

Actuarial Society of India

EXAMINATIONS

23rd May 2006

Subject CA3 – Communications

Time allowed: 2 ½ Hours (02.15* - 05.00 pm)

Total Marks: 100

INSTRUCTIONS TO THE CANDIDATE

- 1. Do not write your name anywhere on the answer scripts. You have only to write your Candidate's Number on each answer script.*
- 2. In addition to this paper you should have available Actuarial Tables and an electronic calculator.*
- 3. 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 2 ½ hours to complete the paper.*
- 4. You must not start writing your answers until instructed to do so by the Supervisor.*
- 5. Attempt BOTH the questions.*

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 ASI.”

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

Hand in BOTH your answer scripts and this question paper to the supervisor.

- Q1)** You are an actuary working in a life insurance company that was set up five years ago. The company offers a wide range of products including unit-linked, non-participating and participating products.

The company offers only one fund under the unit-linked product with the following asset allocation, which is made available to policyholders at point of sale:

Asset Class	% Allocation
Equities	66.67%
Fixed Interest	33.33%
Total	100%

The fund has seen impressive growth in its Net Asset Value (“NAV”) yielding a return of 35% over the last one year.

Following the latest actuarial valuation, your company has declared bonuses on participating products. The company’s bonus formula considers three primary factors whilst determining bonus rates. These factors are interest surplus, mortality surplus and expense surplus. The company has declared a cut in bonus rates of 10% over the previous year and the valuation actuary in her internal confidential report has attributed this reduction to the three factors as set out below:

Factor	Impact on Bonus Rates
Interest Surplus	+10%
Mortality Surplus	-5%
Expense Surplus	-15%
Overall impact	-10%

The participating fund has an equity allocation of 30% and the balance is invested in fixed interest securities. The company does not intend to declare the asset allocation or the individual components affecting the bonus rates to policyholders.

A policyholder has written the following email to the company:

“I have bought two policies from your company, a unit-linked policy and a participating policy. Having keenly followed the strong performance of the stock market (with the BSE SENSEX having risen by 25%) I was quite pleased to see that the NAV under my unit-linked policy has shown a growth of 35%, even more than the Sensex. However I was very disappointed and confused to see that bonus rates on my participating product have been reduced, rather than increased. Surely there must be a mistake in the calculation. Can you explain to me how the two products have given such different results despite the good stock market performance?”

*Regards
Mr S. Kumar”*

Draft a letter in about 450 – 550 words in response to the policyholder email.

Notes:

1. You may assume that all the information given to you is complete in all respects.
2. The unit-linked fund is invested in a wider range of equities than the Sensex
3. The details of the participating product should be disclosed in an appropriate manner. It is recommended that broad indications on how it is managed be disclosed to policyholders without giving away all the details.

[60]

- Q2)** Your friend has read the following note from a friend who works in the actuarial department of a life insurer and is unable to understand the concepts explained.

“ Reserving for life insurance products

Typically in a life insurance contract future outgoes exceed future inflows and therefore the life insurer has to set aside reserves to ensure the solvency of the entity and thereby its ability to meet the emerging liabilities as they fall due. The reserves together with the net inflows should be sufficient to meet the necessary outgoes assuming adverse experience.

The reserves are computed by projecting the various elements of income and outgo on a prudent basis. A common element of income is premium income with outgoes commonly including benefit outgoes, expenses and taxes. Prudence in the basis usually entails building margins on the expected experience, as for example by assuming a higher level of expenses than that expected, higher mortality rate than expected etc.

The net cash flows are then computed and then discounted to derive the present value using the valuation interest rate. The resulting reserve, which can often be negative depending on the assumptions made, is then subject to the minimum of the guaranteed surrender value under the policy. This is to ensure that the solvency of the insurer is not prejudiced by policies surrendering.”

Redraft the note in about 300-400 words to make it suitable for sending it to your friend who is not conversant with financial matters. You can assume that the information contained in the note is correct and that no further information is required.

[40]