

INSTITUTE AND FACULTY OF ACTUARIES

EXAMINATION

22 April 2013 (am)

Subject SA1 – Health and Care 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 have 15 minutes before 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.*
3. *You must not start writing your answers in the booklet until instructed to do so by the supervisor.*
4. *Mark allocations are shown in brackets.*
5. *Attempt all three questions, beginning your answer to each question on a separate sheet.*
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.

<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**
- (i) Describe the two main forms of critical illness insurance benefit. [3]
 - (ii) List the illnesses that must be covered by such contracts in the UK. [1]

A health and care insurer is re-launching its critical illness insurance product. It wants to obtain more accurate lifestyle information, such as information on alcohol, smoking and exercise habits. In order to achieve this, the insurer is planning to offer home visits from a nurse following receipt of proposal forms. Policyholders who opt for the nurse visit will receive cheaper premium rates.

- (iii) Suggest activities that the nurse visit might involve. [4]
 - (iv) Explain how the planned change in underwriting approach might affect the morbidity experience for the re-launched product. [6]
 - (v) Discuss how the planned underwriting change might affect other pricing assumptions and the overall profitability of the product. [22]
 - (vi) Outline ways of assessing whether the change has been successful. [4]
- [Total 40]

- 2**
- (i) State the formula for the taxable trading profit on Other Long-Term Business (OLTB) for a UK long term insurer, defining all notation used. [5]
 - (ii) Describe the current policyholder taxation of individual income protection business in the UK. [3]

A health and care insurer is considering making some changes to its individual income protection insurance product, which is classified as OLTB.

- (iii) Describe the possible impact on the insurer's taxation of the following changes:
 - (a) Giving all existing policyholders a 1% increase on their sum assured.
 - (b) Introducing a product variant with the same expected overall profit but with premiums that increase over the duration of the policy.
 - (c) Changes in the asset-liability matching strategy which would result in higher coupon gilts being sold and lower coupon gilts being bought.
 - (d) Accelerating the claims processes, so that claims are settled on average three months sooner.

[12]

[Total 20]

- 3** A health and care insurer is proposing to offer a group income protection (IP) insurance scheme which is designed to pay a benefit only if the number of claims in all of the group IP contracts written by the insurer under the scheme is above a specified percentage of the total number of employees covered.

All participating employers will register the number of employees that they wish to cover and will pay a premium which will be a fixed amount per employee per year.

If an employee is unable to work in his/her own occupation for a consecutive period of at least a week during the policy year, a claim will be recorded but no payment will be made to the employer.

At the end of the policy year, the proportion of claims recorded by all participating employers will be calculated. If it is above the specified percentage then all participating employers will receive a payment. This payment will be a fixed amount for every registered employee, regardless of his/her individual health status or employer. This amount is set at the start of the contract.

- (i) Explain in more detail how the scheme will operate, including the cashflows between the parties involved. [8]
- (ii) Describe the possible advantages to an employer of purchasing this contract. [7]
- (iii) Describe the risks to an employer of purchasing this contract. [2]
- (iv) Describe the risks to the health and care insurer from selling this contract. [9]
- (v) Outline the controls that the insurer could put in place when operating this scheme. [6]

The marketing manager has suggested that instead of making a payment based on the claim experience of the participating schemes, the payment should be triggered by reference to government sickness statistics.

- (vi) Discuss this suggestion. [8]
- [Total 40]

END OF PAPER