

# INSTITUTE OF ACTUARIES OF INDIA

## EXAMINATIONS

20<sup>th</sup> October 2009

**Subject SA1 — Health and Care Insurance**

**Time allowed: Three hours (9.45\* - 13.00 Hours)**

**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 same 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.*

<b>AT THE END OF THE EXAMINATION</b>
--------------------------------------

**Please return your answer book and this question paper to the supervisor separately.**

- Q 1)** The government of a state is considering sponsorship of a group health scheme to cover the rural poor. Health insurance companies will offer benefits defined by the state government for which they will receive a premium also defined by the state government and applicable across all ages, to both sexes and in all districts.
- The benefits to be provided, including potentially reimbursement of in-patient and out-patient costs incurred on sickness, are being considered.
- 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.
- (a) Discuss these features. (8)
  - (b) Discuss how the enrolment process may be structured in order to manage risks of anti-selection. (8)
  - (c) What hurdles would you recommend for any insurance company that seeks to participate in the scheme? (6)
  - (d) Discuss the principal risks to an insurance company that chooses to participate in the scheme. (22)
  - (e) List the actions open to the insurance company to deal with the risks arising from the likely quality of data. (6)
- [50]**
- Q 2)** Mediclaim is a term used to describe a popular type of medical expense product in India. There are a variety of product features of which common ones include reimbursement of all or part of specific incurred hospital and domiciliary medical expense up to a predefined policy or sub limit. The Indian market has seen a large increase in health insurance providers and health insurance policies in the last several years and there has been reported significant increases in the cost of providing this cover.
- Applying the above to your knowledge of private health insurance product –
- (a) Given the above in India, discuss the importance of monitoring claim amounts for these policies. (3)
  - (b) How do patterns in claim inception rates affect the overall trend in Mediclaim policy claim costs? (1)
  - (c) For analyzing average claim amounts under a Mediclaim policy, what are four suitable categories to break the data into? (1)
  - (d) Discuss what part the variation in the mix of treatments might play on the apparent change in Mediclaim policy costs. (2)
  - (e) Are Critical Illness policies subject to trends in the same way? List four similarities or differences. (1)

- (f) Describe how seasonality might impact the pattern of claim costs for medicaid policies during the year. (1)
- [9]**
- Q 3)**
- (a) List four categories of movement? (1)
- (b) Discuss the importance of analyzing “movements”. (3)
- (c) What are four very important issues that can come to light by monitoring trends in movements? (2)
- (d) Describe briefly the importance of the Principle of Correspondence in measuring movements. (1)
- (e) What are three major reasons why reported and actual movements are often different? Give a practical example of how the differences can lead to incorrect interpretation of results if not allowed for appropriately. (3)
- (f) Describe the calculation of the lapse time. (1)
- (g) List three or more subgroups that should be monitored for changes in a specific movement rate? (2)
- (h) How is the new business rate calculated? (1)
- [14]**
- Q 4)**
- (a) Discuss the importance of monitoring the effect of early claims, non-disclosure and anti-selection. (3)
- (b) What categories of business are important to monitor with regard to these issues? Give an example why. (2)
- (c) Give an example of how the actuary might go about estimating the impact of one of these issues? (3)
- [8]**
- Q 5)**
- (a) Describe the purposes of a Portfolio Analysis. (3)
- (b) Briefly describe two problems that can arise when simple portfolio analyses by classes are used. Give a brief example to highlight. (3)
- (c) Describe the actual to expected analysis? How can it be used in the understanding of a portfolio’s results? (3)
- [9]**
- Q 6)** Discuss the importance of the claims process. What are its objectives? **[4]**
- Q 7)**
- (a) Identify and briefly describe three implications of actuarial significance of abandoning a product. (3)
- (b) Briefly discuss the differences this strategy may have for different types of policies.

---

Give examples.

(3)

**[6]**

\*\*\*\*\*