INSTITUTE OF ACTUARIES OF INDIA

EXAMINATIONS

27th June 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 are an actuary and you have been asked to complete assignments given below. Your answer needs to link to background information given in each assignment and should discuss/outline areas of professionalism/actuarial advice as required. Limited credit will be given to solutions where generic answers are given.

Assignment 1

Background information

A Government in a large developing country with young population is planning to introduce a voluntary pension scheme targeted at workers in the unorganised sector/self-employed. The proposed start date of the scheme is 01.01.2020. The features of the proposed scheme are as under:

a. Entry to the scheme is allowed only between ages 18 to 45.
b. The scheme will provide a lifelong monthly pension guaranteed by the Government starting from age 60 to its subscribers.
c. The pension amount ranges from Rs 1000 to Rs 5000 (in multiples of Rs. 500) based on subscriber's choice.
d. The monthly contribution required will depend on age at entry to the scheme and the quantum of fixed monthly pension opted.
e. A subscriber will not have to pay penal interest for delay in payment of monthly contribution. However, discontinuance of contributions for a continuous period of 24 months will lead to freezing of account. A subscriber is then eligible for proportionate pension from age 60 based on number of contributions paid to total number of contributions payable.
f. Government will contribute equal to 100% of the subscriber's contribution in respect of non-income tax paying citizens who have opted for a monthly pension of less than Rs 2500 provided the subscriber does not default on contributions. Hence the member will get double the monthly pension opted provided he does not discontinue contributions.
g. At age 60, 1/3rd of the pension can be commuted and the commuted value would be determined based on a pre-fixed formula.
h. In case of death of a subscriber an immediate pension equal to 50% of the opted monthly pension is payable to the spouse/dependant till his/her death.

The Scheme will be managed by Central Pension Authority established by Government.
You have been asked the following questions.

Q. 1) Explain the likely reasons for the Government to introduce such a scheme with these features. **[8]**

Q. 2) Discuss the key operational challenges the Government is likely to face in managing this scheme. **[5]**

Q. 3) You have been engaged by the Government to determine the contribution rate and commutation factor. Discuss the factors that should be considered

i) While setting the contribution rate. (7)

ii) While setting the commutation factor. (3)
[10]

Additional Background information

The Government is also considering introduction of a mandatory pension scheme for workers in the organised sector currently drawing salary below a specified limit along similar lines (including contribution rate and commutation benefit) except that the fixed monthly pension will be Rs. 5000. The Employers having pension scheme for their employees can "buy out" of the Government scheme in respect of all/groups of employees if they can demonstrate that their scheme is better than the Government scheme in terms of benefits. If Employer does not opt for "buy out", then he has to pay agreed "transfer value" for accrued service in respect of employees whose benefits are transferred as well as direct future contributions in respect of them to the Government scheme.

A large Employer from manufacturing industry is having a non-contributory final salary pension scheme for his employees. The Employer has determined that nearly 75% of his employees will qualify for the new scheme because of their current salary levels.

You have also been approached by a large life insurance company selling life insurance products. Considering the new turn of events in the pension market the company is thinking of introducing the following products-

1) Immediate annuity

2) Single premium/regular premium deferred annuity with fixed benefit (as defined by the employer) to commence from the date as chosen by the employer.

Q. 4) You have been asked to explain the options as well as their implications for the Employer in management of his existing pension scheme post the introduction of the Government Scheme. Discuss the various options and their implications. **[15]**

Q. 5) Discuss the factors the life insurance company should take into account while designing the annuity products. **[12]**

Assignment 2

Background information

A large immediate annuity provider is looking into investing in alternate asset classes. The company currently invests in fixed interest assets like Government and Corporate bonds. One of the areas it is contemplating is to finance the construction and operation of properties like student accommodation, car parks, ware houses etc. The provider believes that this strategy would lead to multiple cash flow generation strategies like leasing student accommodation to universities, ware houses to multinational companies (i.e.- Amazon, Flipkart etc.), self-managing the car parking facilities etc.

The annuity provider has employed you to advise it about the potential implications of the above proposal. You have been asked to produce answers to the following questions.

Q. 6) Describe the reasons why such investment might be attractive to the annuity provider. **[15]**

Q. 7) Describe the nature of risks to the annuity provider for investing in the alternate investment class. **[16]**

Q. 8) Explain how provider can reduce the credit risk associated with the alternate investments. **[13]**

The annuity provider is reviewing its internal operational controls on claims. It had observed that it has problem of "Incurred but not reported (IBNR) claims" in context of annuities.

Q. 9) Explain the concept of "Incurred but not reported (IBNR) claims" in the context of annuities and how it can be controlled? **[6]**

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