INSTITUTE AND FACULTY OF ACTUARIES

EXAMINATION

20 September 2022 (am)

Subject SA3 – General Insurance Specialist Advanced

Time allowed: Three hours and twenty minutes

In addition to this paper you should have available the 2002 edition of the Formulae and Tables and your own electronic calculator.

If you encounter any issues during the examination please contact the Assessment Team on T. 0044 (0) 1865 268 873.

© Institute and Faculty of Actuaries

1 There has been a recent surge in global inflation. This is mostly due to a general increase in demand for products and services and supply side shocks.

(i) Describe how higher-than-expected inflation may impact:

(a) insurance claims. [3]

(b) other areas of an insurer's operations. [2]

The reserving actuary for an insurer is concerned how the higher-than-expected inflation may impact the reserves.

(ii) Discuss different methods that the actuary could use to incorporate higher-than-expected claims inflation in the reserves. [10]

(iii) Outline the factors that the actuary should consider in determining which method to use from part (ii). [5]

[Total 20]

2 Company A is an established multinational insurer selling personal lines insurance. The company is considering selling a new product that is intended to be an all-in-one protection for individuals who work remotely (i.e. outside of a fixed, traditional workplace), and in particular, those that have the flexibility of working from any part of the world.

(i) Outline the types of cover and benefit that the product may provide. [3]

(ii) Describe key rating factors that may be used when underwriting this product, based on the types of cover outlined in part (i). [5]

An actuary for Company A is building a financial model to estimate the profitability of the new product over a 5-year time horizon.

(iii) Outline the sources of data that can be used in the modelling. [2]

(iv) Discuss the factors to consider in modelling the future claims. [6]

(v) Explain the types of reinsurance cover that would be most suitable for this product. [4]

[Total 20]

3 An oil and gas company (O&G) has been looking to renew its insurance cover across a number of different policy types. On receiving quotes for its renewals, the company's Chief Financial Officer (CFO) notices that the company's premium rates have risen sharply since the previous renewal. They have learned that the market is 'hardening', due to reduced market capacity for insuring oil and gas companies' risks.

In light of this, an actuarial consultant approaches the CFO, recommending that instead of paying these higher renewal rates, the company should instead consider establishing a captive insurance company.

(i) Define, in your own words, what is meant by a 'captive insurance company'. [2]

(ii) Explain why lighter regulatory capital requirements may apply to captive insurance companies. [2]

(iii) Outline why establishing a captive insurer may have particular merit when the market is 'hardening'. [2]

(iv) List advantages for O&G of setting up a captive, other than those given in part (iii). [2]

(v) List disadvantages for O&G of setting up a captive. [2]

The company has decided to accept the consultant's recommendation and establish a new captive insurance company. The consultant is assisting O&G with setting up the captive.

(vi) Describe the factors that should be considered when advising on the level of insurance premiums that should be paid to the captive. [10]

(vii) Describe the factors to consider when advising on:

(a) how much reinsurance to purchase for the captive. [5]

(b) the types of reinsurance to purchase for the captive. [5]

[Total 30]

4 (i) Describe, in your own words, the different stages of development of latent claims. [4]

Palm Ltd is a large palm oil producer that has been operating in a particular country since 1970. The company has in the past cleared large areas of coastal forest for its palm oil plantations.

A group of local communities recently brought a class action lawsuit against Palm Ltd. Palm Ltd is accused of negligent past practices that have damaged the coastal ecosystem, contributing to the worsening flood events in recent years. The group is seeking compensation for the damages and losses suffered. The court case is currently ongoing.

Insurance ABC is a large insurer that provided insurance coverage to Palm Ltd between 1970 and 1980 through public liability and directors' and officers' policies. The Chief Sustainability Officer (CSO) of Insurance ABC is concerned about possible claims on the policies that it wrote many years ago if the court rules against Palm Ltd. While similar lawsuits against large corporations in the past have been largely unsuccessful, the CSO is concerned that this will soon change given the recent attention on environmental issues.

(ii) Discuss the potential impact of the lawsuit to Insurance ABC, considering the possible outcomes of the lawsuit and the policies sold in the past to Palm Ltd that may be affected by the lawsuit. [10]

(iii) Determine ways to assess the potential losses to Insurance ABC. [8]

(iv) Discuss factors that may increase the occurrence of liability insurance losses resulting from climate change issues. [4]

(v) Outline ways in which Insurance ABC could mitigate unexpected losses on similar policies that it may write in the future. [4]

[Total 30]

END OF PAPER