

INSTITUTE OF ACTUARIES OF INDIA
EXAMINATIONS

23rd May 2008

Subject CA1 – Core Applications Concepts

Paper II

Time allowed: Three Hours (14:15 - 17:30 Hrs)

Total Marks: 100

INSTRUCTIONS TO THE CANDIDATE

1. 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.
2. You must not start writing your answers until instructed to do so by the supervisor.
3. 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.
4. Mark allocations are shown in brackets.
5. Attempt all questions, beginning your answer to each question on a separate sheet.
6. Fasten your answer sheets together in numerical order of questions. This, you may complete immediately after expiry of the examination time.

Professional Conduct:

“It is brought to your notice that in accordance with provisions contained in the Professional Conduct Standards, If any candidate is found copying or involved in any other form of malpractice, during or in connection with the examination, Disciplinary action will be taken against the candidate which may include expulsion or suspension from the membership of IAI.”

Candidates are advised that a reasonable standard of handwriting legibility is expected by the examiners and that candidates may be penalized if undue effort is required by the examiners to interpret scripts.

AT THE END OF THE EXAMINATION

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

- Q1)** A life insurance company has been managing its small portfolio of group insurance and fund management business through a basic in-house administration system.

The company is in the process of redesigning its group products, which is likely to increase the level of policy administration, transactions and customer interface.

The IT Director of the life insurance company feels that the company should consider migrating from the existing policy administration system to an “off the shelf “ policy administration system being offered by a reputed software firm.

You are appointed as the project manager to assess the financial feasibility of this proposed system migration.

- a) Outline the main characteristics of a well-run project (8)
- b) Describe the main contents of the initial appraisal document that you would be prepares on the proposed project. (5)

The company management has given a “go ahead” for the project.

- c) Describe the main areas that a detailed appraisal would cover. (7)
- [20]**

- Q2)** Describe the major difficulties in using each of these methods as a project appraisal technique.

- a) Net Present Value
- b) IRR
- c) Payback period (6)

- Q3)** The regulator in a developing market has for the first time permitted life insurance companies to sell long term health insurance products. There are no relevant past data.

- a) Discuss the main areas that need to be considered by life insurance companies in the design of long term health insurance products. (12)
- b) Suggest options for life insurance companies to mitigate the risks associated with long-term heath insurance products. (4)

The CEO of your company has suggested that the products should be offered on a unit linked platform instead of traditional without profit.

- c) Outline the pros and cons of this suggestion. (4)
- [20]**

Q4) The accounting standards board has recently revised the method of determining the assumptions for Actuarial Valuation of retirement benefits. In previous years the assumptions were fully at the valuing actuary's discretion.

The Trustees of a defined benefit retirement fund are your clients. Their current year valuation shows the value of liabilities higher than the value of assets (i.e. a deficit) compared with a surplus at the previous valuation. The Trustees want to know why their fund is showing a deficit this year when it was adequately funded at the last valuation.

Draft a report outlining all the possible reasons for the change from surplus to deficit.

[5]

Q5) Give examples of eligibility criteria that you might apply at outset where a member of a group term policy is offered an option to convert his group coverage at retirement or resignation into an individual policy without any underwriting.

[5]

Q6)

a) Explain how you would set the following assumptions when there is very little past data.

i) mortality assumption

ii) expense assumption

(4)

b) Detail the immediate and the long term impacts on an insurance company of closing to new business including particular reference to

i) expenses

ii) withdrawal rates

iii) investment policy

(18)

[22]

Q7) Describe the four common types of management control system found in an insurance company.

[7]

Q8) A medium sized general insurance company has quota share reinsurance and individual excess of loss reinsurance. It only writes personal motor business.

a) Discuss the factors that the company should consider for deciding an appropriate reinsurance program.

(8)

You have been asked to build a model to see the impact of varying reinsurance program on the profitability and solvency.

b) Explain how you would construct this model.

(7)

[15]
