Actuarial Society of India

EXAMINATIONS

30th October 2006

Subject SA4 – Pension and Other Employee Benefits

Time allowed: Three Hours (10.15*am – 1.30 pm)
Total Marks 100

INSTRUCTIONS TO THE CANDIDATE

1. *Do not write your name anywhere on the answer scripts. You have to write only your Candidate Number on every answer script.*
2. *You have 15 minutes at the start of the examination in which to read the questions. You are strongly encouraged to use this time for reading only. But notes may be made. You have then three hours to complete the paper.*
3. *Mark allocations are shown in brackets.*
4. *You must not start writing your answers in the answer papers until instructed to do so by the Supervisor.*
5. *Attempt all questions, beginning your answer to each question on a separate sheet.*
6. *Fasten your answer sheets together in the numerical order of the questions.*
7. *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 are 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 same should answer the question with reference to Indian environment.*
8. *In addition to this paper you should have available Actuarial Tables and your own calculator.*

Professional Conduct:

"It is brought to your notice that in accordance with provisions contained in the Professional Conduct Standards, If any candidate is found copying or involved in any other form of malpractice, during or in connection with the examination, Disciplinary action will be taken against the candidate which may include expulsion or suspension from the membership of ASI."

Candidates are advised that a reasonable standard of handwriting legibility is expected by the examiners and that candidates may be penalized if undue effort is required by the examiners to interpret scripts.

AT THE END OF THE EXAMINATION
Hand in BOTH your answer script and this question paper to the supervisor.

1. A contributory funded pension scheme of a medium sized industrial company provides following benefits for its employees:

On death in service: A lump sum equal to twice the total of the member's own contributions with interest at 5% p.a. compound.

On retirement: At age 60 or earlier on grounds of disability, a pension of 1.5% of pensionable salary of each year of contributing service. Pension is payable for five years certain and thereafter for life. However, as the pension is purchased from life insurers, company offers other options provided by the life insurer of equivalent value. The pensionable salary is the average salary during the last three years of service before retirement.

On withdrawal: Within five years, a refund of member's own contributions without interest. After five years, either a deferred pension or an equivalent transfer value.

Retirement within five years is considered as withdrawal.

Presently members contribute at the rate of 5% and the company contributes at 15% rate. The member's data indicates an even spread of members between 20 and 60 by age.

You are the actuary to the scheme and have just completed the annual valuation. The company has called for a meeting of the directors to discuss the results of your valuation.

i) Your valuation reveals satisfactory financial state of the scheme and you mention that, on the valuation basis adopted, the present contribution rate is a little more than sufficient to provide the current benefits. At this the directors of the company indicate that they would wish to improve the benefits provided. The Director Personnel asks you to write to them commenting on the proposal to introduce the following changes in their pension scheme benefits:

a) A lump sum on death in service of three years' salary in place of the present death benefit or dependant's pension of 50% of member's prospective pension.

b) The option to commute upto one-third of the pension in the form of a lump sum at the time of commencement of pension.

c) Spouse's pension of one-half of the member's pension on death after retirement.

d) Increases in the level of pensions after retirement linked to Consumer Price Index to take care of rises in the cost of living

The directors have indicated that the company can consider increasing the company's contributions to the scheme. Members' contribution may or may not be increased.

Discuss the points you would include in your reply covering general and other comments on the suitability and practicality of the suggestions as well as an estimate of the cost of introducing each proposal.

(35)

ii) The Chairman of the company in the meeting disclosed that there was a proposal to purchase xyz company which also had a pension scheme for its employees. He desired to know an overview of the purchase process. He further mentioned whether the bulk transfer value might be calculated as the total service liability less the value of future contributions.

Prepare a note giving an overview of the purchase process involved with particular reference to the pensions' aspects and **explain** why the method mentioned by the Chairman is rarely suitable for calculating bulk transfer value.

