

INSTITUTE OF ACTUARIES OF INDIA

EXAMINATIONS

7th September 2018

Subject SA1 – Health and Care Insurance

Time allowed: Three hours (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. ** You have 15 minutes at the start of the examination in which you are required to read the questions. You are strongly encouraged to use this time for reading only, but notes may be made. You then have three hours to complete the paper.*
3. *You must not start writing your answers in the answer sheet until instructed to do so by the supervisor.*
4. *The answers are expected to be India Specific application for the syllabus and corresponding core reading. However, substantially the core reading material is still taken from material supplied by Actuarial Education Company which is meant for UK Fellowship examination. The core reading also contains some material which is India Specific, mostly the IRDA regulation. In view of this, it should be noted that focal point of answers is expected to be India Specific application. However, if application specific to any other country is quoted in the answer the candidate should answer the question with reference to Indian environment.*
5. *Attempt all questions, beginning your answer to each question on a separate sheet.*
6. *Mark allocations are shown in brackets.*
7. *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)** ABC is an established medium size Indian Health and Care insurer which has some business (to the tune of 25% of its Indian business) in the Middle East countries through joint venture collaborations. In both Indian and Overseas market, it writes all 4 types (IP, CI, PMI and LTCI) of individual Health and Care business. In addition, it has a unique individual deferred long term care insurance in Indian Market where during the accumulation period the regular premiums (net of allocation charge) are invested in a unit fund managed by the company. All charges are deducted from the unit fund by way of cancellation of units on monthly basis. In case of occurrence of any critical illness during the accumulation period, the CI sum insured is paid immediately and all future premiums are waived (are paid by the Company). In addition to these, 25% to 75% of the unit fund may be withdrawn on request depending upon the level of critical illness. The death benefit during the accumulation period is the unit fund and at the end of the accumulation period, the proceeds of the unit fund is utilized to provide long term care insurance from ABC itself, where the level of benefits are decided through individual underwriting. Currently, ABC does not have any group product.
- i)** Discuss the objectives of Asset-Liability Management (ALM) policy of ABC. (5)
 - ii)** Describe the process involved in deciding ALM strategy of ABC. (5)
 - iii)** Discuss the suitability of various asset classes to support the liabilities in Policyholder's Fund. (15)

The company (ABC) maintains 2 shareholder's account to support the solvency capital, the first one supports the required minimum of 150% of Required Solvency Margin (RSM) and the balance of the Shareholder's fund is maintained in the other Shareholder's account.

- iv)** Discuss the suitability of various asset classes in the two Shareholder's Funds. (6)
(You may ignore any legal or supervisory restrictions on investments of assets)

ABC conducts analysis of experience on quarterly basis and reports the same to its Board additionally providing the financial impact of deviations of its experience from assumed (best estimate) level. Also, due to consistent deviations of actual experience from the assumed level for consecutive past 12 quarters, ABC has revised few of its valuation parameters this time.

- v)** Describe briefly the process of analysis of experience along with the financial impact on reported profits with reasons under each of the following heads.
 - a)** Morbidity (9)
 - b)** Renewal (2)
 - c)** Expense (3)
 - d)** New Business (3)
 - e)** Investment Income (2)

ABC decides to introduce group CI, Personal Accident and Travel Insurance products which will be offered to non-government groups and is preparing for filing the appropriate products to the Indian regulator (IRDAI) for approval.

- vi)** Discuss the additional guidelines applicable to Group Health Insurance Products under Guidelines on Product Filing in Health Insurance Business as stipulated by IRDAI in July 2016. (10)

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Q. 2) The Insurance Regulator of a country has decided to implement Risk Based Solvency (RBS) capital regime. The implementation framework is yet to be finalised. For the purpose of this question, it could be assumed to be similar to the Risk Based Solvency regime implemented in Europe in 2016. The current solvency assessment is factor based and has been prescribed in the regulation.

A stand alone health insurance company that primarily sells indemnity health product is preparing itself for implementation of the new solvency regime.

i) Discuss the key objectives for implementing RBS and its guiding principles. (5)

ii) Define Risk Margin and explain the cost of capital method to calculate Risk margin. (6)

For calculating the Solvency Capital Requirements (SCR), an insurance company has the following choices:

- Full internal model
- Standard formula with partial internal model
- Standard formula with undertaking specific parameters (USPs)
- Standard formula
- Standard formula with simplifications

iii) Discuss the appropriateness of standard formula or Internal Model to determine the SCR. (9)

iv) Describe briefly the tests that the internal model must pass in order to gain approval from the regulatory authorities. (6)

The capital requirements are likely to increase under the new solvency regime.

v) Suggest ways in which insurer can use reinsurance to meet financing requirements. (8)

Let's assume that the new solvency regime is fully implemented. The health insurance company decided to use standard formula for calculating SCR and got it approved from the regulator.

The insurer now intends to acquire another standalone health insurance company that uses internal model for the purpose of calculating SCR. This insurer sells indemnity as well as fixed benefit plans and also sells products with long term liabilities (3 to 5 years)

vi) You have been asked by the purchasing insurer to evaluate the solvency position of the seller. State information you may require for the purpose of evaluation as well as discuss your approach. (6)

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