INSTITUTE OF ACTUARIES OF INDIA

EXAMINATIONS

2nd December 2022

Subject CP1 – Actuarial Practice
(Paper B)

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

Total Marks: 100

INSTRUCTIONS TO THE CANDIDATES

1. ***Please read the instructions inside the cover page of answer booklet and instructions to examinees sent along with hall ticket carefully and follow without exception.***
2. ***Attempt all questions beginning your answer to each question on a separate sheet.***
3. ***Mark allocations are shown in brackets.***
4. ***Please check if you have received complete Question Paper and no page is missing. If so kindly get new set of Question Paper from the Invigilator.***

AT THE END OF THE EXAMINATION

Please return your answer book and this question paper to the supervisor separately. You are not allowed to carry the question paper in any form with you.

Q. 1) The Pricing Actuary of a life insurer is exploring using data analytics for pricing short duration protection plans. Data analytics will help in analyzing and understanding the customer's behavior and risk and therefore assist in calculating bespoke price for the prospective customer. Apart from using internal data like past claim experience, external data will also be used to determine the premiums.

i) What are the adverse implications of introducing data driven pricing for prospective policyholder and the insurer? (10)

ii) What are the limitations of using data from external sources for pricing? (3)

iii) Briefly explain how available capital is determined under economic balance sheet. (3)

iv) The management of the life insurer has asked the shareholders to inject capital in the business. Highlight the reasons why injection of capital is required by the insurer? (7)

The insurer historically invested in short dated fixed instruments mostly of high credit quality in its non-participating fund. However, it has now decided to invest part of the assets in equities.

v) Why would the life insurer change the investment strategy to include equity asset class? (6)

The CEO of the life insurer is reviewing the performance of one of the recently launched equity fund under the linked segment and have found that it has poorly performed against the benchmark. When the decision was taken to launch the equity fund, CEO had put outperformance of the benchmark as a key performance appraisal criterion for the investment team.

vi) Highlight the reasons why the equity fund underperformed the benchmark? (10)

The insurer wants to launch a new *Environmental, Social, and Governance* (ESG) fund under the linked segment as some of competitors are launching their own ESG fund. The management of the insurer think it will provide a good marketing leverage and will attract new customers.

vii) Briefly discuss the issues which the investment manager needs to consider when launching the ESG fund? (11)

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Q. 2) The insurance regulator of a country is in the process of moving from the current prescriptive regulatory regime to a principle based regulatory regime. One of the reforms proposed by the regulator is self-approval of insurance products. Currently, each insurance product needs approval by the regulator before the same is launched in the market. Going ahead, insurance companies will be allowed to launch a product after the same is approved by an internal product management committee of the insurer.

i) List the different types of insurance cover provided by General Insurance products. (2)

ii) Outline the need for regulation of insurance products. Discuss the pros and cons of the proposed regulatory regime in the context of General Insurance products. (5)

iii)

a) Explain Reserves in brief and outline the reasons why an insurer needs to calculate reserves. (6)

b) Discuss the different types of reserves specific to a General Insurance company. (6)

It is expected that that the insurance regulator will soon move from the current factor-based capital requirements to risk-based capital regime.

iv) Explain in brief the approach to assess the capital requirements for a General Insurer under the proposed risk-based regime compared to the current regime. (12)

One of the major General Insurance players in the market has launched a wellness-based health insurance policy for senior citizens. One of the wellness metrics considered is the number of steps walked by the insured per day measured using a mobile application. The insurer plans to reward 'healthy' insureds with wellness benefits in the form of medical, nutritional and diet consultation, health check-ups, fitness programs and premium discounts during renewal.

v) Discuss briefly the different expenses associated with insurance products with particular focus on the above wellness-based health insurance product. (5)

vi) Discuss in brief the different risks associated with the above product and how the same could be mitigated. (14)

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