

INSTITUTE OF ACTUARIES OF INDIA

EXAMINATIONS

14th July 2022

Subject SA1 – Health and Care

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 working in a medium size Health & Care Insurance company in India which has major market share in Individual & Group Critical Illness product. The company also has significant business in other lines of Health & Care Insurance products including long term Unit Linked health business. As a part of quarterly public disclosures, the statistics of repudiated claims are published for each Lines of business of the company. The CEO has pointed out that the number of repudiated claims has increased significantly over last 4 quarters for Critical Illness business line and asked for reasons behind it.
- i)** Describe the possible reasons behind the increase in the numbers of repudiated claims. (10)

The CEO is worried about its implications on the company and asked for a report from you on this.

- ii)** What will be there in your report under the head implication? (7)
- iii)** Describe the recommended analysis and actions (including difficulties) to be included in your report in order to address the problem. (15)

The Solvency Ratio (SR) of the company is defined as the ratio of Available Solvency Margin (ASM) & Required Solvency Margin (RSM). At high level, the ASM is impacted due to Business profits (Which has several demographic & economic drivers including New Business written) and Capital injection / withdrawal (in form of dividend). The RSM is changed over time for Individual & Group Business.

- iv)** What is the impact on SR for a change in ASM and RSM separately by x% of RSM where 'x' is small and all other things remain the same? (3)

The ASM & RSM of the insurer was 1231 crores & 403 crores last month with solvency ratio of 305.46%. The following changes to ASM & RSM have happened during the month:

- a) Net increase in RSM for individual business by 8 crores
- b) Decrease in RSM for Group Business by 3 crores
- c) A loss of 27 crores from demographic sources
- d) A profit of 3 crores from Economic sources
- e) Capital injection of 50 crores by shareholders
- v)** Calculate the current solvency ratio and attribute the change in solvency ratio during the month to the above factors in the mentioned order. (5)

The CEO is concerned about the investment of the Shareholder's fund which forms the ASM of the company. To understand the principle, he wants to understand the most preferred asset category out of fixed-interest bonds (Government & Corporate), equities, property, index-linked bonds and cash to invest fund when the SR is marginally above & when it is significantly above the regulatory minimum level.

- vi)** Explain the preference order of asset categories under the two scenarios. (5)

- vii)** He has asked for your opinion on equity investments in Shareholder's fund due to the presence of Unit Linked business. So far, the company doesn't have any equity investment in its Shareholder's fund. Explain his rationale & your response to it. (5)

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Q. 2) Company HealthX specializes in Private Medical Insurance (PMI) currently offering only 'In-Patient (IP)' cover to both Individuals and Groups. It is exploring introducing 'Out-Patient (OP)' cover.

- i)** Outline the important features of product covering the IP benefits only. (3)

- ii)** Suggest, with reasons, a suitable design for the OP cover. (5)

- iii)** Describe the steps involved in pricing the OP cover. (10)

- iv)** Discuss the implications of introducing the OP cover for the following departments of the Company

- a)** Underwriting (5)

- b)** Claims (5)

- c)** Valuation (5)

- d)** Reinsurance (5)

The Chief Risk Officer of the Company argues that the 'out-patient' component is better left to 'out-of-pocket' as it does not fit well for insurance.

- v)** Discuss the merits of the above argument. (6)

The Chief Business Officer suggested that a capitation arrangement (fixed cost per person per year as opposed to fee-for-service) with a network of healthcare service providers should be considered for the OP cover.

- vi)** Discuss the merits of the above suggestion. (6)

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