

# **INSTITUTE OF ACTUARIES OF INDIA**

## **EXAMINATIONS**

**26<sup>th</sup> July 2022**

**Subject CP1 – Actuarial Practice  
(Paper A)**

**Time allowed: 3 Hours 30 Minutes (09.30 - 13.00 Hours)**

**Total Marks: 100**

- Q. 1)** One of the largest insurance companies located in a particular country has received an offer to be purchased by an overseas private equity firm. Identify the different stakeholders involved in the proposed purchase, commenting for each how they might prefer the company's provisions to be calculated. [6]
- Q. 2)** You are part of the Investment Middle Office team of your company. Risk Committee meeting is scheduled to happen at the end of the quarter. In the last Risk Committee meeting, an independent director had raised a query regarding monitoring of investment risk. CRO has asked you to prepare a draft report on "Investment risk monitoring framework" to be discussed in the upcoming Risk Committee meeting.
- Outline all the elements of the framework. [7]
- Q. 3)** i) Briefly state the four steps necessary to achieve an effective identification and analysis of the risks facing a project. (4)
- A unit linked product pays out higher of the unit value or a guaranteed lump sum to the beneficiary 2 years after purchase, in return for an initial single premium.
- ii) List the reasons the company may not fulfil its obligations. (2)
- iii) Outline the risks the beneficiary may face if the payment amount is not guaranteed. (2)
- [8]
- Q. 4)** You are a Partner in CWP Consulting, leading their actuarial consulting arm. You have been hired by one of the large insurance companies to review their bonus distribution for with profit policyholders. You must present your report to the management.
- i) Discuss how the company can generate surplus. (5)
- ii) Briefly outline the ways in which it can increase its surplus year on year by reducing the outgo. (5)
- [10]
- Q. 5)** Your friend has just bought the latest smartphone. He bought it from the profits that he had earned using algorithmic trading. Your other friend is also keen to use the approach to buy a similar smartphone.
- i) Discuss algorithmic trading including its advantages and disadvantages with your friend. (6)
- ii) Would you suggest algorithmic trading as a mean to earn profit to buy a smartphone? (2)
- Your friend is impressed with your understanding of technical aspects of complex subjects and has asked you to help her to understand the following statement which she had read in an Actuarial magazine – "Copulas is an effective way to assess risk".
- iii) Please explain briefly what a Copula is and why the statement is true. Also mention the key risks in using Copulas. (6)
- [14]

- Q. 6)** A company which writes general insurance business is developing a new line of cloud-based insurance lifecycle platform to create and run a new type of insurance product – “splitsurance”. The Company targets university students who live in a shared accommodation.
- i)** Briefly describe the various types of insurance products the company can offer. (7)
- ii)** Discuss how the assumptions are set or existing assumptions are tailored to price the products offered under splitsurance. (10)
- [17]**
- Q. 7)** ABC is an insurance company based in a developing country. It has been in operation for the past 10 years and writes a variety of products. The country is going through an economic crisis and ABC along with other companies is also impacted. You are the CFO of the Company and reviewing the risks ABC is facing in view of the current economic crisis.
- i)** State and explain with reasons the key risk that the company will be most exposed to? (4)
- ii)** Briefly discuss the options available for ABC to mitigate the risk. (7)
- iii)** Outline the suitability of each of those options and suggest the most suitable option in the current scenario for ABC? (7)
- [18]**
- Q. 8)** An insurer writes a range of long-term health insurance business. The company wants to grow its business further and hence a new CEO has been appointed by the company.
- He has suggested that to cut costs and grow further, the level of underwriting should be relaxed.
- i)** Discuss the advantages and disadvantages of the suggestion. (10)
- ii)** Discuss ways in which the company could reduce underwriting costs. (5)
- The Chief Marketing Officer has suggested that the Company could use the health tracking wearables to reduce the underwriting cost and improve company’s profitability.
- iii)** Discuss the use of health tracking wearables in reducing the underwriting costs. (5)
- [20]**

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