INSTITUTE OF ACTUARIES OF INDIA

EXAMINATIONS

12th May 2015

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 work as a Financial Reporting Actuary with an Indian life company.

The company commenced operations in the year 2001 and presently operates through multiple distribution channels including Agency and Bancassurance.

In the initial few years, the company experienced robust growth often outpacing the key competitors. Subsequently, the company went through some challenging times due to the repercussions of global financial crisis in 2008-2009 as well as the strengthening of the regulatory framework in India.

However, the company has adapted well to the new environment and has been showing steady growth in revenues as well as profitability since Financial Year ("FY") 2012-13. Given below is a summary of its performance over the past few years:

New Business Annualised Premium (in Rs. Crores)	**FY 2010-11**	**FY 2011-12**	**FY 2012-13**	**FY 2013-14**	**FY 2014-15**
Individual Conventional Savings - With Profits	195	235	280	250	200
Individual Conventional Savings - Without Profits	-	-	100	175	350
Individual Unit Linked Products	1,795	1,150	1,200	1,250	1,500
Individual Protection-Oriented Products	10	15	20	25	50
Individual Business	**2,000**	**1,400**	**1,600**	**1,700**	**2,100**
Group Unit Linked Products (Deposit Admin.)	200	240	280	320	400
Group Protection-Oriented Products	50	60	70	80	100
Group Business	**250**	**300**	**350**	**400**	**500**
Total Business	**2,250**	**1,700**	**1,950**	**2,100**	**2,600**

Note: Annualized premium reflects a 10% weight for single premium policies and 100% for other policies.

As of 31st March 2015, the capital invested in the company is Rs. 1,900 Crores. The Embedded Value ("EV") of the company (computed using Traditional Embedded Value ("TEV") methodology) is a little over Rs. 6,200 Crores.

The promoters of the company have been evaluating the feasibility of going for an Initial Public Offering ("IPO") over the next 12 to 18 months.

i) The CEO has recently requested the Appointed Actuary for a short note summarizing the IRDAI regulations in relation to an IPO. The Appointed Actuary has asked you to prepare this note. Draft a suitable note. (10)

ii) The Appointed Actuary and the CEO liked your note. They intend to forward it to the Board of Directors for their perusal. In order to provide more detail, the CEO wants you to prepare an appendix to the note setting out:

a) A brief recap of the company's current EV methodology (5)

b) Discuss the key differences between the current TEV methodology and the requirements of Actuarial Practice Standards 10 ("APS-10") of the Institute of Actuaries of India. (10)

Draft a suitable appendix to the note.

iii) Since the promoters are evaluating an IPO, profitability metrics are getting ever increasing attention at the Board meetings. At a recent Board meeting, one of the newly appointed Directors observed that the company's VNB margin[a] for unit-linked business has steadily declined over the last few years. She would like to know the reasons for the same and what steps could be taken by the company to improve the VNB margin of the unit-linked business. The Appointed Actuary has asked you to prepare a response. Draft a suitable response.

[Note (a) - VNB margin is defined as discounted present value (at the point of sale) of future net of tax transfers to shareholders from the new business sold during the relevant period prior to the valuation date, divided by new business APE] (10)

iv) **(a)** During the last few years, the company has launched a few without-profits individual savings products which have high VNB margins relative to the unit-linked savings products. These are long-term products, having premium paying terms ranging from 5 years to 15 years; and the average premium paying term is about 12 years. Comment on the challenges from the standpoint of Asset Liability Management (ALM) for this suite of products. (6)

(b) The interest rates are trending downwards, leading to profitability challenges for this suite of products. The Chief Distribution Officer has suggested that the company can invest a part of reserves supporting this product in equities (which have been performing very well in recent years) so as to achieve a higher return. The rationale is that these are long-term products and equities are bound to outperform in the long-term, which could provide uplift to the investment returns and profitability of the business.

Comment on this suggestion. (9)

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Q. 2) **i)** Explain what is meant by the term policyholders' reasonable expectations ("PRE").

Clearly describe how PRE might be measured and managed with regard to the main contract types prevalent in the Indian life insurance industry for each of the following lines of business:

a) Participating (or With-profits);
b) Non-participating (or Without-profits); and
c) Unit-linked (9)

ii) The Indian life insurance company you work in has a large participating fund. However it has only recently undertaken an exercise to calculate 'asset shares' for the first time. You have been asked to review the calculations of the asset shares. The team that has undertaken the relevant calculations has provided you with the methodology and assumptions used to determine the preliminary asset shares along with the per policy asset share results so derived.

(a) Describe in detail the checks and validations that you would undertake (including those related to compliance with the relevant regulations and actuarial practice standards) to satisfy yourself that the asset shares calculated by your company are appropriate. (12)

The company is planning to launch a new suite of non-participating endowment products with high guaranteed benefits to the policyholder. However, the product also requires significant initial capital support, although the expectation is that over the lifetime of the contract, the product would yield reasonably high profit margins to the shareholder.

One of the Directors, who has significant experience of life insurance business internationally, has observed that the company has accumulated a large with-profits estate, which is shown in the Accounts as Funds for Future Appropriation ("FFA"). He has suggested that this may be used to fund the initial capital strain, by writing the new non-participating endowment products within the participating fund.

(b) Discuss, in detail, the implications of the above suggestion on the key performance indicators that the company monitors and actively publicizes in its external communications, namely:

i. annual growth in new business volumes;
ii. bonus rates declared;
iii. IRDAI defined solvency ratio;
iv. amount of statutory profits for the year; and
v. EV (calculated following TEV methodology) (16)

The Board of Directors of your company has inducted a new independent non-executive Director, who has significant experience in the financial services industry but not specifically within the life insurance industry. He has been assigned to the Company's with-profits committee ("WPC"). The CEO has requested you to brief the new Director on expectation from the WPC.

(c) Describe the regulatory requirements in relation to the WPC as you would explain to the new Director. In addition, clearly set out the roles and responsibilities of the WPC in managing the with-profits business. (6)

The WPC has mandated you to set out an initial draft of a document setting out the company's principles and practices of financial management ("PPFM") in relation to management of the participating fund that may then be deliberated upon by the WPC for adoption.

(d) Describe the typical contents that you would include in setting out such a document. (7)

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