INSTITUTE OF ACTUARIES OF INDIA

EXAMINATIONS

16th July 2022

Subject SP2 – 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 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.***

3. ***Mark allocations are shown in brackets.***

Q. 1) Company X has in place a reinsurance contract for its term assurance business under which it retains 80% of the sum assured up to INR 10,00,000, with everything above this being ceded to the reinsurer. Company Y has a similar arrangement for its term assurance business, but it retains 20% of the sum assured up to INR 500,000, with everything above this being ceded to the reinsurer. Describe the factors that might have led to these differences in the reinsurance arrangements. **[10]**

Q. 2) The Appointed Actuary of a company has noticed a significant adverse experience variation in the Embedded Value Report due to persistency in the Unit Linked portfolio. He has suggested that the assumptions used by the company in calculating embedded values in future should be moved in line with this experience.

i) Discuss the issues the company would need to consider before making such a change. (5)

ii) Discuss the actions the company might want to consider to address the worsened persistency experience, including the issues that would need to be considered prior to implementing these actions. (16)

The company has also been selling with-profits products and without profits immediate annuities. It is now considering selling impaired life annuities where more favourable rates are offered to single life annuitants who either smoke or have a medical condition which shortens their life expectancy.

iii) Discuss the additional risks associated with offering impaired life annuities. (6)
[27]

Q. 3) Company A offers with-profit policies to its customers with regular reversionary bonuses. It has a low level of free assets. The proportion of with-profits liabilities backed by fixed interest investments is significantly higher than the industry average.

i) Explain why this company might have such a high level of fixed interest investments. (7)

ii) Describe how the regulatory environment in a particular country might affect the investment strategy of a life insurance company. (4)

iii) List the main sources of capital available to a life insurance company. (3)

iv) Outline the reasons why a life insurance company needs capital. (6)
[20]

Q. 4) It has been commonly seen that life insurance companies use net present value for calculating value of new business or profit margin as the prime profit criterion.

i) State what is meant by the term net present value and explain why life insurance companies use it. (5)

ii) Describe why a life insurance company might choose to use the net present value as a profit criterion rather than the internal rate of return or the discounted payback period. (8)

iii) Describe the drawbacks of using net present value as a profit criterion. (5)
[18]

Q. 5)

i) Due to pandemic the solvency position of life insurance company has worsened. The regulator asked the company to submit a recovery plan to improve solvency position of the company. Discuss the possible courses of action available to life insurance company to improve its solvency position and any considerations that may be relevant in the decision making. (10)

ii) In a developing country with a growing life insurance market, the regulator is planning to introduce principle-based regulatory regime. Describe the principle-based regulation with the help of three distinct examples. (5)

iii) The regulator of the country wants the insurance companies to monitor their market conduct issues. In order to improve the self-compliance in the principle-based regulatory regime, the insurance companies are asked to revisit their risk management and governance framework internally. Explain how an insurance company may strengthen its risk management and governance framework in this regard. (10)

[25]

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