

# **INSTITUTE OF ACTUARIES OF INDIA**

## **EXAMINATIONS**

**14<sup>th</sup> July 2022**

**Subject SA2 – Life Insurance**

**Time allowed: 3 Hours 30 Minutes (14.30 - 18.00 Hours)**

**Total Marks: 100**

### **INSTRUCTIONS TO THE CANDIDATES**

- 1. Please read the instructions to examinees sent along with hall ticket carefully and follow without exception.*
- 2. 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.*
- 3. Mark allocations are shown in brackets.*

- Q. 1)** You are an Actuary working for a large life insurance company in India which has been in operations for last 20 years. The Company sells conventional participating savings products, term insurance products and immediate annuities through individual agents, bancassurance partners and its own website.

While conducting annual analysis of surplus on statutory basis for its existing business (excluding new business sourced during the current year), it is observed that the term insurance business has made surplus on account of expenses. However, on further distribution channel-wise analysis, it is observed that the term businesses sourced through individual agents have resulted in deficit on account of expenses.

- i)** Suggest steps to improve the cost efficiency of term businesses (for new business and existing business, both) sourced through individual agents. (10)

For the current financial year, the participating savings business has resulted in lesser investment surplus compared to previous year. However, the reversionary bonuses declared this year is almost similar to that declared in last year.

- ii)** Explain the various possible factors that could have affected the degree of smoothing of the bonuses. (7)

- iii)** Describe the process of testing supportability of reversionary bonuses for the existing participating business. (8)

The annuity business has resulted in mortality surplus over the valuation period. However, the Chief Risk Officer is concerned about the impact of mortality improvement of the annuitants and associated longevity risk. He has requested you to project the mortality rate improvement to understand its possible impact.

- iv)** Comment on the various challenges involved in mortality projections for annuity business. (7)

- v)** Briefly discuss how you can use longevity swaps to manage longevity risk under immediate annuities. Your answer should also cover management of any residual or any new risk due to the longevity swap. For this question, please assume that Regulations allow use of longevity swaps. (8)

- vi)** List the matters to be stated in life insurance policies as prescribed under IRDAI (Protection of Policyholders' Interests) Regulations, 2017. (10)

**[50]**

- Q. 2)** A large life insurance company is looking to get into niche market segments. The marketing research team has identified two select groups the insurer can target.

- I. Age group above 60 with no regular income, but own property;
- II. Sports personal who are currently playing at State level and above

- i)** For the group above 60 years, Reverse Mortgage is proposed as a suitable fit. Discuss the possible risks associated with this proposal and how we can manage them with suitable design features. (14)

- ii)** Outline the products you will propose suitable for the sports group identified above and explain how it meets their insurance needs. (10)
- iii)** With better awareness post pandemic, the marketing team feels a critical illness product can be developed on group platform. Discuss the underwriting and pricing considerations that the insurance company should consider with respect to covering the above two groups under this group critical illness product. (12)
- iv)** Explain in brief the aspects of treating customers fairly that the insurance company should consider, specific to these two groups, if unit linked products are offered. (5)
- v)** A new CEO joined the company and has asked the Actuary to brief on the general management of the insurance risks and how to address them. Discuss the points you would cover in your report to the CEO. (9)

**[50]**

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