

INSTITUTE OF ACTUARIES OF INDIA
EXAMINATIONS

24th May 2024

Subject SA1 – Health and Care

Time allowed: 3 Hours 15 Minutes (14.45 - 18.00 Hours)

Total Marks: 100

Q. 1) You are working in a Health & Care Insurance company which sells yearly renewable retail Private Medical Insurance (PMI) individual policies where each year's premium depends upon age, gender and No Claim discount (NCD) level and the policy indemnifies the insured against the total cost of every claim. Every policy starts with 0 point in its NCD account. On completion of each claim free year, 10 points is added and on making a claim 20 points is subtracted from the NCD account. Any NCD account can have maximum 40 points and minimum 0 points at any point of time. At the time of renewal of the policy, NCD level discount of 1% per point in the NCD account is applicable on prevailing premium.

- i) Discuss the advantages and disadvantages for the insurer of this NCD scheme. (8)
- ii) The insurer's initial calculations suggest that premiums with a 30% NCD will be roughly equal to those for a policy with no NCD scheme, but with an excess (deductible) of Rs. 10,000 on each claim. Compare and contrast these two alternative policy designs. (6)

Following a successful introduction of the NCD scheme on the individual PMI business, your company is considering extending the idea to its individual income protection and short-term accident and sickness insurance policies.

- iii) Discuss whether or not this is a feasible idea for any or all of this business. (6)
- [20]**

Q. 2) You are working in a medium size Life Insurance company which sells long term Health & Care policies as well. Tied Agents are the main distribution channel for the company. In order to increase the penetration in long term Health & Care business, it has developed 3 such products, namely:

- a) Impaired life Immediate monthly annuities increasing in line with wholesale price inflation index
- b) Group income protection insurance providing a pay-related benefit whilst unable to work as a result of accident or sickness for more than a month
- c) unit-linked Hospital Cash and Surgical Benefit insurance, offering a range of linked funds, and providing fixed cash payments to policyholders on Hospitalization beyond 24 hours or on undergoing a major surgical procedure
(Under the unit-Linked policy the premiums net of allocation charge and applicable tax, are invested in various unit funds by way of unit allocations. Explicit risk charges on attend age basis, policy expenses and applicable taxes are debited from the unit funds monthly in advance by way of unit cancellations. Fund management charge and applicable taxes are debited from the unit funds implicitly on daily basis through adjustment in declared net asset value of units. There is no bid-offer spread in the unit values. Available units are redeemed and paid to the policyholder on terminal exits)

You are preparing a report to your CEO on the following aspects for each of the above 3 products:

- i) Underwriting policy. (11)
- ii) Appropriate reinsurance arrangements. (6)

- iii)** The main distribution channel(s) through which the product might be sold. (7)
- iv)** The main costs and risks associated with developing and launching the product. (27)

Mention and explain the points you will include in your report.

- v)** List down the policy information which will be required for analyzing the experience, setting of assumptions and statutory valuation of liabilities for these new products. (6)
- vi)** Describe the checks to be applied on the policy information data received in order to ensure accuracy and completeness. (5)

From next year onwards, new Regulations similar to Solvency II will be applicable. where Technical Provision will be the sum of Best estimate liability and Risk Margin. Risk Margin will be determined based on the marginal cost of holding Solvency Capital till the run-off of the portfolio to support the risks that can't be hedged allowing for the benefits of diversification.

- vii)** Outline the tests that your model should pass so that you can use internal models to calculate solvency capital requirements under the new regime. (7)
- [69]**

- Q. 3)** Describe the Classification, Scope, Pricing, Product design, Pre-existing diseases, specific waiting period and Moratorium aspects of Health insurance products as stipulated in the IRDAI (Insurance products) Regulations, 2024.

[11]
