurance company.
 - The target insurer has a large worldwide property and liability portfolio of business.
 - In the last year severe ice storms and typhoons occurred in North America and the Far East respectively, resulting in an unusually high level of claims for the insurer, and claims being made on its reinsurers.
 - There have been a number of recent high-profile passive smoking claims on which the courts have found against the insurer with very large awards for damages paid.

One of the many key ratios you are considering is the claim ratio. Discuss the factors you would take into account in analysing this ratio. [5]

- 4 You are the chief actuary to a general insurance company. The company's main lines of business are employers' liability, marine, aviation and private motor insurance.
 - (i) Describe the features of the business that would influence the choice of investments to be held in respect of these classes of business. [4]
 - (ii) Describe how the investment portfolio will affect the choice of discount rate used in calculating the technical reserves. [2]

[Total 6]

- 5
 - (i) Describe briefly the main stages in the life cycle of a claim. [2]
 - (ii) Explain how the periods between those stages might differ between claims for home buildings insurance and employers' liability insurance. [2]

[Total 4]

- 6** You have been given the following summary information, extracted from the accounts of a general insurance company. All figures are in €(millions).

Profit and loss account for the year ended 31 December 1999

Gross premium earned	500	
Adjustment for reinsurance	240	
Net premium earned		260
Gross claims incurred	720	
Adjustment for reinsurance	450	
Net claims incurred		270
Investment income		210
Net commission paid	54	
Adjustment for deferred acquisition costs	2	
Net commission earned		52
Other expenses of management		<u>60</u>
Gross profit		88
Taxation on Profit		<u>22</u>
		<u><u>66</u></u>

Balance sheet as at 31 December 1999

Technical provisions net of reinsurance		
Unearned premium net of DACs	108	
Outstanding claims	475	
IBNR	1,517	
Total		2,100
Issued and paid-up shares		100
Retained profits		<u>400</u>
		<u><u>2,600</u></u>
Ordinary shares	1,500	
Land and buildings	200	
Fixed interest securities	800	
Broker balances	100	
		<u><u>2,600</u></u>

Discuss the nature of this company's business and its financial condition, insofar as they can be determined from these accounts.

[10]

- 7**
- (i) List the reasons why a general insurance company models claims. [4]
 - (ii) Describe the main requirements of a financial model. [4]
 - (iii) List the items that would be included in a financial model that is to be used in framing investment policy for a general insurer. [6]

[Total 14]

- 8** You are the actuary of a small general insurance company that writes only home buildings and contents insurance. Legislation has recently been introduced in the territory where your company writes business that allows local governments to serve notices on the owners of properties that have been contaminated by pollution, requiring them to restore the land to an uncontaminated state. The Marketing Director has asked you to consider adding to the standard buildings insurance policy a new option to cover the potential liability of the homeowner for the cost of cleaning up land arising from the service of such a notice.
- (i) Describe the particular risks to the company of writing business of this type. [3]
 - (ii) Describe the exclusions that might be associated with the proposed new area of cover and the problems that might be associated with these exclusions. [3]
 - (iii) State with reasons the existing reinsurance arrangements you would expect a company such as this to have in place before these new proposals were made. [3]
 - (iv) Explain how those reinsurance arrangements might need to be changed if the proposal is carried out. [3]
- [Total 12]
- 9** In a particular country, there are three general insurance companies, Company A, Company B and Company C, writing a similar mix of property and liability insurance. Each company analyses its claims experience in a different way. Company A analyses its experience by year of accident, Company B by year of reporting and Company C by year of underwriting. Explain briefly the principles of each method, including the treatment of IBNR claims, and discuss each method's advantages and disadvantages. [15]
- 10** A large industrial corporation has recently acquired a general insurance company that has traditionally written personal motor business. The new management wishes to expand the business into homeowners insurance, small commercial lines insurance, larger commercial risks insurance and personal computer extended warranty insurance. The motor portfolio has traditionally been written through independent brokers. The insurance company operates in a region that is susceptible to windstorm.
- (i) List the various options that the insurer may have in distributing its products. [3]
 - (ii) Describe briefly how the general insurance company's choice of distribution channels may affect its business and the decisions it must make, under the following headings.
 - Volume/market
 - Expenses/setup
 - Risk premium
 - Experience in particular products and distribution channels [10]

- (iii) List the types of traditional reinsurance protection available to the company and indicate the suitability of each type of cover for the portfolio it intends to build. [6]
 - (iv) List the areas of cover that may be provided in the personal computer warranty policy and the data from each that should be recorded in order to enable future claims investigations. [7]
- [Total 26]