

INSTITUTE AND FACULTY OF ACTUARIES



EXAMINATION

20 April 2018 (pm)

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 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) Discuss the advantages and disadvantages for insurers in using industry standard health and care terms and conditions when designing their health and care products. [7]
 - (ii) Describe, with reference to policyholders' reasonable expectations, the actions an insurance company should take in order to meet those expectations. [4]

An actuary, working for an organisation which represents the health and care insurance industry, has been asked to draft a statement of best practice for long term care insurance.

- (iii) Describe what the actuary would include in her statement, including each of the following areas:
 - (a) Objectives and purpose of the statement
 - (b) A document setting out the key features of the product (the Key Features Document)
 - (c) Generic terms and model wordings
 - (d) Product description and other considerations.

[16]

[Total 27]

2 A large UK insurer is currently only selling term assurance policies. It is considering entering the health and care insurance market and launching income protection (IP) business.

(i) Compare the underwriting approach for term assurance policies and income protection policies. [3]

(ii) Compare the claims management approach for term assurance and income protection business. [3]

One of the areas the insurer needs to investigate prior to launching health and care products is how the income protection business is taxed in the UK.

(iii) Outline how income protection business is taxed in the UK for a large UK based insurance company. [3]

The insurer wishes to investigate how the new products would be treated for Solvency II requirements. Currently, it calculates its Pillar 1 Solvency Capital Requirements using an Internal Model.

(iv) Discuss the advantages and disadvantages to the insurer of using an Internal Model compared to a Standard Formula in assessing the Solvency Capital Requirements of the new income protection business. [9]

(v) Describe how the Solvency Capital Requirements for the income protection business would be determined using a Standard Formula. [5]

[Total 23]

3 A developed country has most of its health services provided by a single state-run organisation. An analysis of the mortality rate amongst patients admitted into its hospitals shows a periodic pattern: the mortality rate is significantly higher for patients admitted on Tuesday compared to other days of the week.

(i) Suggest possible causes of this pattern. [3]

A smaller, independent group of hospitals which also operate in the country do not exhibit such a pattern. Their patient mortality rates are the same irrespective of the day of admission.

The Marketing Director of a health and care insurer has proposed launching a private medical insurance (PMI) product which entitles policyholders to seek emergency treatment in the independent hospitals if they require hospital admittance on Tuesday.

(ii) Assess this proposal from the insurer's perspective. [10]

(iii) Discuss the likely impact of this proposal on the independent hospitals. (Your answer should include advantages and disadvantages as well as practical issues.) [7]

[Total 20]

- 4** For over thirty years country A has been part of an association of countries which have been gradually harmonising the rules and regulations which apply to health and care insurance companies. One of the harmonising measures was that two years ago insurance companies were forced to stop using gender as a rating factor in pricing health and care policies sold in any of the associated countries.

The government of Country A has just announced that it will leave the association at some point in the future.

A health and care insurance company based in country A sells all types of health and care business in country A. It is undertaking a review of the impact of country A leaving the association on all areas of its business.

- (i) Outline the key questions the insurer should consider in order to begin its review. [4]

The government of Country A has confirmed that gender will be allowed as a rating factor for pricing health and care business as soon as it leaves the association in two years' time; there will not be any other changes to regulations at that time.

- (ii) Explain the changes the insurer will need to make to its reserves over the next two years. [5]

The insurer has been selling large numbers of income protection (IP) policies for a number of years.

- (iii) Discuss the considerations the insurer will need to take into account when pricing its IP policies. [21]
[Total 30]

END OF PAPER