

# INSTITUTE OF ACTUARIES OF INDIA

## EXAMINATIONS

16<sup>th</sup> November 2010

### Subject ST1 - 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 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.*

AT THE END OF THE EXAMINATION

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

- Q. 1)** Health insurance companies offer medical insurance contracts to cover individuals traveling overseas on short term work assignments.
- a) Outline the typical benefits that are available under such contracts (2)
  - b) List the typical exclusions under such contracts (2)
- [4]**
- Q. 2)** An insurance company has been writing accelerated critical illness contracts to individuals over the last few years and the actual to expected claims ratio has been over 100%. The chief underwriter of the company suggested that, other things being equal, the claims experience would have been better had the contracts been all stand-alone critical illness contracts.
- a) Discuss the needs of a customer that would be met by a critical illness insurance contract. (3)
  - b) Compare and contrast the cover provided by a stand-alone critical illness contract and an accelerated critical illness contract (4)
  - c) Compare and contrast the underwriting requirements for a stand-alone critical illness contract and an accelerated critical illness contract (3)
  - d) Comment on the chief underwriter's suggestion (4)
- [14]**
- Q. 3)** The insurance regulator of a developing country is planning to mandate all health insurance companies to include a portability clause in their private medical insurance cover policy contracts so that a policyholder can choose to transfer the policy on renewal from one insurance company to another, without losing any of the accrued benefits. There is no such portability clause existing in the private medical insurance policy contracts in that country at present.
- a) Describe the advantages to the policyholders of having the portability clause. (4)
  - b) Outline the risks to the insurers of introducing the portability clause (6)
- [10]**
- Q. 4)** A large health insurance company writing heavily private medical insurance products to individuals and groups is planning to launch a conventional income protection (IP) product to individuals aged 55 years or below for a ten-year term. The product provides a fixed benefit of X per year, where X does not exceed 50% of gross annual income of the individual, during all periods of sickness except the first year of sickness. Benefit ceases at the end of policy term or earlier death. A level monthly premium is payable at the start of each month, ceasing after 10 years or on earlier death. Premiums are waived during periods of sickness.

- a) Discuss the drawbacks of using a formula approach to calculate premium rates for the IP product. (4)
- b) Discuss all the assumptions, in terms of their importance and consistency, that are required to be set for pricing the IP product. (9)
- The sales director of the company has expressed concern over poor sales of the product and suggested the following changes:
- i) The policy term should extend to age 65 instead of the fixed 10 years for all entry ages
- ii) The benefit should be increased to 100% of the gross annual income
- iii) The benefit should commence from day one of sickness
- c) Comment on each of the above suggestions (9)
- d) Discuss why the company may choose not to reinsure this product and outline the risks to the company of not reinsuring (5)
- [27]

**Q. 5)** The government of a country wishes to encourage the development of health insurance so its citizens benefit by having and maintaining a good and affordable standard of healthy living.

One of the regulatory restrictions it has relates to the control of expenses of management. To ensure that companies comply with the regulations in a transparent manner, the regulator requires companies to disclose their expenses of management regularly to the regulator and on the company website.

- a) Outline possible items of expenses of management which can form part of such disclosures (3)
- b) List possible users of such disclosure (3)
- [6]

**Q. 6)** A life insurance company wishes to start a health insurance wing which would sell mainly unit-linked income protection and critical illness products to individuals. Separate unit-linked funds will be set up for these health insurance products.

- a) Outline the investment considerations that the company should take into account in setting up the unit-linked funds (3)
- b) Discuss how the investment strategy for the income protection contract will differ from that of the critical illness product (3)

[6]

- Q. 7)** ABC Health Insurance Co Ltd, is a small company set up 8 years ago selling stand-alone critical illness product to individuals. The company is concerned about its worsening persistency experience over the last couple of years.
- a) Outline how would you measure 'persistency' (2)
- b) Discuss possible reasons for the worsening persistency experience and ways to address them (9)
- [11]
- Q. 8)** XYZ Health Insurance Company is a newly set up company which is yet to get fully operational. The company plans to sell mainly hospital cash and critical illness products.
- a) Discuss the usefulness of underwriting at various stages of product life for the above products (4)
- The company is looking at simplified underwriting so as to enhance marketability and reduce policy issue delays. This will involve using short application forms and simple filtering of cases so that applications are either accepted or rejected, without calling for any further medical or financial information.
- b) Discuss the advantages and disadvantages of using such a simplified underwriting approach (5)
- [9]
- Q. 9)** A multinational insurer has an established joint venture health insurance company in a developing country. It is evaluating the value added to its global embedded value by its operation in that country.
- a) List ways in which the embedded value can be used. (4)
- b) Discuss how the following can impact the embedded value of a company:
- i) valuation of assets (2)
- ii) choice of assumptions for projecting and discounting liabilities (3)
- iii) statutory capital requirement (2)
- iv) reinsurance (2)
- [13]

\*\*\*\*\*