INSTITUTE OF ACTUARIES OF INDIA

EXAMINATIONS

14th July 2022

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 statutory laws and accounting standards applicable for the Employee Benefits Schemes. 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) Large company in India, ABC Limited, has been offering various statutory and non-statutory employee benefits to its employees. One of the benefits it has been offering was a Defined Benefit (DB) Pension Scheme. The scheme offered 50% of Gross salary (average of last 24 gross salaries) as pension on retirement that accrues uniformly over 40 years of service. The pension in payments increase at the rate of increase in CPI. The DB pension scheme was closed 22 years ago (in year 2000) for new recruits however, the older employees (who joined the company before 2000) continue to accrue benefits under the DB scheme. The employees joining on or after 01-01-2000 were compulsorily included in a Defined Contribution (DC) Pension scheme wherein the company makes 12% of the Basic Salary as a contribution towards employee's pension account and an equal amount was deducted from the employee's salary and deposited into the respective employee's pension account.

You are an independent actuarial consultant who has been annually performing accounting valuations under AS-15 for the company. You have the access to the following information:

	FY 2021-22	**FY 2020-21**	**FY 2019-20**		**FY 1999-00**	**FY 1998-99**	**FY 1997-98**
Actives							
Count	870	941	1,322		9,855	8,832	7,422
Average Age	57.40	56.90	56.20		44.56	45.10	44.23
Average Past Service	33.50	32.90	32.11		14.89	15.10	15.22
Average Basic Salary	87,000	78,000	70,500		12,600	11,900	11,000
Average Gross Salary	1,91,400	1,71,600	1,55,100		31,500	29,750	27,500
Present Value of Obligation (PVO) (Crore INR)	1,506	1,461	1,855		1,959	1,658	1,288
Pensioners							
Count	10,281	10,636	10,717		2,698	2,521	2,331
Average Age	74.20	73.80	75.11		68.10	67.88	67.76
Average Pension	52,000	50,000	47,000		13,500	12,600	12,000
Present Value of Obligation (PVO) (Crore INR)	1,925	1,914	1,813		524	457	403

Employees under DC scheme

Actives	**FY 2021-22**	**FY 2020-21**	**FY 2019-20**
Count	13,422	12,667	14,336
Average Age	38.56	39.10	38.23
Average Past Service	9.23	10.56	9.55
Average Basic Salary	35,000	32,000	33,500
Average Gross Salary	70,000	64,000	67,000

The company is now undertaking a due diligence exercise to evaluate if it should re-start the DB pension scheme. The company has approached you for advice on the matter.

i) Discuss the possible reasons for the consideration of the company to re-start the DB scheme. (5)

Company had earlier closed the previous DB scheme because the cost of the benefits was higher than the management's expectation. The company wants you to design a 'sustainable' scheme so that the cost & other risks associated with the DB scheme is controlled.

ii) Describe the risks in relaunching the old DB scheme and suggest measures on how they could be controlled keeping in view the managements' objectives. (10)

Company has decided to launch a new DB scheme with following benefits:

Pension of 50% of Basic Salary accrued over 20 years of service. Pension is guaranteed for 15 years (and life thereafter) with a fixed annual increment of 3.00%. Employees are to pay 12% of the Basic salary as contribution towards pension up to 20 years of service.

All employees under existing DC are given one time option to choose between the proposed scheme and the existing Defined Contribution scheme at the time of launch. The employees should transfer the accumulated balances of DC to the new DB scheme if they exercise the option. In case of future employees, the option is to be exercised at the time when the employee joins the company.

You are requested by the company to present a report on actuarial assessment of the future contributions under the proposed scheme design. Management is particularly interested in seeing the progression of expected cashflows for the next 15 years under the proposed scheme.

iii) State the Actuarial Practice Standards applicable for preparing such a report and describe broadly the aspects to be considered while preparing such a report. (10)

Management also desires to get an estimate of employee benefit expense towards the proposed scheme under Accounting Standard – 15 for each of the next 5 years.

iv) Outline the approach that you may adopt to generate such projection of expenses. (8)

An employee who is covered under DC scheme before exercising the option, has raised the following query to the company's HR - 'What benefits will I get under both these schemes on my retirement?'. The HR has in turn approached you to help him respond to the query.