(15)

[Total Marks 50]

2. As a Fellow Member of Actuarial society of India you are Actuary and Advisor to an Employee Benefit Plan in India having the following characteristics amongst others;

a) Defined Benefits final salary, benefits accrual as a function of service and salary and payment of benefits as life annuities (with spouses life pension on death of the member/pensioner), out of the fund but option to purchase annuities from life insurer/s by Trustees. Pension to increase at the discretion of Trustees in line with cost of living, generally benchmarked with salary increases on account cost of living inflation.
b) Option available to members to be exercised before inception of the pension to reduce the pension to the extent of ten percent in favour of lump sum payable on death equal to hundred times the pension forgone.
c) Contribution is a percentage of Salary shared between the Employer and the Employee.
d) Asset allocation in accordance with specifications as applicable to Employees' Provident Funds administered by EPFO under Employees' Provident Fund and Miscellaneous Provisions Act, 1952.
e) Members of the Scheme are engaged in same occupation but are employed by number of Employers having individual legal structure as a Company under Indian Companies Act 1956.
f) The Scheme Rules provide Actuarial Report once in three years, for assessing solvency of the fund and making recommendations on the contribution rate.

g) The Scheme is enabled by Act of Parliament and rules framed under provisions of this Act. It is mandatory to be participated by the Employers engaged in the same business, currently nine employer entities. The Act provisions and the Rules prescribe besides other aspects, nature of Benefits, level of contribution and the composition of trustees representing employer entities and the employees. The Plan is administered by the Board of Trustees specified under the Act.

h) The Scheme currently has in total more than about six lacs employees and about three lacs pensioners.

You are also Actuary to some of the nine Employers participating in the above scheme.

In your role as described above, you are required to frame response to the following questions;

(1) Some of the Participating Employers have enquired of you on the certain aspects of Accounting Standard 15 (Revised, 2005) and sought your help in understanding the implications of the same. These are;

a) The Objectives of the AS 15 (Rev.2005) and whether it applies equally to the Employer Entities as well as to the Employee Benefit Plan.

(2)

b) What are the Category of Employee Benefits to which the AS 15 (Rev.2005) applies?

(2)

c) While explaining the concept of Defined Contribution (DC) and Defined Benefits (DB) Plans, analyse whether the obligation of the Employers to contribute at a rate of contribution determined under the Statute will constitute DC or DB for measurement and disclosure.

(4)

d) Concept of and causes for Actuarial Gains and Losses as these are recognized in the Profit and Loss.

(2)

e) The framework of the Actuary's professional responsibility under Professional Conduct Standards of Actuarial Society of India (ASI) and the coverage of the Guidance Note there under that ASI may issue to be applicable to a Fellow Member tendering Actuarial advice under As 15 (Rev.2005).

(8)

(2) Trustees have requested you to make presentation to them as a preparatory exercise to the 5th Triennial Valuation on number of aspects of the valuation exercise. As part of this presentation respond to the following;

a) **List** the possible sources of surplus (deficit) and prioritise with reasons the listed items in order of likely magnitude as sources of surplus (deficit).
(7)

b) **Illustrate** the movement of Actuarial Liability over the inter-valuation period by a recurrence equation defining the symbols used.
(4)

c) **Discuss** the relevance of future service cost in analysis of surplus and the cost of benefits accrued over the inter-valuation period keeping in view the valuation method and any other method to determine the amount of accrued benefits.
(4)

d) **Discuss** the method/s by which value will be placed on the group immediate annuities purchased by Trustees while placing a value on the assets of the Trust Fund.
(2)

e) **Discuss** the method/s by which value will be placed on the paid up non-profit and paid up with profit group annuities purchased by Trustees while placing a value on the assets of the Trust Fund.
(4)

f) **List** examples of accrued benefits funding methods describing in brief each of these methods.
(6)

g) **Discuss** the need for and appropriateness of setting assumptions for the funding valuation with “Degree of prudence” as against “best estimate” assumptions under AS 15 (Rev.2005).
(3)

h) **Give** examples of scenario under which it is prudent to assume that husbands are three years older than their wives or four years older.
(2)

[Total Marks 50]