

INSTITUTE OF ACTUARIES OF INDIA

EXAMINATIONS

9th March 2022

Subject SA3 – General 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)** A medium sized General Insurance company predominantly underwrites Motor and Fire insurance business and low volumes of Individual Health insurance. The company has been in operation for more than a decade. The newly appointed CEO of this company desires to expand the company's Health insurance portfolio. He has asked the underwriting team to explore the feasibility of launching a high sum insured (Rs 1 crore) indemnity product at a low cost.

Parallely, the Chief Technical Officer recommended that the company commence underwriting Workmen's Compensation insurance where flexibility in the rating mechanism would enable the company to grow rapidly in this segment.

You are the Appointed Actuary of this company. The Product Management Committee has asked your opinion about underwriting Health insurance and Workmen's Compensation insurance.

- i)** Outline the roles and responsibilities of the Product Management Committee in this situation. (6)
 - ii)** Discuss the approach you as the Appointed Actuary would adopt to assess both products before sharing your recommendation to the Product Management Committee. (7)
 - iii)** Set out the merits and demerits of both the product proposals for discussions with the Product Management Committee. (7)
 - iv)** Elaborate on the concept of 'rating flexibility' referenced by the Chief Technical Officer. Outline the regulatory guidelines around rating flexibility and comment on the challenges envisaged. (5)
- [25]**

- Q. 2)** Insurance Regulatory and Development Authority of India (IRDAI) has constituted a committee on IFRS17 implementation. You are the Appointed Actuary of a large General Insurance company and also a key member of this IFRS17 implementation committee, representing the general insurance sector in India

- i)** Outline the advantages and disadvantages of moving to the IFRS17 accounting standard. (11)
 - ii)** Explain the implications of IFRS17 on reinsurance accounting for general insurers. (5)
 - iii)** IRDAI introduced a circular on denotification of the All India Fire Tariff for certain risks. Elaborate on the changes introduced by these regulations in relation to Property business and the expected impact on existing reinsurance arrangements, if any. (8)
- [24]**

- Q. 3)** Taking cue from the recently concluded United Nations climate change conference, the Risk Management Committee of a large General Insurance company decided to put a risk assessment framework in place with respect to climate change. The Committee sought actuarial advice on the same.

- i)** Discuss the key implications of climate change for the general insurance industry and comment on the impact on Pricing, Reserving and Capital Management. (11)
- ii)** List the three risks associated with climate change and give two examples of each risk affecting general insurance business. (6)

The Company has experienced catastrophic claims in recent years which significantly affected the Commercial insurance portfolio. It has decided to use outputs from Catastrophe models alongside experience rating for pricing Property risks.

- iii) List four differences between the output of the Company's experience rating model and the expected Catastrophe model. (4)
 - iv) Discuss potential challenges the Company might face while utilising the Catastrophe model outputs. (4)
- [25]

Q.4) A large General Insurance company operating in India has predominantly been underwriting Motor, Crop and Health Insurance. The market share of the company has been stagnant for a few years and growth rate has plateaued. The Board of Directors of this Company has asked management to formulate a five year business plan designed with the objective of increasing market share by underwriting other lines of businesses.

The Company's management has decided to commence underwriting Fire and Cyber Insurance for both retail and commercial customers. You are the Chief Actuary of this company and the CEO has asked you to prepare a report in support of management's decision.

- i) List the risk and opportunities the company will face when underwriting a new line of businesses. (6)
- ii) Outline the need for Cyber Insurance in India. Explain how the Cyber insurance product should be structured to make it financially viable for the company. (10)

The Chief Underwriting Officer (CUO) of this company has raised concerns with respect to scaling up of Cyber Insurance. The CUO raised issues around accumulation of risk and potential large losses, citing examples such as Non Petya (2017), Energy Grid Blackout (2015), Cyberattacks or any attacks on cloud/mail service providers which could lead to large losses.

- iii) The CEO has asked your opinion on the points raised by the CUO along with possible solutions, if any. (10)
- [26]