v) Discuss the various considerations to be borne in mind while replying to such a query. (10)

The three schemes have been running successfully for few years. The members of DC scheme are now requesting the company to guarantee a certain minimum rate of return for each year that is at par with the rate offered on 5-year fixed deposits by a leading PSU bank for that year.

vi) Discuss the implications on accounting of this benefit in case the proposal is accepted by the company. Your response should cover ways of measuring the liability arising if accepted and difference in disclosures in comparison to the earlier scheme. (7)

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Q. 2) A large IT Company in India has subsidiaries across 30 countries around the world and it offers many Defined Benefit plans as well as Compensated Absence plans as per the respective country's market practice to their employees.

You have been the Actuary for this Company for 4 years now and while consolidating the March 2022 financial statements, the auditors and the CFO have raised some questions around the actuarial valuation conducted.

i) Discuss the approach in setting the discount rate for the valuation under IND AS19 & describe why it may vary across countries? (5)

In country A, the standard mortality tables used are the same as country B. These tables are specific to the population of country B. A detailed exercise carried out by some data analysts in country A, suggest that the life expectancy in country A was expected to be higher than country B's mortality table and hence the suitability of using the same tables for country A is being questioned.

ii) Outline the key considerations of using the mortality table of country B for valuation of schemes relating to country A and also explain how the mortality improvements be factored into the valuations based on Country A's experience. (5)

A Subsidiary provides a lumpsum benefit linked to final basic salary on separation to the employee in lieu of unutilized leaves, i.e. when the employee separates, the unused earned leaves are encashed based on a formula: (number of leave days * last drawn monthly basic salary)/ 26. The actuarial assumptions used for valuing this benefit for the last 2 years is given below: -.

Valuation Date	**31st March, 2021**	**31st March, 2022**
Discount rate	6%	7%
Salary escalation rate	8%	9%
Attrition rate	25%	35%
Mortality Tables	Indian Assured Lives Mortality (2006-08) Ult.	Indian Assured Lives Mortality (2012-14) Ult.(+2 years)

The duration of liability is about 6 years

It has been noticed that the liability for the plan for the year 2022 showed a significant variation over the year 2021.

iii) Discuss the possible reasons for the variations in liability & comment on the impact of each of change in assumptions on the liability figures. (8)

In an Indian subsidiary company, every year, 21 days of earned leave are provided to the employees which can be carried forward till separation of the employee, if not utilized up to a maximum accumulation limit of 90 days. However, no cash is paid in lieu of these leave balances on separation or otherwise even if the leaves are not utilized, i.e. these leaves are non-vesting.

iv) Comment on the reason of why should this plan be valued actuarially under IND AS19. Also recommend how would the long-term cost of the plan be assessed with the appropriate assumptions. (10)

The Company is considering to acquire another small company in India which offers two Defined Benefit plans – Gratuity benefit which is a lumpsum final salary linked statutory benefit. The other plan offered is the Long Service Award plan where employees are provided "gold" benefit on completion of service in multiples of 5 years, i.e. 5 grams of gold is given on completing 5 years of service, 10 grams on 10 years and so on.

Most of the employees of the small company have transferred the employment as a part of this acquisition and the most recent actuarial reports as on 31st Dec, 2021 of both these benefits are available to you. You are required to validate the reports and help with the calculations of the past service benefit of the transferring members.

v) Discuss the various factors that should be considered while validating and calculating the transfer value of these benefits. Also state the pros and cons of transferring the past service benefits against settling the benefits from the buyer Company's point of view as well as from the perspective of employees being transferred. (12)

Further, the small company being acquired was originally a part of an American head-quartered Company and hence followed the reporting under ASC 715 accounting standards which are set by the Financial Accounting Standards Board (FASB).

vi) On going through the reports, the CFO has requested you to help him understand some of the differently used terms / approaches as compared to the IND AS19 report as below –

a. Projected Benefit Obligation
b. Accumulated Benefit Obligation
c. Net Periodic Pension Cost (including the components forming part)
d. Accumulated Other Comprehensive Income
e. Approach of recognizing the actuarial gains and losses
f. Differences in setting assumptions

(10)
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