INSTITUTE OF ACTUARIES OF INDIA

EXAMINATIONS

7th September 2016

Subject CA1 – Actuarial Risk Management (Paper II)

Time allowed: 3 Hours (14.45* - 18.00 Hrs)

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. *Attempt all questions, beginning your answer to each question on a separate sheet.*
3. **You have 15 minutes at the start of the examination in which you are required to read the questions. You are strongly encouraged to use this time for reading only, but notes may be made. You then have 3 hours to complete the paper.*
4. *You must not start writing your answers until instructed to do so by the Supervisor.*
5. *Mark allocations are shown in brackets.*
6. *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) A large general insurance company, which has been selling various personal lines products for many years, is now considering to introduce a new pet policy.

i) List the risks a pet policy could cover (3)

ii) Outline the advantages and disadvantages of selling the product directly or selling it through intermediaries (like the pet shops, veterinary doctors, etc) (5)

[8]

Q. 2) **i)** While choosing the assumptions to determine the recommended contribution rate for a large final salary pension scheme of about 10,000 active members, what are the different considerations you would apply? (6)

ii) How would your answer vary for a small scheme of 25 active members? (4)

[10]

Q. 3) A life insurance company is in the process of doing its annual expense analysis.

i) State why a life insurance company would analyze its expenses. (3)

ii) Describe briefly how the following expenses will be allocated in an expense analysis

a) Development costs associated with a new distribution channel (2)

b) A onetime incentive paid to the employees on the occasion of the 10^{th} anniversary of the company (2)

c) Salaries of human resources department (3)

[10]

Q. 4) In a country, Government provides fixed amount of pension to all its residents from age 65 which is on a Pay As You Go basis. Government has observed that over the years cost of this state pension has become unsustainable.

i) Outline the likely reasons for the same. (5)

ii) To reduce the burden, Government is planning to introduce a compulsory nation-wide pension scheme for the organized sector. Employers and employees will contribute a fixed percentage of the salary to that scheme. Individual member wise account will be maintained which will be invested in funds as per the choice of members and on retirement will be used to purchase annuity from insurance companies. Discuss the proposal from the point of view of

a) Government, (2)

b) Employer and (3)

c) Employees (4)

[14]

Q. 5) Government of a country is planning to announce a health scheme for all the citizens of the country. The scheme is voluntary. The scheme will provide a fixed daily cash allowance for each day's stay in a hospital. As the lead insurer in the country, the government has asked you to quote for this scheme. Once agreed, all other insurers will have to sell this plan at the same premium rate. The members enrolling into this scheme can purchase this health scheme from any of the insurers at this fixed price.

i) Describe how the lead insurer should establish the risk rate for this benefit. (6)

ii) How could you mitigate the risks associated with this product? (6)

iii) Explain the pros and cons for other insurers, for using the same rate as quoted by the lead insurer. (6)

[18]

Q. 6) **i)** Describe briefly why the insurance market needs to be regulated (4)

ii) Describe the various regulatory regime that a new regulator can consider (7)

iii) Under what circumstances each of the regimes would work well, explain using examples. (8)

[19]

Q. 7) In a country where there is no social security, a service provider is planning to launch a home reversion plan wherein owner of a property, in return for a fixed monthly income can reverse mortgage his home. A fixed monthly income is paid as long as the owner and spouse are alive. The owner and spouse can also continue to stay in the house as long as they are alive. On death of both, the property shall revert to the service provider.

i) Discuss the suitability of this product to a retired couple. (5)

ii) What are the risks for the service provider of introducing this product (9)

iii) What steps can the service provider take to reduce these risks. (7)

[21]

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