

# INSTITUTE AND FACULTY OF ACTUARIES



## EXAMINATION

12 April 2019 (pm)

### **Subject SA3 – General Insurance: Specialist Advanced**

*Time allowed: Three hours and fifteen minutes*

#### ***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. *Mark allocations are shown in brackets.*
4. *Attempt all questions, begin your answer to each question on a new page.*
5. *Candidates should show calculations where this is appropriate.*

***Graph paper is NOT required for this paper.***

#### ***AT THE END OF THE EXAMINATION***

*Hand in BOTH your answer booklet, with any additional sheets firmly attached, and this question paper.*

<p><i>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.</i></p>
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- 1** Outline the advantages and disadvantages of insurance legislation that:
- (a) sets out maximum premiums
  - (b) requires gender neutral pricing
  - (c) uses a standard formula for determining solvency requirements.
- [12]

- 2** A regulator has historically required that insurance companies use a “gross net” (GN) premium (and related loss ratio) basis for rate monitoring and for tracking the total amount of business they are authorised to write in an underwriting year. The regulator is now proposing to move to a “gross gross” (GG) basis.

Both premium bases are gross of reinsurance, but the GG basis includes acquisition costs whereas the GN basis excludes acquisition costs.

- (i) Discuss the potential advantages and disadvantages of the change in premium basis. [8]
- (ii) Outline any potential advantages or disadvantages of changing to a “net net” (NN) premium basis, which is net of both reinsurance and acquisition costs. [4]

The regulator charges insurance companies a levy (charge) to cover the costs of regulation, which has previously been charged as a percentage of GN premium. As part of the change of basis, it is proposing to charge a percentage of GG premium instead.

- (iii) Suggest key potential implications of this change of levy basis, considering the likely impacts on different business mixes. [4]
- [Total 16]

- 3** (i) List the issues to consider in a burning cost-based experience pricing exercise. [8]

An insurer writes the following lines of business:

- Large commercial property risks in the US written through brokers.
- Travel insurance written internationally through direct sales and binding authorities.
- Employers' liability written in the UK through brokers and binding authorities.

The company's pricing approach includes a mixture of burning cost-based experience rating and exposure rating models.

- (ii) Outline the key issues to consider in experience pricing for each of these lines of business. [9]
- (iii) Outline the key elements that would be expected in exposure models for each of these lines of business. [9]
- (iv) Suggest the likely balance between experience and exposure rating for each of these lines of business. [3]
- [Total 29]

4 (i) List rating factors used for motor insurance. [6]

(ii) List typical risks of launching a new product. [6]

A start-up general insurance company is offering a new product that allows customers to purchase short-term motor insurance. The customer can buy motor insurance cover for a specified number of hours, with the minimum period of cover being one hour. It is sold through an application on mobile phones.

The policyholder under the cover does not need to own the car, so the product can be used to provide insurance protection while borrowing or renting a car on a temporary basis. There is no impact on the car owner's insurance policy.

(iii) Compare the likely characteristics of this product against the characteristics of standard motor insurance with respect to:

- (a) reserving
- (b) pricing
- (c) capital.

[9]

(iv) Discuss the additional risks from this product launch arising from:

- (a) the product design
- (b) the chosen distribution method
- (c) the company's start-up status.

[12]

(v) Suggest potential mitigation measures to reduce the risks of this product launch. [6]

(vi) Suggest with reasons two other general insurance products that could be sold using a similar hourly cover basis. [4]

[Total 43]

**END OF PAPER**