INSTITUTE OF ACTUARIES OF INDIA

EXAMINATIONS

19th November 2020

Subject SA4 – Pensions and Other Benefits

Time allowed: 3 Hours 30 Minutes (14.30 - 18.00 Hours)

Total Marks: 100

INSTRUCTIONS TO THE CANDIDATES

1. ***Please read the instructions to examinees sent along with hall ticket carefully and follow without exception.***

2. ***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.***

3. ***Mark allocations are shown in brackets.***

Q .1) A developing country with large population has little or no social security pension benefits to its senior citizens (except the Occupational Pension Scheme available to Government Employees). The Government of the Country is planning to establish a Social Security Net (SSN) to the "weaker sections" whereby it aims to provide a pension of K 3000/- per month (where "K" is the currency of that country) from the Superannuation age of 60 (SPA). As a first step, it aims to start the pension scheme for the small farmers of the country.

To discuss this proposal a high-level meeting is being organised by the concerned ministry and you, as a Pension Consultant, have been invited to participate in the meeting.

i) List the information you will seek in the meeting to have a clear understanding of the features of the proposed scheme. (6)

During the meeting, the following details have emerged about the scheme and you have been asked to develop a suitable contribution rate for the scheme:

- Farmers who own an agricultural land of less than 1 (unit) and the agricultural labourers will be covered under the scheme. It is estimated that there are around 200 million potential members to be enrolled under the scheme over a period.
- It is a contributory scheme in which the identified members between ages 18 and 40 (both inclusive) will be contributing to the Pension fund up to age 60, through auto debit from their bank account.
- The Government will also be contributing equally to a pooled Pension Fund.
- Each member will have a separate Pension Account in which member's own contribution will be maintained.
- Interest will be credited to member's account at the end of each financial year based on the overall investment performance of the Pension fund.
- When a member reaches SPA of 60, the accumulations in his account will be transferred to pooled fund and a pension of K 3000/- will be payable. The first pension is paid one month after reaching age 60. In the event of death of the pensioner 50% pension will be payable to the spouse.
- Pension will be paid out of pooled fund.
- In the event of death/discontinuance of contributions by a member before reaching SPA, the accumulated contribution of the member together with interest will be paid to the member/nominee. The Government's contribution will, however remain in the pooled Pension Fund.
- A Pension Fund Trust (PFT) will be formed for the purpose and the Trustees will be responsible for overall management of the Pension Fund including the regular pension pay-outs.
- A separate Fund Manager and Record Keeping Agency will be appointed for the purpose.

- Enrolment to the Scheme will take place through a specialized agency who will be identifying the potential members and facilitate enrolment for which a fixed fee will be payable.

ii) Describe how you will derive the schedule of contributions for the scheme. Also state how you will be demonstrating the uncertainties associated with the contribution rates in your report. (13)

You have submitted a schedule of contributions for each age between 18-40. The contribution rates for some selected ages are given in the following table. But the Government does not accept your rates as it finds them to be very high compared to its own expectations/calculations. The Government has therefore come out with a different schedule of contributions as given in the following Table:

Age	Monthly Rates Proposed by you (K)	Notified Contribution Rates (K)
18	85	55
25	145	80
30	215	105
35	360	150
40	520	200

iii)

a) Discuss the significance of withdrawal assumption while deriving a schedule of contributions for a target pension under a DC Scheme. (3)

b) Explain how withdrawal experience can be a source of risk to the Government under the above scheme with a schedule of contribution rates. (6)

The Scheme was launched a year back with the schedule of contributions notified by the Government and about 1.5 million members have been enrolled under the scheme in the first year. There have been very few exits due to death and withdrawal. The Trustees of PFT have decided to have an actuarial investigation of the scheme on completion of one year. The profile of the members and contribution details are given as under:

Age	Proportion	Number of members
18-20	10%	150000
21-25	15%	225000
26-30	20%	300000
31-35	30%	450000
36-40	25%	375000
Total members at the end of the year		1500000
Total Contributions including Government Share in pooled fund (in million K)		2560
Interest credited overall (in million K)		60
Total fund at end of year 1 (in million K)		2620

iv) State the primary (& other) objectives of having an actuarial investigation of the scheme on annual basis. (2)

v) As a Scheme Actuary, explain how you will be conducting the actuarial valuation of the scheme and communicating the results to the Trustees. Your answer should cover the following aspects:

a) Data including the validation checks (6)

b) Approach to develop a basis for various parameters (5)

c) Methodology used in the valuation (6)

d) Key aspects to be covered while communicating the results under such scheme with reference to the professional standards (3)

You may assume that actuarial profession of that country has issued Actuarial Practice Standards and Guidance Notes for its members similar to those applicable in India.

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Q .2) You have recently been appointed as an actuary for a Defined Benefit Pension scheme of a large manufacturing company in India. The scheme is closed to new entrants since 1 January 2016. The accounting valuation of the scheme is due as at 31 December 2020.

The relevant scheme rules are as follows:

Vesting criteria: 50 years of age and 10 years of service

Normal retirement age: 58 years

Benefit on Retirement:
50% * Monthly (basic + DA) in the month of retirement
Commutation of 1/4 of monthly pension calculated at commutation factor of 10 at age 58 with pension restored fully at the end of 10 years

Death/Disability Benefit:
Before 10 years' service - Nil
Post 10 years' service Death/Disability– monthly pension equal to 75% of pension member would have received had he retired on date of his death; 100% in case of disability.
Pension in payment- 50% of employee pension in case of death

The scheme is funded, typically at 95%.

i) What are the professional guidelines you would have to follow as a Consultant Actuary when you are newly appointed as an advisor by the company? (5)

ii) What are the key aspects you would cover while preparing the report according to APS 27? Discuss the reporting requirements. (6)

In a recent meeting, the Chief Human Resources Officer (CHRO) and the Chief Finance Officer (CFO) have informed that some members of the scheme have demanded for an increase in commuted portion from 1/4 of the pension to 1/3 of the pension.

iii) Discuss the considerations while setting commutation factors and their impact on the financial status of the scheme. (10)

After the draft results of your report are presented and discussed, the CFO expresses concern over the increasing cost of this benefit and wants to discuss the options available to de-risk the scheme from an employer's perspective. The CHRO comments that their close competition has recently converted their existing Defined Benefit scheme to a Defined Contribution Scheme. The CFO has asked you for an approach note for this exercise.

iv) Outline the aspects you would consider in your note to the CFO, covering all relevant stakeholders. (16)

v) What are the key points you would cover as a part of the implementation? (6)

The CFO is also a trustee to the pension scheme.

vi) What are the advantages of having CFO as a Trustee? (2)

The CFO has asked you to outline the scope of a Trustee Training he proposes to arrange for the Trustees of the scheme.

vii) What are the broad topics you would suggest for such a training? (5)

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