

INSTITUTE OF ACTUARIES OF INDIA

EXAMINATIONS

29th October 2014

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 on the front 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)** Before performing any actuarial valuation for a pension scheme, what all data checks can be possibly included? [5]
- Q. 2)** i) What are the points that an actuary has to consider while carrying out a task for a client? (4)
ii) What are the principles to be adhered to while managing conflicts of interest? (2) [6]
- Q. 3)** i) What investigations will a life insurance company do, to assess the appropriateness of its reinsurance retention limits? (6)
ii) What other factors will it consider before finalizing its reinsurance limit (4) [10]
- Q. 4)** i) Comments on the statement “Price and yield of a bond are inversely related. Therefore if the price of the bond increases any time before maturity, then the yield will decrease. Hence bonds may give yield different from the Gross Redemption yield on the bond at the time of purchase”. (4)
ii) What are the factors to be considered in determining a suitable margin to be used in the discount rate for property valuation? (9) [13]
- Q. 5)** A general insurance company has decided to offer a free one-year personal accident cover to existing retail customers, who purchase a new motor vehicle during a particular promotional period, as a part of its marketing campaign. The sum assured of Rs. 500,000 would be payable in case of death/disability caused due to accident.
i) State why the company would want to make such a marketing campaign. (3)
ii) Outline the assumptions that the insurance company would need to make in order to evaluate the risk being taken on this free one year accident cover. (3)
iii) Discuss how the risks taken by the company in offering this product could be managed. (7) [13]
- Q. 6)** A life insurance company plans to launch group one year term policy for employer-employee groups. The Head of Sales has suggested that in case of employer-employee group insurance, there is no need, up to a certain level of insurance cover, for individual evidence of insurability or underwriting.
i) Discuss with reasons, whether the suggestion made by the Sales Head could be agreed to. (6)
ii) What factors you need to consider while designing the group term product to reduce the risk of anti-selection, assuming that the suggestion made by the Sales Head is accepted. (7) [13]

- Q. 7)** **i)** Outline six methods of financing defined benefit pension schemes. (6)
- ii)** A company has recently introduced a defined benefit scheme for their employee which pays a lump sum benefit on retirement based on number of years of service put in before retirement. The Company is looking at various methods of financing the scheme. Compare the methods of financing the benefit scheme described above, in relation to
- a)** security of the benefit promises
- b)** liquidity of funds (12)
- Q. 8)** **i)** State the benefits that are normally provided under income protection products (2)
- ii)** Explain why it is often necessary to exclude explicitly certain causes of sickness/disability (or “perils”) from the cover of income protection contracts. (6)
- iii)** Discuss why reporting and settlement delays happen in case of claims under income protection policies. (6)
- iv)** A large life insurance company which sells significant income protection policies has experienced deteriorating claims experience over the last few years. List possible reasons for deteriorating claims experience and corrective measures that could be taken to reduce losses. (8)
- [22]**
