

INSTITUTE AND FACULTY OF ACTUARIES

EXAMINATION

25 April 2013 (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 eight 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) Explain how commission can be a source of risk to a health and care insurer. [5]
- (ii) Suggest ways of managing this risk. [3]
- [Total 8]
- 2** (i) State the principles of investment. [2]
- (ii) Suggest, with reasons, assets that a health and care insurer may choose to hold as a suitable match for the following reserves:
- (a) IBNR reserves for critical illness insurance
 - (b) unit reserves for unit-linked long term care insurance
 - (c) policy reserves for immediate needs annuities
 - (d) outstanding claims reserves for private medical insurance (PMI)
- [8]
- [Total 10]
- 3** State the types of restrictions that governments may impose on health and care insurers for the purpose of policyholder protection. [6]
- 4** Explain the factors that influence the proportions of private medical insurance (PMI) policies that are renewed. [12]
- 5** A health insurer that has only ever sold critical illness business has recently failed to meet its minimum solvency capital requirements and hence has become technically insolvent.
- Suggest possible reasons for this. [16]
- 6** The government of Actuarialia has announced that insurers will no longer be able to use gender as a rating factor for income protection insurance policies.
- Discuss the potential impact of this proposal on a health and care insurer that currently writes income protection and critical illness insurance policies in Actuarialia. [20]

7 (i) Explain the following terms, including how they are used in practice:

- (a) waiting period
- (b) deferred period
- (c) linked claim

[6]

The following table shows a claim extract from a health and care insurer for a policy which offers payments of £500 per month to members who are absent from work due to sickness or accident and who have a valid claim. All of the policies have a deferred period of four months and a linked period of six months. The “end of absence” date represents the first day of the member’s return to work or the date of their death, as applicable. Dates are presented in the format day/month/year.

<i>Claimant</i>	<i>Start of absence</i>	<i>End of absence</i>	<i>Cause of absence</i>
Mr A	1/4/10	1/4/11	Stress
Mr A	1/6/11	1/7/11	Fall at work
Mr A	1/9/11	1/4/12	Stress
Mr B	1/2/10	1/4/10	Broken leg
Mr B	1/7/10	1/4/12	Terminal cancer
Ms C	1/1/10	1/4/10	Back pain
Ms C	1/5/11	1/6/11	Back pain
Ms D	1/9/11	1/8/12	Terminal cancer
Mr E	1/11/10	1/4/11	Viral infection
Mr E	1/6/11	1/11/11	Torn ligament
Mr E	1/12/11	1/4/12	Viral infection

(ii) Calculate how much benefit is paid to each policyholder in each of the calendar years 2010, 2011 and 2012.

[6]

[Total 12]

8 The government of Acturia has just announced that it is closing down half of its State-run residential long term care homes. The cost of an individual living in one of these homes is entirely met by the government.

(i) Suggest possible reasons for the closure.

[5]

(ii) Discuss the possible implications for residents of Acturia.

[7]

(iii) Discuss the possible implications for insurance companies selling long term care insurance in Acturia.

[4]

[Total 16]

END OF PAPER