INSTITUTE OF ACTUARIES OF INDIA

EXAMINATIONS

3rd May, 2016

Subject SA4 – Pensions and Other Employee Benefits

Time allowed: Three hours (14.45* - 18.00 Hrs)

Total Marks: 100

INSTRUCTIONS TO THE CANDIDATES

1. *Please read the instructions on the front 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 applications or work carried out from within India, mostly the APS/GNs issued by ASI/IAI, Accounting Standards by ICAI, Indian Tax and other relevant documents and funding or accounting standards issued by other bodies outside India. In view of this, it should be noted that focal point of answers is expected to be India Specific application for work generally carried out of India. However if application specific to any other country is quoted in the answer, the same you should answer the question with reference to Indian environment.*
5. *Attempt all questions in order of sequence.*
6. *Begin answer to each question on a separate sheet, however answer to sub-questions can be on the same sheet.*
7. *Mark allocations are shown in brackets.*
8. *Please check if you have received complete Question Paper and no page is missing. If so then kindly get new set of Question Paper from the Supervisor.*

AT THE END OF THE EXAMINATION

Please return your answer booklet and this question paper to the supervisor separately. You are not allowed to carry the question paper in any form with you.

Q. 1) **i)** What are the considerations to be given in designing an occupational retirement pension scheme. (2)

ii) Define the aspects that need to be considered for cost implications for a retirement pension scheme with an example for each consideration. (5)

iii) A financial services multinational has five legal entities in India. Each entity has a different Gratuity scheme due to certain legacy reasons. The Chief (HRO) (CHRO) of the group is keen to harmonise the Gratuity scheme across all the entities and have a common plan applicable to all. The CHRO seeks your help as the actuary to the group to help with the harmonisation. In the meeting, he mentions the following points.

- The company's global philosophy is to have minimal DB exposure preferably at statutory minimum where applicable
- However from an India perspective they are aware of the low social security benefits available to the people and hence would be open to suggestions where a DC scheme could supplement for any potential reduction in the existing DB scheme
- Transfers do happen at periodic intervals across the entities and hence having a uniform scheme would make the transferability seamless
- One of the entities (which is expected to grow the fastest in future) provides Gratuity as per Act provisions but without a ceiling. Another entity provides Gratuity at the rate of one month's salary for every year of service without a cap. The third entity has Gratuity with 15 days salary for every year of service for the first 15 years and 30 days salary thereafter with no cap. The remaining two entities follow the Act with a cap of Rs. one million.

The CHRO requests you to present an approach note for conducting the harmonization setting out the following;

a) Key considerations, (7)

b) Data/ further inputs required, (5)

c) Approach for review, harmonization and (6)

d) At least three suggestions for the potential common plan with pros and cons along with commentary on high level financial and other implications. (15)

Prepare a suitable approach note for this purpose.

iv) On presenting the approach note, the CHRO is keen to understand more about the National Pension Scheme (NPS). He requests you to prepare a short write up on the corporate scheme detailing the benefits and the pros/cons of subscribing to such scheme.

Prepare a note to help the group take an informed decision on subscribing to the corporate NPS scheme. (10)

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Q. 2) Company A is in Cement Manufacturing industry in India for the last 20 years. Three years before, it concluded its wage settlement with its employees. As part of the wage settlement, a pension scheme was envisaged for all its Executives and Administrative staff.

Following were the features of the proposed scheme:

- A defined contribution scheme which aims to target a pension of 40% of final salary at the normal retirement age 60.
- On death of the member during service, the accumulated contributions are to be paid to the family of the deceased.
- In case of a member leaving service of the company before normal retirement age, the accumulated contributions are to be transferred to the occupational pension scheme of the company to which the member joins. If the company to which a member joins on leaving service before normal retirement age does not have a pension scheme, a deferred pension is to be purchased from a life insurer out of the accumulated contributions.

Following were the details of the members at the point of time when the scheme was proposed to be set up:

Category	**Age band of the members**	**Number of members**	**Average Pensionable Salary per member per annum**
Executives	50 - 55	50	Rs. One million
Administrative Staff	30 - 40	200	Rs. 0.6 million

The contribution rates are to be reviewed at the end of every five years after the commencement of the scheme. New employees joining as administrative staff are to be covered under the scheme after completion of five years of service, whereas executives are to be covered from the date they enter into the cadre.

The company, at that point of time had approached you as an actuarial consultant to determine a suitable contribution rate for the Scheme.

i) Describe the cash flow approach you would have used in determining the contribution rates for the Scheme. (12)

The Company decided to make a contribution of 12% per annum of the pensionable salary into the Scheme after getting your recommendations.

ii) Explain the main disadvantages of this DC scheme arrangement for the Executives? (3)

iii) Calculate the accumulated value of the contributions in the Scheme for a member who is in "Executive" Category at the end of 3 years. Assume that the fund has earned an investment return of 9.5% per annum and the (pensionable) salary increases for the executive have been 8% per annum during these years. State the other assumptions, if any used in your calculation. (3)

iv) Why should there be a clause in the scheme for periodical review of the contribution rate, say at the end of every five years? (7)

Presently the scheme has completed three years and five executives have resigned from the services of Company A and joined another Company B.

Company B is having a defined benefit pension scheme for its staff which provides the following pension benefits:

a) At Normal Retirement Age of 60 years	An Immediate pension @ 40% of final salary plus spouse pension
b) On death before Normal retirement Age	An immediate pension to the spouse @ 50% of salary of member at the time of his/her death
c) On early retirement due to ill health	An immediate pension @ 50% of salary at the time of early retirement plus spouse pension
d) On early retirement other than health grounds	A deferred pension @ 40% of salary at the time of retirement but the pension will be payable from age 60, provided he is not gainfully employed elsewhere plus spouse pension.

In a), c) and d) the spouse pension is 50% of the member's pension at death and is payable on death of the member. The funding position of Scheme B as per the recent actuarial valuation is given below:

Category	**Number of members**	**Average Age**	**Past service (years)**	**Value of benefits (in millions)**
Active Members	150	48	20	319.5
Deferred Pensioners	75	50	14	39.0
Purchase price of Members Retiring shortly due to ill health (pensions yet to be purchased)	10	45	NA	21.0
Purchase price of spouse pension to the members died recently(pensions yet to be purchased) *spouse age	3	43*	NA	6.0
Total Value of Accrued Benefits				385.5
Total Value of Assets				350.0
<u>Assumptions used in valuations</u>: Discount Rate: 8.75% Salary escalation: 7.75% Future contribution rate: 13% of members' pensionable salary Purchase price of pension (including spouse pension) of Re.1/- per annum payable from age 60= Rs.10				

The Company B has proposed to admit these new executives into the Pension Scheme. The accumulated contributions of these members in the previous company A will be transferred into the Defined benefit scheme of Company B. But the Trustees have shown their reservation in admitting these members into the Scheme.

v) State the Roles and Responsibilities of the Trustees in administering a Defined Benefit Pension Scheme. (4)

vi) Describe the investment strategy likely to be adopted by the Trustees while managing a Defined Benefit Pension Scheme. (9)

vii) Illustrate and comment on the impact of admitting the members transferred from Scheme A to Scheme B on the funding position of Scheme B (Assume that the age of all the executives transferred is 53 years and their pensionable salary is Rs.1.17 million per annum) (6)

viii) Assuming that the members will be admitted into the Scheme, specify the restrictions/conditions that may be imposed by the Trustees on the benefits payable to the new members to ensure that the security of the fund is not diluted. (6)

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