

INSTITUTE AND FACULTY OF ACTUARIES



EXAMINATION

26 September 2016 (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 must not start writing your answers in the booklet until instructed to do so by the supervisor.*
3. *You have 15 minutes of planning and reading time before the start of this examination. You may make separate notes or write on the exam paper but not in your answer booklet. Calculators are not to be used during the reading time. You will then have three hours to complete the paper.*
4. *Mark allocations are shown in brackets.*
5. *Attempt all four questions, beginning your answer to each question on a new page.*
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** (i) State activities where an insurance company might use modelling as part of its financial planning. [4]

ABC, a UK insurance company, has built a deterministic financial model based on internal data, setting values for the parameters based on past experience. The model has not yet been tested.

- (ii) Describe the additional steps ABC should go through to determine whether the model is appropriate for use. [5]

The Board at ABC are considering introducing a dynamic financial analysis (DFA) process into its use of models.

- (iii) Describe the likely additional benefits of DFA compared with deterministic modelling. [8]

[Total 17]

- 2** An insurance company in Fictasia is considering launching a new product to the market to cover cyber risks including perils under the following categories:

- virus damage
- hacker attack
- infringement of intellectual property, slander or libel
- online identity fraud

- (i) Describe events a policyholder might experience that could give risk to a claim under this policy. [6]

- (ii) Propose potential benefits that can be provided in the event of a claim. [6]

- (iii) Recommend, with reasons, potential policy exclusions. [5]

Websites-R-Us is an online company which design and host websites for a number of large multi-national companies. It is looking to minimise the premium it currently pays for cyber insurance.

- (iv) Suggest ways by which it could reduce the premium it pays in respect of this product. [9]

[Total 26]

- 3 (i) Define the term “latent claim”. [1]

Company M manufactured an artificial sweetener which was sold to a wide range of food and drink manufacturers. The sweetener was sold between 1970 and 2000, although the ingredients and manufacturing process changed periodically.

A scientific study has just been released linking consumption of Company M’s sweetener with an increased risk of developing cancer. A newspaper has interviewed a former employee of Company M, who said the company had known its product was not safe to consume.

- (ii) Explain whether a claim arising from cancer due to consumption of this product is an example of a latent claim. [3]

Insurer I is an insurance company that provided product liability insurance to Company M for a five-year period between 1975 and 1980. Insurer I took a 50% coinsurance line on a \$1 million excess of \$1 million policy. Insurer I is assessing the potential for latent claims arising from its insurance of Company M.

- (iii) Suggest reasons why Insurer I may not make any further payments in respect of this policy. [8]

A newspaper article has claimed that the scientific study could result in compensation payments exceeding \$100 billion.

- (iv) Suggest how the total cost of compensation payments and the related amounts expected from the insurance and reinsurance industry could be estimated. [8]

- (v) Describe the possible sources of funding for compensation payments. [7]
[Total 27]

- 4** The regional authorities of Independia, a region within Unitia, are planning a referendum seeking independence. The independence proposition includes a proposal for new financial, legal and regulatory systems, including a separate, new currency for Independia.

Home&Cars is an insurance company which only sells personal lines products in Unitia (including Independia). Under the proposals of the referendum, Home&Cars will become an Independia registered company.

- (i) Suggest, with reasons, the potential impacts the change in currency will have on Home&Cars. [8]
- (ii) Suggest with examples four possible changes as a result of a new regulator which might be relevant to Home & Cars. [4]
- (iii) Suggest what policyholder communication might be necessary for Home&Cars if the proposal is approved. [3]
- (iv) Suggest possible practical implications of managing a multi-currency business and insurance portfolio. [5]

Supporters of independence are seeking a simplified approach to insurance regulation. They claim that the risk-based capital regime used by Unitia is too complicated and inefficient as each company has to maintain a capital model.

They propose that Independia adopt a system of compulsory motor and home insurance. Under the proposal insurance companies writing these products do not need individually to hold any additional funds over and above best estimate claims reserves. Capital will be held in a central statutory fund and paid for by a per-policy levy on insurance companies.

- (v) Discuss the advantages and disadvantages of this proposal from the point of view of the Independia regulator. [10]
- [Total 30]

END OF PAPER