INSTITUTE OF ACTUARIES OF INDIA

EXAMINATIONS

05th November 2014

Subject SA2 - Life Insurance

Time allowed: Three hours (14.45* - 18.00 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 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 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 is 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 candidate 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.***
7. ***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) You are Appointed Actuary of a mid-sized Life Insurance Company, a joint venture promoted by two Indian banks and a multinational life insurance provider, operating out of India. The Company has been in operation for last seven years and yet to achieve a P&L break-even although showing a declining loss numbers. The company primarily sources about 70% of its business through captive bancassurance channels and also distributes its products through tied agency and direct distribution channels including online.

i) Outline the various advantages of bancassurance channel for the key stakeholders. (5)

The company offers only unit linked products on individual platform apart from pure term product on the online space. The company also offers Group YRTA and group superannuation and gratuity products on group platform.

Unit linked being the mainstay of the Company offerings; you have been requested by Chief Executive to prepare a presentation targeted to the Company's frontline sales force explaining how the unit linked proposition compares vis-a-vis a mutual fund scheme and its competitive advantages.

ii) Discuss the key aspect you would consider while preparing the presentation including various options for sharpening the product positioning. (7)

Your team was scanning the market of unit linked individual products and have observed that of late there has been a spurt of offering a special feature in the form of loyalty addition/guaranteed addition. The Loyalty/guaranteed additions are expressed either as percentage of fund value or as percentage of annualised/single premium, added either as units or paid out at the time of maturity. You are considering bringing this proposition to your current product design.

iii) Outline the factors that you would consider while offering this feature in the new product design. (8)

Recently, there has been a renewed interest for investing towards equity linked funds following a sustained rally of the equity stocks. Hence, equity oriented funds in the ULIP products have started getting more interest and attention of the retail investors. However, these interests come in the backdrop of a concern that the equity market may fall sharply eroding even capital invested of the potential customer. Your products aims to address this dilemma and propose to come out with a product design with underlying investment guarantee on the unit linked platform.

The Investment Guarantee will be applicable on the fund net of charges except on FMC and will guarantee an X% of minimum return annually on the fund and will be applicable on maturity benefit and death benefit.

iv) Describe the various factors you would consider for designing and pricing such products. (10)

As part of strategic review, the Board of the Company has decided to explore various options for expanding the product offerings including designing products on participating platform and you have been asked to write a paper to the Board on this proposal, including various strategic options.

v) Discuss various factors you would be considering in the report given the current regulatory and operative environment for designing and offering participating products including various aspects of overall business operations. (20)

[Note: No drafting style is required. Although the paper to the Board may contain other strategic options, your answer should be limited to the considerations for participating business only, as required in the question above].

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Q. 2) A proprietary life insurance company has been transacting life insurance business in India for last ten years. The company writes conventional participating and non participating business with a range of rider benefits, participating Pension business, non-participating annuity business and unit linked business in a single 90:10 fund. The company distributes surplus by addition to benefits method in the form of regular and terminal bonuses and has been declaring bonuses each year since inception with the support of shareholder funding.

The company employs a large sales force operating from branches located nationwide and has grown rapidly by opening new branches and recruiting and training large numbers of agency force.

In the last year, however, there was a significant decrease in the sales force with average productivity of the sales force remaining the same.

i) Discuss the impact of such reduction in the sales force on the statutory solvency position of the company both in short and long term. (8)

The experience for the last year also included a one off increase in expenses due to large scale computerization, increase in yield on fixed interest assets and increase in unrealized gains due to revaluation of company's property portfolio which is now significant proportion of company's assets.

ii) Describe the impact of change in these parameters on the bonus declaration. (4)

Post valuation, this year, one of the states where the insurer has written significant amount of business witnessed worst flood situation in last fifty years, coupled with the onset of epidemic of new disease. The insurer has relaxed some of its conditions for speedy settlement of death claims. The available information on the death claim data received so far shows that there has been significant increase in death claims during current year as compared to previous years. The surplus at the next valuation is expected to be adversely affected on this account.

iii) Discuss the issues that you, as the Appointed Actuary of the company, should consider while deciding on the ways in which the adverse mortality experience during the current year could be reflected in the bonus declaration at the immediate next valuation. (12)

The company at the beginning of the current year had projected its business plans which show expense overruns for at least next three years and a small non unit surplus.

Amount in crore rupees	Actual 31st March, 2014	Projected 31st March, 2015	Projected 31st March, 2016	Projected 31st March, 2017
Shareholder net fund	1000	970	910	920
Solvency Ratio	183%	180%	170%	160%
New Business Strain	300	375	410	460
Surplus from In Force Business (All Lines)	250	320	380	450

iv) Discuss the issues that you need to take into consideration relating to expense overruns while determining the bonus rates. (5)

The adverse experience on valuation parameters may require change in the valuation basis to determine the policy liabilities.

v) Explain the effect of the change in statutory valuation basis on the timing and amount of surplus allocation to shareholders. (2)

One of the Directors while looking at the business plan projection commented that the surplus from in force business has been increasing and that the bonus rates can be increased to assist in achieving the projected volumes of new business targets.

vi) Discuss the issues which you, as an Appointed Actuary of the company, would need to include in your reply to the Director. Your reply should include the suggestions to improve the ability of the company to increase bonus and the issues involved in doing so. (14)

The half yearly review of business of the company shows that with adverse mortality experience and expense overrun the solvency position of the company has worsened.

vii) State the obligations of the Appointed Actuary in such a situation specifying the provisions of Actuarial Practice Standards and IRDA Regulations in this regard. (5)

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