

INSTITUTE OF ACTUARIES OF INDIA

EXAMINATIONS

26th June 2019

Subject SP1 – Health and Care

Time allowed: 3 Hours 15 Minutes (10.15 – 13.30 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. 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.*
- 3. Attempt all questions, beginning your answer to each question on a separate sheet.*
- 4. Mark allocations are shown in brackets.*
- 5. Please check if you have received complete Question Paper and no page is missing. If so, kindly get new set of Question Paper from the Invigilator.*

AT THE END OF THE EXAMINATION

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

- Q. 1)** You have recently joined a health insurance company. In the past the actuary has been using full data for all actuarial modelling. You are considering using model points instead of full data.
- i)** Discuss the advantages of using full data vis-à-vis the model points. (6)
 - ii)** Outline how you would set the model points. (4)
- [10]**
- Q. 2)** The regulator of a certain country has recently asked all insurers to remove AIDS/HIV exclusion from all the insurance contracts. Your company sells mainly income protection contracts.
- i)** List possible reasons for the regulatory decision. (2)
 - ii)** Discuss the factors that you would consider in revising your morbidity assumptions to allow for the impact of the change. (8)
- [10]**
- Q. 3)** A health insurer is exploring adding options to its critical illness product that offers a lump sum upon diagnosis of one of the listed critical illnesses.
- i)** Outline the various options that may be added to the product. (3)
 - ii)** Discuss the main risks associated with the options and how they can be mitigated (9)
- [12]**
- Q. 4)** A health and care insurer has been selling a combo whole of life critical illness indemnity and income protection product for many years. The main features of the product are as follows:
- Unisex age-banded annual premium rates guaranteed for 5 years and reviewable annually thereafter.
 - Pays out actual cost of medical expenses, up to a maximum limit, incurred as a result of diagnosed with one of the listed critical illnesses. The maximum payable varies by the illness.
 - Upon diagnosis of one of the listed critical illnesses a regular monthly income payable from the date of diagnosis until death or 5 years, whichever is earlier
- i)** Outline the investigations that a health insurer should carry out in order to assess the claim experience of this product. (6)
- The investigations show that there has been deteriorating trend in claims experience in the last few years.
- ii)** Outline possible reasons for the deterioration and suggest actions that the insurer should take to improve the experience. (8)
- [14]**
- Q. 5)** A health and care insurer is revisiting its distribution strategy for its various products.
- i)** Describe the main distribution channels for health and care insurance products. (6)

- ii) Discuss the suitability of the distribution channels for a Group Critical illness product. (3)
[9]

- Q. 6) i)** List the reasons why a health and care insurer might want to analyse its supervisory surplus and change in its embedded value. (5)

A health insurance company selling mainly Group PMI products has been making losses over the last few years and its solvency position has worsened.

- ii) State possible reasons for the losses. (3)

- iii) Discuss the potential implications to the insurer of the solvency being low. (3)

- iv) Suggest actions that may be taken to improve the solvency position of the company. (6)
[17]

- Q. 7)** A Chartered Accountant (CA) firm has the following employees:

Chartered Accountants (CA) - 6

Students pursuing CA - 5

Support staff (clerical, IT etc.) – 15

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

You are an actuarial student working with an insurance broking firm. You are asked to prepare a sales pitch outlining what type of health and care insurance benefits that would benefit the employees of the CA firm.

Outline the points that you would make in the sales pitch (a draft is not required). [7]

- Q. 8)** The Government of a developing Country is considering sponsorship of a Group Health Insurance scheme to a certain low income section of the population. The Government will define the benefits to be offered and the maximum premium that can be charged. The Government will fund 50% of the premium and the rest to be borne by the insured. Health insurance companies, subject to meeting a certain criterion, can participate in the scheme.

You are a consulting actuary hired by the Government to provide advice on this scheme.

You have been asked to recommend to the state government the key features of the benefit coverage that would be most useful to the target population.

- i) Explain with rationale the key product design features suitable for the scheme. (9)

- ii) Outline what criterion that the Government should apply in selecting the insurers to participate in the scheme. (3)

- iii) Outline the key risks to the participating insurers and how they might be mitigated. (9)
[21]
