

INSTITUTE OF ACTUARIES OF INDIA

EXAMINATIONS

12th September 2018

Subject ST1 – Health and Care Insurance

Time allowed: Three Hours (14.45* – 18.00 Hours)

Total Marks: 100

INSTRUCTIONS TO THE CANDIDATES

1. *Please read the instructions inside the cover page of answer booklet and instructions to examinees sent along with hall ticket carefully and follow without exception.*
2. ** You have 15 minutes at the start of the examination in which you are required 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 answer sheet until instructed to do so by the supervisor.*
4. *The answers are not expected to be any country or jurisdiction specific. However, if Examples/illustrations are required for any answer, the country or jurisdiction from which they are drawn should be mentioned.*
5. *Attempt all questions, beginning your answer to each question on a separate sheet.*
6. *Mark allocations are shown in brackets.*
7. *Please check if you have received complete Question paper and no page is missing. If so, kindly get a new set of Question paper from the Invigilator.*

AT THE END OF THE EXAMINATION

Please return your answer booklet and this question paper to the supervisor separately. You are not allowed to carry the question paper in any form with you.

- Q. 1)** A Health Insurance Company in the country of Actuarialia with a range of Individual and Group Health Insurance products now wants to enter overseas market.
- i)** List the reasons behind its intention to enter the overseas market. (5)
 - ii)** Explain in detail the approach to be taken to assess the following:
 - a)** Financial impact of entering the overseas market (7)
 - b)** Other factors that it needs to consider in deciding about the entry. (6)

A Consulting Actuary associated with the Company has pointed out that there might be many risks associated with entering overseas market and the company should have a risk mitigation plan to address the associated risks.

- iii)** Detail the possible risks that the Consulting Actuary may be referring to that the company may be exposed to in entering the overseas market (8)
- [26]**

- Q. 2)** A Health Insurance Company with range of health insurance products currently offers health options in some of its select products and uses stochastic modelling to arrive at the cost of option while pricing the products.
- i)** List three commonly included health options under long term insurance plans. (1.5)
 - ii)** List the factors which may affect cost of options to the company (1.5)
 - iii)** A study by a recently set up in-house research team has revealed that the company might be making loss on some of the options it offers. Explain reasons behind such an experience. (6)
- [9]**

- Q. 3)** **i)** List rating factors which can be used in underwriting of Income Protection Health Insurance plan. (2)

Company ABC is a leading health insurer, primarily selling IP and CI products. Recent study by a major consulting firm has revealed that with increase in the level of education, morbidity/mortality experience of insured lives improves materially.

- ii)** Explain ways in which level of education can affect the morbidity/claim experience (5)

Majority of Health Insurers in the Country have decided to accept the findings of the study and introduce education as one of the rating factors in pricing. However, Company ABC has decided not to make any changes in the existing pricing set-up.

- iii)** Describe the risks involved in the Company's decision of not introducing education as one of the rating factor. (4)

- iv)** Explain possible ways in which risks associated with the Company's decision can be mitigated. (4)
- [15]**

- Q. 4)** **i)** List what is covered and other features of a private medical insurance plan. (5)

- ii)** A leading insurer is considering broadening its individual product range. It is considering launching income protection, critical illness, private medical insurance and long term care products. Describe the main risks for the insurer associated with each of these contracts. (10)
- iii)** You are an actuary of leading insurer with majority business in Critical Illness products. The Marketing Director has suggested amendments in critical illness definitions to differentiate the products from other companies. Discuss the risks of this suggestion and how each risk can be mitigated. (5)
[20]
- Q. 5) i)** Describe the purpose of analysis of new business sales against targets. (2)
- ii)** A leading insurer sells PMI, CI and IP products. After years of research, a new medical test has been developed which is able to detect possibility of heart disease in an individual around 10 years before the currently listed symptoms start showing.
- a)** Discuss overall considerations before inclusion of this test in underwriting. (2)
- b)** Discuss impact on underwriting. (2)
- c)** Discuss impact of including this test in underwriting on each type of business written. (6)
- iii)** Discuss the aspects that can be monitored regularly in respect of this new test to help design new underwriting framework and new product designs. (3)
[15]
- Q. 6)** XYZ insurance company is reviewing the reinsurance arrangements for its Critical Illness product portfolio. Discuss the following aspects in this regard.
- i)** Describe the factors affecting level of retention limits for the Critical Illness product portfolio. (5)
- ii)** List the main clauses of reinsurance treaty. (5)
- iii)** Describe the technical approaches that can be used for the determination of appropriate retention limits. (5)
[15]
