

INSTITUTE AND FACULTY OF ACTUARIES

EXAMINATION

28 September 2011 (am)

Subject ST1 — Health and Care Specialist Technical

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 seven 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>
--

- 1** (i) State the principles of setting statutory reserves. [6]

An actuarial student has recently joined a small health and care insurer. His role is to calculate the statutory reserves for the long term health insurance business. He is concerned about making mistakes, as he is new to the company.

- (ii) Discuss the checks he might carry out in order to ensure that the reserves that he has produced have been calculated accurately. (You may assume that the data with which he has been provided is correct.) [5]

[Total 11]

- 2** The health and care committee for the Continuous Mortality Investigation Bureau for Actuarial (CMIBA) has decided to investigate critical illness claims experience by occupation.

- (i) Discuss how the CMIBA could create an occupational classification for this project. [3]

- (ii) Outline how the experience would be split by sex and marital status, including any difficulties that might arise. [3]

It has now been established that two insurance companies dominate the critical illness market.

- (iii) Discuss whether the CMIBA should publish a combined experience. [2]

The background to the investigation is that the Actuarial insurance regulator wants insurance companies to introduce standard rates defined only by sex, age and occupational classification. Each insurer would only provide a standard critical illness product with set approved terms, conditions and rates.

- (iv) Discuss this proposal. [6]

[Total 14]

- 3** A doctor's practice office has the following staff:

Four fully qualified doctors

Five fully qualified nurses

Ten support staff (clerical and IT)

The doctors and nurses are members of a pension scheme that provides for ill-health early retirement benefits as well as other standard retirement benefits.

A broker is writing a report on the health insurance benefits that should be provided for the staff.

- Outline the points that should be made in this report (a draft is not required). [8]

4 Suggest ways in which a health and care insurer can improve the efficiency of its financial reporting process. [9]

5 The government of Actuarialia has recently introduced a ban on employers carrying out pre-employment health checks on prospective employees.

A large established health and care insurer is interested in responding to this change in legislation by bringing out a new product that would insure an employer against recruiting employees in poor health.

The product would pay out an indemnity amount to compensate the employer for sick pay and recruitment costs incurred in respect of a new recruit who is unable to work due to ill health for more than 13 weeks during the first year of their employment. The product would be written as an annually renewable policy, with guaranteed acceptance on renewal.

(i) Explain the rating factors that could be used to determine the appropriate premium for this product. [7]

(ii) Discuss the main risks to the insurer that would arise from writing this product, including how they might be mitigated. [12]
[Total 19]

6 (i) Outline the benefits included in a typical comprehensive private medical insurance (PMI) product. [6]

(ii) List the general exclusions commonly used by PMI providers. [3]

(iii) Suggest reasons why such exclusions are used. [5]

(iv) Suggest potential disadvantages to an insurer of using such exclusions. [3]
[Total 17]

7 A small health and care insurer which already sells dental plans is planning to develop a new health cash plan that specifically covers physiotherapy care.

(i) Outline the features of a health cash plan. [3]

(ii) Outline the two methods that the insurer could be using to operate its existing dental plans. [4]

The insurer is planning to operate its new health cash plan in the same manner as the dental plan.

(iii) Discuss the issues that the company is likely to encounter when pricing the new plan, considering both of the possible methods of operation. [12]

The insurer currently uses insurance intermediaries, tied agents and its own salesforce to distribute its plans.

(iv) Suggest alternative sales and marketing methods that it could consider for the proposed new version. [3]

[Total 22]

END OF PAPER