INSTITUTE OF ACTUARIES OF INDIA

EXAMINATIONS

November 2025

SA3 - General Insurance

Time allowed: 3 Hours 15 Minutes

Total Marks: 100

Q. 1) CoveSecure is a medium-sized general insurer.

- It is considering following two options for its commercial property Surplus reinsurance arrangement with an established reinsurer.
- Reciprocal Quota Share arrangement with a well-established commercial property insurer.

i) As an actuary at Cove Secure, evaluate these options by defining the two arrangements, outlining their advantages and disadvantages, and provide your perspective on which option may be more beneficial for the company. (10)

CoveSecure implemented reinsurance arrangements with reinsurers Q and S, operating in the order given below:

- 4% obligatory Quota Share treaty with reinsurer Q
- Individual Surplus with reinsurer S, having 4 lines.

CoveSecure cedes as much risk as possible under these reinsurance arrangements, subject to the following constraints:

- The proportional treaties have been negotiated such that the largest risk that Cove Secure can write (i.e. by fully utilizing the proportional treaties) is one with a Sum Insured of INR 625 crores.
- Cove Secure must retain at least INR 50 crores of the risk on any policy it reinsures with reinsurer S.

In the year CoveSecure wrote a total of INR 1200 crores in premiums and paid reinsurance premiums totalling 60 crores. Some details relating to the four largest policies (by Sum Insured) written in the year by CoveSecure follow:

Policy Number	Sum insured (INR crores)	Gross Policy Premium (INR crores)	Gross Claim Amount (INR crores)
1	52	2	0
2	312	6.5	0
3	156	4.7	50
4	Not Given	8	100

ii) Determine CoveSecure's maximum surplus retention limit. (2)

iii) Determine the reinsurance premiums paid by CoveSecure to Reinsurer S for each of the four policies above. Additionally, state any assumptions you make while doing these calculations. (9)

iv) Determine the recovery CoveSecure will make from Reinsurer S in respect of the claim on policy 4. (2)

The year-end reserving exercise is approaching and you received the data from IT in the format requested for the same. Before commencing the exercise, you attempt to reconcile the premium and claims data with the figures provided by the Finance team. However, discrepancies are identified, and the data does not reconcile.

v) Explain reasons for the reconciliation issue to arise and how can it be addressed. (6)

Reinsurer S is now analysing its own experience with CoveSecure. As a part of the analysis, the first step is to a detailed reserving exercising to understand the quantum of the liabilities on the books.

vi) Identify and briefly describe problems that make reinsurance reserving more difficult than gross/direct reserving. (4)

vii) Explain any five methods available to reserve for reinsuring commercial property business of CoveSecure. Discuss one advantage and disadvantage of each approach. (15)

Post completion of the reserving analysis of CoveSecure and also of all the other reinsurance liabilities on the books of Reinsurer S, the management of Reinsurer S is now contemplating retroceding some of the risks to other reinsurers.

viii) What are the key considerations for Reinsurer S to ensure optimal retrocession arrangement. (4)
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Q. 2) As climate change and various socio-economic factors increasingly impact the insurance industry, particularly in areas like underwriting and profitability, the demand for green and sustainable insurance products is growing. This shift from traditional insurance offerings to greener and sustainable options aims to deliver environmental, social, and economic benefits.

Insurer SustainSure is based in Country A and specialises in retail products.

i) SustainSure is looking to introduce green and sustainable motor insurance products and coverages. As the pricing actuary for the company, you are tasked with developing these new sustainable offerings. Describe the potential products that could align with SustainSure's goals. (3)

ii) Explain how this shift from traditional insurance offerings to greener and sustainable options enhance insurance penetration. (3)

iii) Define adverse selection. Discuss how this shift to greener and sustainable solutions could help mitigate adverse selection. (4)

iv) Identify the uncertainties associated with the insurer's experience in offering these new products and coverages. (6)

The Company has now launched few of the products as discussed above.

v) How can ongoing monitoring of trends using internal and external data be carried out to address the uncertainties in (iv) and optimizing the success of the new offerings? (10)

vi) Identify the stakeholders involved after the products are launched whose failure could have an impact the company, giving in each case an example of the financial effect upon the insurer. (7)

vii) Discuss some measures that the regulator imposes in order to reduce the risk of third-party failure. (4)
[37]

Q. 3) A small, but well-established private general insurance company writes all classes of business in selected geographies in India

i) How does government and regulatory intervention in the insurance sector in India address the challenges of uninsurable risks, ensure accessibility for underprivileged populations, and promote market stability, particularly in the context of compulsory insurance requirements and social welfare programs? (5)

The government along with the regulator has launched a slew of measures to increase rural participation in insurance, equitable opportunities and access to insurance and making certain businesses mandatory for insurance companies. The following are the 3 core points identified by the insurance company during their analysis of these changes:

a) Relaxing norms for opening of new insurance companies
b) Mandating insurance companies to have a certain % of premium through mandated rural geographies
c) Launching of standard products as prescribed by the regulator with price and experience monitoring mechanisms by the regulator

ii) State the key implications of these changes on the private insurance company. (6)
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