INSTITUTE OF ACTUARIES OF INDIA

EXAMINATIONS

17th May 2010

Subject SA3 – General 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.*

AT THE END OF THE EXAMINATION

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

Q 1) All Izz Well insurance Company, is a medium sized general insurance company operating in India for the last 8 years. All Izz Well focuses on retail insurance business and the portfolio consists of Motor, Health and Personal Accident products.

The company is planning to enter commercial insurance segment and start insuring medium and large commercial risks mainly for Standard Fire Perils as documented in erstwhile Fire Tariff.

(i) You are the Appointed Actuary of *All Izz Well* Insurance Company. The Board has asked you to prepare a detailed note on all relevant considerations, before the Board approves this proposal. You are expected to cover in your note, among other aspects, regulatory requirements post detariff to launch new products and also the role of the Board and Appointed Actuary in this regard. (30)

(ii) The Board is aware of detariff for this class of business and is also interested to know your views on-

a. How the introduction of detariff has affected the business for Fire insurance in India (5)

b. Important features relating to pricing of large and medium commercial risks in the changed market scenario. (15)

Outline your views.

(iii) Formulate your recommendations on whether to start this business or not based on your answers in ii) a) and b) and also your outlook for the Indian market for Fire insurance in the next few years. (5)

(iv) The Marketing Director, aware of business plans to venture into new territories, has proposed to launch a Directors and Officers Liability policy. Outline the coverage under this type of policy, the rating and reinsurance arrangements to be followed for the same and your views on the synergy of this product with existing product line of *All Izz Well* Insurance Company. (5)

[60]

Q2) A medium sized general insurance company in India is in its 10th year of operation. The company writes four lines of businesses (LOBs) – Motor, Fire, Health and Liability. Its total written premium for the year 2009 was Rs 1,000 Crores and all the LOBs were 20-30% of the total book of business of the company.

Discuss the methods, and their suitability, for IBNR reserving that company should use for each of the LOBs in its

a) 2nd year of operation

b) 6th year of operation and

c) 9th year of operation

[25]

Q 3) **(i)** Define a surplus reinsurance treaty. (1)

(ii) A company has a surplus treaty with maximum retention Rs 1,000,000 and 10 lines of reinsurance cover above that. Calculate the ceded proportion for two risks with the following PML:

a. Rs 2,000,000

b. Rs 10,000,000 (1)

(iii) Assume that on the net retention after the surplus treaty in ii) above, the company has an excess of loss reinsurance with layer Rs 10,000,000 xs Rs 5,000,000. For a risk with PML Rs 20,000,000, there is a claim of amount Rs 15,000,000. Calculate the amounts to be paid by the insurer, the surplus reinsurer and the excess of loss reinsurer. (3)

(iv) A company has a reinsurance structure similar to iii) above from the outset but with some changes in surplus retention, number of lines covered or excess of loss attachment points and limits from one year to the next. You have access to both gross and net of reinsurance data as well as the details of the reinsurance treaties for the past years.

Discuss the possible issues to consider while calculating the net (of reinsurance) IBNR reserves using

a. The gross (of reinsurance) triangle

b. The net triangle. (10)

[15]

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