

INSTITUTE OF ACTUARIES OF INDIA

EXAMINATIONS

27th May 2013

Subject SA1 – Health and Care Insurance

Time allowed: Three hours (14.45* - 18.00 Hrs)

Total Marks: 100

INSTRUCTIONS TO THE CANDIDATES

1. *Please read the instructions on the front 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 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 expected to be India Specific application for the syllabus and corresponding core reading. However, substantially the core reading material is still taken from material supplied by Actuarial Education Company which are meant for UK Fellowship examination. The core reading also contains some material which is India Specific, mostly the IRDA regulation. In view of this, it should be noted that focal point of answers is expected to be India Specific application. However if application specific to any other country is quoted in the answer the candidate should answer the question with reference to Indian environment.*
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 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.

- Q. 1)** What are the main changes that are introduced by The IRDA in health industry through the recent guidelines on health insurance? [15]
- Q. 2)**
- i)** List down the key factors on which Family Floater (FF) discount depends? (2)
 - ii)** Explain the possible reasons which could result in the emergence of FF Discounts in Indian Context? (9)
 - iii)** Describe briefly the steps we will follow to arrive at the discounts due to claim costs savings due to Sum Insured Limit under a FF policy using stochastic modelling? (4)
- [15]
- Q. 3)** You are a senior health actuary of a standalone health company, the product design and experience of the company are given below:
- Design on the Existing plan - Deductible of Rs 1,000/-, Co - pay = 30%, Out of Pocket Limit Rs 1,500 and thereafter 100% pay out by the company.
- Estimates for projected period from Jan to Dec of current year - Annual unleveraged trend = 15%,
- Density Function**
- | Cumulative Frequency | Total Annual Claims |
|----------------------|---------------------|
| 0.6 | Rs. 0 |
| 0.75 | Rs. 500 |
| 0.85 | Rs. 1,000 |
| 0.90 | Rs. 2,500 |
| 0.95 | Rs. 8,000 |
| 1.00 | Rs. 18,000 |
- i)** Calculate the annual leveraged trend for existing plan.

[Hint: Annual Leverage Trend = Total Plan Cost after applying unleveraged trend / Total plan cost before applying unleveraged trend] (10)
 - ii)** What are the key differences between anti - selection and non-disclosure? (3)
 - iii)** Describe the purpose of investigating early claims, non-disclosure and anti - selective claims periodically as a specific monitoring exercise and possible ways in which its impact may be estimated or quantified. (7)
- [20]
- Q. 4)**
- i)** What is the meaning of the term 'Rating Factor' in the health insurance context? (2)
 - ii)** Describe the common rating factors prevalent in India for retail health inpatient indemnity product. (4)
 - iii)** Explain which are the potential rating factors that can be introduced in the above mentioned product? (6)

iv) What are the benefits of using more rating factors? (2)

v) What are the challenges in introducing these potential rating factors? (6)

[20]

Q. 5) You are the pricing actuary of an Insurance Company having large portfolio of health insurance products. You are in the process of revising rates of retail health inpatient indemnity product based on experience of loss years 2010, 2011 and 2012. The frequency and severity trend estimated by you are 2% p. a. and 8% p. a. respectively for this portfolio. Following are the details about the proposed filing:

- Probable date of filing: **1.4.2013**
- Estimated time taken by regulator to approve the product: **3 Months**
- Time taken to launch the product after approval: **3 Months**
- Minimum duration after which the premium of the product in question can be revised after its launch: **3 Years**

Please calculate the Trend Factors to be applied to historical data (loss year 2010 to 2012) to forecast losses for the proposed premium revision of the product in question assuming the policy duration is:

i) One year (6)

ii) Two years (6)

[12]

Q. 6) XYZ General Insurance Company Ltd. is selling its health insurance products through Tied Agents, Brokers and Direct Channels in India. Its new Marketing Director who has taken charge recently is very excited about the potentials of Bancassurance as a channel to sell health insurance products. Please write a note on Bancassurance covering:

i) Various segments of bank customers to whom XYZ may sell its health insurance products. (6)

ii) Which insurance products can be sold through Bancassurance highlighting specific features of the proposed products? (6)

iii) Challenges that are specific to this sales channel. (6)

[18]
