INSTITUTE OF ACTUARIES OF INDIA

EXAMINATIONS

28th November 2019

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.

You work for an actuarial consulting firm, which provides specialist actuarial advice to general and life insurance companies. You have been asked to complete two assignments.

Note your work needs to link to the information provided in the background information and should discuss/outline areas of professionalism/actuarial advice as required.
[Note: Limited credit will be given to solutions where generic answers are given].

Assignment 1

A large general insurance company ABC Ltd has been selling private motor products for more than 20 years through tied agency and brokers.

The Head of Business Development is concerned about the decreasing market share of the company over the last 3 years. He is of the opinion that market share of competitors is going up due to success of online sales channel while ABC Ltd has been slow to react to changing market preferences. He strongly supports launching an on-line channel.

Q. 1) Explain the factors that ABC Ltd needs to consider before deciding whether to launch on-line channel? (8)

Q. 2) If a decision is taken to launch on-line motor product, why would the price for this product be different from that of the existing product? (8)

The CFO has observed that losses in the motor portfolio have increased over the last 2 years even though there is no change in premium, underwriting/claims practices and the target market. He is of the opinion that the claims experience has worsened due to economic recession.

Q. 3) Discuss how economic recession could have impacted the claim experience? (4)

Q. 4) ABC Ltd is keen to improve fraud management in its motor portfolio. Discuss steps that could be taken by the company to reduce frauds in the motor portfolio? (5)

The CFO has also raised a red flag on the recent trends in the solvency position which he has primarily attributed to economic recession. What would be the impact of economic recession on –

Q. 5) The assets of the company if the asset valuation is based on market value assuming the investments of the company are in money market, bonds, properties and equities? (6)

Q. 6) The policy liabilities including expense provisions? (4)

ABC Ltd is having a defined benefit scheme for its employee which pays a lump sum benefit at normal retirement age. This lump sum benefit is 5% of annual salary at retirement for each year of service. In case of death/permanent disability in service, lump sum equal to ten times annual salary at time of death is payable immediately. For early leavers, a deferred benefit of 5% of annual salary at time of withdrawal for each year of completed service, is payable at normal retirement age of member. A separate fund is held by the company for this purpose and contribution to the fund is made yearly based on annual valuation.

Q. 7) Outline an investment strategy most suitable for this scheme? (8)

The annual valuation exercise of the benefit scheme which manages assets of Rs.5000 Crores reveals the following:

Source	Contribution to Surplus
Mortality	+ Rs. 5 crores
Salary growth	(-)Rs. 20 crores
Investment Return	(-) Rs. 70 crores
Withdrawal	+ Rs. 10 crores

Q. 8) Discuss the possible causes for each of the results shown in the above table. (8)

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Assignment 2

A life insurance company offers unit-linked regular premium product to fund for pension on retirement. The vesting date is the retirement date which is selected by each policyholder at inception of the policy.

The product has following key features:

- There is a minimum guaranteed maturity benefit which is return of premiums paid
- The product offers balanced fund which invests in both debt and equity
- Death benefit is return of fund value
- It is compulsory to purchase an immediate annuity either with the same company or in the open market using part of the unit fund value on maturity of the policy
- The policy may be surrendered any time however it could have tax implications for the policyholder
- The Company will charge for guarantee provided as a percentage of unit fund value

As per current tax regulation policyholders have the option of taking 40% of their fund value as a tax-free lump sum, but the remaining fund value had to be used to compulsorily purchase an immediate annuity.

Q. 1) Outline the needs fulfilled and benefits of buying the product for the policyholder? (5)

Q. 2) Summarize the key risks to the insurer of offering the return of premium guarantee in the unit-linked product. (9)

Q. 3) The company wants to produce an economic capital balance sheet as part of internal requirement. Discuss methods that could be used to determine the value of liabilities for this product under economic capital framework. (10)

Currently 40% of the pension fund value can be taken as a tax-free lump sum on the vesting date. The Government has now proposed that the remainder of the fund value can either be taken as a taxable cash amount or it can be used to buy an immediate annuity as before.

Q. 4) Discuss why the Government might bring in such a change in legislation. (5)

Q. 5) Discuss how this regulation change might impact the take-up rate for the annuity. (10)

The company is looking to offer the same version of the product but with an in built disability benefit. All future premiums on the pension product will be waived if a customer is determined to be disabled which is defined as “not being able to pursue own occupation”.

Q. 6) What are risks associated with offering such a benefit and how could these risks be mitigated. (10)

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