EXAMINATIONS

September 1999

Subject 403 — UK Fellowship General Insurance

Paper Two

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. *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 three questions.*

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 You are the actuary of a United Kingdom general insurance company which writes many classes of insurance business through a broker network. A new director has recently joined the Board of Directors. Before his appointment, the director had little experience of the general insurance market, but did have some accounting experience.

The director has stated that, because claim costs are a much higher percentage than expense costs of the premium paid by the customer, expense analyses are not important when setting premium rates. As a consequence, in allocating expenses for premium rating he suggests that the following method be used.

Take the total expenses from the statutory returns by accounting class and divide by the corresponding premium. Load this as a percentage of premiums for each accounting class.

Draft a report to the director concerning expense analysis and allocation for premium rating purposes under the following headings:

(a) Reasons for doing an Expense Analysis
(b) What is Involved in an Expense Analysis?
(c) How the Results of an Expense Analysis are used.

Include reference to the director's proposed method, and suggest possible alternatives. [35]

2 You are the actuary for a general insurance company. The company's Financial Director has been concerned about the method of accounting for lapses in the private motor insurance account. The company currently includes premiums for all policies falling due for renewal in the premium income shown in its management accounts at the renewal date, even though it does not know whether or not the policies have been renewed. This is because the policies are sold through brokers who may not confirm whether a policy has renewed or lapsed until some weeks after the renewal date. If a policy lapses then the premium income is reduced at the date the lapse is notified.

You have been asked for your views on two issues:

(a) At the end of the financial year there will be a number of lapses outstanding which relate to renewals in the year just completed, but which will not be reported until the following year. As the renewal premiums for these policies have been included in the previous year's income, this will overstate the premium income for that year. Should a reserve be set up for unnotified lapses?

(b) When a lapse is notified, even if it is before the end of the year, it will be recorded later than the renewal date. This will cause a distortion in the unearned premium reserve and in the statement of earned premium. What could be done to correct these distortions?

Draft your reply. [Including 2 for drafting: 15]

3 You are an actuary working for a general insurance company (Company A) that underwrites personal motor, commercial motor and employers' liability (EL) business. The Directors of the company are currently negotiating a merger with another company (Company B) that underwrites similar lines of business. Both companies operate in the United Kingdom only. From publicly available information the following has been established:

Company B's accounts are established at 31 December whereas Company A's accounts are established at 30 September.

The outstanding claims reserves in respect of EL and motor are large for both Company A and Company B.

The outstanding claims reserves in respect of EL that are shown in Company B's statutory accounts are discounted. A statement in the accounts states that reserves have been increased to take into account a recent court judgement that many commentators believe will lead to an increase in the multiples used to value the future cost of care and loss of future earnings.

(i) Your Finance Director has asked you to estimate the change in reserves, at a gross of reinsurance and net of reinsurance level, that would be required if Company A were also to allow for the recent court judgement. Describe the investigations and analysis you would carry out. Set out the relationship you would expect between the gross reserve change and the net reserve change, the reasons and any assumptions you make. [15]

(ii) The Finance Director has asked for a discussion document which sets out the issues in connection with the discounting of reserves in respect of outstanding claims. Draft this document. [Including 2 for drafting: 15]

(iii) Assuming that the merger is agreed in principle, set out the issues that should be taken into account in determining the equity allocation in the merged organisation to the equity holders of Company A and Company B respectively. [10]

One of the justifications of the merger is that on a combined basis the new company will be able to grow faster without recourse to additional capital. On a combined basis the new company's objectives are to:

(a) increase written premium next year by 25% in EL and keep motor premiums at current level;

(b) maintain the solvency margin at its present level of 50% of premiums written in the year;

(c) distribute as dividends 50% of net insurance profit after tax

(d) earn 6% on the free assets

(e) set EL premium rates so as to yield a gross insurance profit of 15% of written premium and motor premium rates to yield a gross insurance profit of 4% of written premium.

The company incurs tax at 30% of profit.

EL currently represents 10% of total written premium.

(iv) Set out a model which demonstrates that the above objectives can not all be met even if there are no other factors which can affect the outcomes.

You may assume that earned premium is equal to written premium. [10]
[Total 50]