

INSTITUTE OF ACTUARIES OF INDIA
EXAMINATIONS

22nd May 2024

Subject: CP1 - Actuarial Practice
(Paper B)

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

Total Marks: 100

- Q. 1)** You are an actuary working in ABC Insurance Ltd. The insurer is planning to add an optional feature to the existing individual term assurance plan. The term assurance plan provides lump sum death benefit on the death of the life assured. The option, if selected, will give flexibility to the policyholder to increase the sum assured during the tenure of the policy to accommodate the potential growing need for life coverage. The premium rates applied to the enhanced sum assured during the tenure of the policy will be guaranteed at inception of the policy.
- i)** Suggest actions that the insurer can take to limit the claim costs of the option. (6)
 - ii)** The insurer is further considering offering health riders (like critical illness rider, disability rider etc.) which can be attached on an optional basis to the individual term plan. Highlight the advantages and disadvantages of offering the health riders. (10)

(Note: Riders are additional benefits that can be purchased along with the base plan)

The reinsurer has recently notified the insurer that the reinsurance rates for the term plan will increase by 40% for new business. The revision of the reinsurance rates will be applicable from the beginning of the next quarter. The insurer has decided to pass on the impact of the increase in reinsurance rates by increasing the premium by flat 10%. There are no other changes in the assumptions or structure of the plan apart from allowing for increased reinsurance premiums.

- iii)** Why it is important to monitor the financial viability of the insurance plan(s)? (3)
- iv)** Explain the likely impact of the change in the pricing model cashflows and the overall profitability of the plan. (7)
- v)** Due to the substantial increase in the reinsurance rates, the CEO has suggested to increase the retention limits from the current levels for the individual term assurance plan. Discuss the impact of the above suggestion on financial, operational and business aspects of the company. (14)
- vi)** The insurer is using a decade old system for reinsurance administration. Highlight the need to upgrade the system. (6)

The CEO has proposed to engage a technology consultant to advise the insurer to embed Artificial Intelligence (AI) in some of the processes.

- vii)** Please discuss what are the various ways in which AI can be used for the benefit of the insurer. (8)
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- Q. 2)** A composite insurer in country X has been approached with the proposition to invest in developing a new resort in country Y situated in Indian Ocean. The tourism sector in county Y has shown a strong growth in the recent past and the trend is expected to continue over the next decade. The resort will be based on "one island, one resort concept" and therefore the new resort will be on one of the standalone islands in county Y. The real estate investment analyst in the investment department of the insurer in country X has been asked to assess the investment opportunity.
- i)** Highlight the factors which the analyst will need to consider during evaluation and recommend the investment opportunity to the Chief Investment Officer (CIO) of the insurer. (14)
 - ii)** Chief Financial Officer (CFO) wants a good understanding of cost involved in running a resort so as to have better visibility on expected profitability. What are the key costs which are required to operate the resort? (7)

- iii) What are the primary objectives of ALM for an insurer? (2)
- iv) Describe the suitability of the investment opportunity to manage the asset liability management (ALM) for the portfolio of contracts offered by the insurer under following segments:
 - a) Life and health Insurance (7)
 - b) General Insurance (2)

A recent report published by the World Climate Research Organization has predicted climate change as one of the key risks facing the country Y. The organization has claimed that country Y will be one of the hardest hit nations as result of climate change over the coming decades.

- v) Briefly explain the risks which climate change may cause to the country Y tourism industry. (9)

The insurance regulator in country X is considering revision in the investment regulations. The regulator as part of the proposed investment regulation change wants the insurers to invest in equity stocks which have paid dividends in last 2 out of 3 financial years. The equity stocks which do not meet the criterion will not be considered as approved investment by the regulator.

- vi) Highlight the demerits of the proposed amendment from investment fund management perspective. (5)
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