

INSTITUTE OF ACTUARIES OF INDIA

EXAMINATIONS

2nd September 2021

Subject SP1 – 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 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)** A large insurance company sells health insurance products to individuals and groups only through agents and independent financial advisors. During COVID-19 pandemic the company has experienced reduction in sales from these two channels.

The insurer has approached a price comparison website to add company's products to its range of health insurance products. The website provides instant premium quotations for products offered by different insurers to enable the customer to make a comparison. When the customer chooses a product, the link directs to the particular insurance company's website to complete the sale.

- i) List the data that would be required by the website to produce a premium quotation for an indemnity health insurance product. (3)
- ii) Discuss additional risks to the insurance company that arise from the use of the price comparison website. (6)

One year after the insurance company added the price comparison website as a distribution channel, the Board of the insurance company requested a report from the Product Management Committee (PMC) setting out a review of the experience. The purpose of the report is to assist the Board to decide if they should continue to use the price comparison website.

- iii) Outline the points that should be made in the report. (10)
[19]

- Q .2)** You are a Pricing Actuary working for a large health insurer in a developed market. The company's underwriting and claims settlement process is online completely. The insurer is looking to enter into a developing market.

- i) List down the reason with relevant examples, why the insurer will have uncertainty in estimating the claims cost for an Indemnity Health insurance business in the new market using their current data. (5)

The large insurer has been successful in their market largely due to the use of an electronic patient record for underwriting and claims settlement. "E-locker" is an internet based tool, which is used to manage exchange of data between health care providers and the insurer. The insurer uploads policy related data including past medical history, health declarations, proposal forms etc. in "E-locker". Providers use the "E-locker" to submit claims along with treatment documents and the insurer has an access to the insured member's hospital bills, test results etc.

- ii) Discuss the advantages and disadvantages to the insurer and other stakeholders of introducing an electronic patient record for underwriting and claims adjudication in the developing market. (6)
- iii) The insurer entered the less developed market and at the first price review a year later you have found that the product is less profitable than assumed in the pricing basis.

Suggest, giving examples, corrective actions that can be taken to improve future performance. (8)
[19]

- Q .3)** Define the following terms used in Private Medical Insurance:

- i) Investigative surgery (1)
- ii) Moratorium (1)
- iii) Acute illnesses (1)
- iv) Anti-Selection (1)
[4]
- Q .4)** i) Explain how community rating could lead to cross-subsidy between policyholders. (2)
- ii) Cross-subsidy usually provides an opportunity for policyholders to select against the insurer. Explain how this might happen. (2)
- iii) In some countries a system of lifetime community rating has been proposed for PMI. This system allows insurers to charge premiums that vary by age at entry, but which do not change after entry provided the policy is renewed each year.
- Explain how a lifetime community-rating system avoids some of the pitfalls of a community-rating system. (4)
[8]
- Q .5)** A health insurance company is selling Long-term Income protection insurance. The income to the policyholder is based on an Inflation linked benchmark index, subject to a minimum guaranteed rate. There is a regulatory restriction on the investment of assets, and the company has to maintain a separate fund for this product. In addition, the total investment in equities under this fund cannot exceed 50% at any time. The regulator has noticed a mismatch in the asset and liability position of the company. The company has been asked to continuously monitor the ALM position, and create a mismatch reserve to protect the interest of the policyholders.
- i) Explain how the creation of the mismatch reserve, will affect the Balance Sheet and Solvency ratio of the insurer? (5)
- ii) Discuss the action to be taken by the insurer, to reduce the mismatch reserve. (5)
- iii) Suggest the possible steps that should be taken by the insurer, to determine an appropriate investment strategy for this product. (5)
- iv) List the advantages of using financial reinsurance to improve the capital position. (5)
[20]
- Q .6)** A health insurance company has a large portfolio of critical Illness products catering to different target segments. Tied agents sell the product and majority of the applications are processed with simplified underwriting. The experience study team, has recently performed a review of the portfolio, and found that there has been a spike in the Heart and Lungs' related claims due to onset of the Covid-19 pandemic. The portfolio was not reinsured and, hence the insurer is making direct losses. The management of the company has taken a decision to stop selling this product in order to improve the profitability of the portfolio. However, the company has lost a good proportion of market share due to this decision, as it was the flagship product for the company.
- i) Explain why it is important for health insurance company to monitor the experience of

the portfolio. (5)

ii) Suggest the alternate actions that can be taken by the management to improve the experience of the product, instead of closing the product for new business. (5)

iii) The Appointed Actuary of the insurer needs to understand the actual expense of the portfolio to review the pricing basis used.

List the steps to be carried out, for the purpose of such expense analysis. (5)
[15]

Q .7) A new company has got license approved recently, to operate in the health space in the Indian market. This is a joint venture between an Indian bank and a foreign insurer having expertise in the health insurance segment. The foreign insurer has technical expertise to manage the long-term health insurance products in its own market. The company is planning to launch an Individual Mediclaim policy as its first product in India.

i) Analyze the risks faced by the company and action taken by the management to mitigate those risks. (10)

ii) Suggest with rationale, the reinsurance arrangement that needs to be placed for the product. (5)
[15]
