Institute of Actuaries of India

Subject SA4 – Pensions and Other Benefits

March 2022 Examination

INDICATIVE SOLUTION

Introduction

The indicative solution has been written by the Examiners with the aim of helping candidates. The solutions given are only indicative. It is realized that there could be other points as valid answers and examiner have given credit for any alternative approach or interpretation which they consider to be reasonable.

Solution 1:

i) The annual contribution should reflect the value of the post retirement benefits payable and the related expenses (taxes if any) (0.5)

A cash flow approach will project the benefits & expenses over the expected life time of the retired employees and discount them to the present time. (0.5)

The data of the existing employees may be used for projection purpose. (0.5)

The benefits projected shall be based on the benefits payable under the scheme. Benefit projection should allow for the possible increases in benefits, medical inflation & the ceiling of benefits. (0.5)

The expenses projected should also allow for inflation during the post retirement. (0.5)

The parameters used in projections should reflect the expected experience of the group.

Post retirement mortality, morbidity, medical inflation & general price inflation & Pre-retirement exits will be the key parameters used in projection. (1)

Since the scheme is new,credible actual experience may not be available. It is therefore advisable to use published table/data with some modifications, to commence the scheme. (0.5)

The net cash outflows (of benefits & expenses) for each future will be discounted to the present time, for each member, to arrive at the value of benefits. (0.5)

The discount rate may be based on the expected investment return of the PRMS fund allowing for volatility. The investment return shall reflect the asset composition of the PRMS fund. G-sec yields can be used as proxy if there is no formal funding strategy in place. (1)

The aggregated value of the benefits should be equated with the value of contributions payable during the pre-retirement life time of active members to arrive at the annual cost. (1)

Contribution cash flows for this purpose should allow for salary increases, pre- retirement exits & the possible changes in the benefit category on account of promotions. (0.5)

The annual cost can be shared between members & the company in equal proportion. (0.5)

Margins in parameters will result in stable contribution rate and healthier scheme. However, it must be noted that this may result in current employees subsidizing the benefits for future employees (0.5)

It is possible to derive separate contribution rate for one or more group of members consistent with the age & benefits to achieve proper attribution of costs. But it may be difficult to explain to members & administer. Complex contribution structure may increase the chance of administrative errors. (1)

On the other hand, a unitized rate for all members will ease the administration & communication but may involve cross subsidy between several groups (Eg. Employees closer to retirement may get benefits for a negligible cost whereas, young employees, say aged 25, may end up contributing very high amounts over their working lifetime). (1)

Periodical valuation of the PRMS find to be carried out to ensure the adequacy of fund & the need of revising contributions. (0.5)

[Max 10 Marks]

ii) The objective of offering the benefit to(already) retired employees such as good will, paternity should be compared with the risks & uncertainties in terms of cost, security of the benefits to other group of members, availability of the risk mitigation solution & the administrations complexities. (1)

The following factors are to be considered before taking a decision on this proposal.

Level of benefits to be offered: Same benefits as available to in service members or a restricted benefit. (0.5)

While “same benefits” provides consistency & continuity of the medical benefit post retirement, the

cost & contributions will be significantly higher to this group. (0.5)

Members to be covered – Whether to cover retired employee alone or to extend the benefits to spouse(other family members) .Retired members expect the family members are also be covered & it will be consistent with what is being offered to ïn service "members. (0.5)

Membership is compulsory or voluntary: If the scheme is co financed by retired members, it is not possible to make it compulsory. If it is voluntary, retired members will weigh the benefits & contributions before joining the scheme. But most of the retired members are likely to join the scheme as it provides subsidized "protection benefits" . (1)

Uniform Benefit for all retired employees or benefits based on past service rendered?- A service based benefits will be fair & cost effective from the Company's perspective, a uniform benefit will be simple to introduce & administer. (0.5)

Imposition of "waiting period" or "introduction of health declaration" will reduce the scope for anti selection & the volatility of cost but will be resented by the retired employees. This will significantly impact the "take up" rate (0.5)

Financing of the Scheme: The retired members may not be in a position to meet a major share of expected cost as they will be having little/no income. If the objective of Company while introducing the benefit is paternalistic, it should meet the entire (or most of the) cost. But this may lead to "in_ service" members demand full financing from the company. (1)

A single one time collection of retired member's members contribution (if any) at the time of joining scheme will be simple to administer but may be a heavy burden for the targeted group. (0.5)

How to manage the proposed to benefits? Integrate with the existing medical benefits of "in service" members or by admitting them in the existing "PRMS" fund or a separate management?. (0.5)

Company can verify if any such proposal is implemented in any other PSU.

Integrating with the existing scheme will adversely impact the security of the benefits being offered to the existing employees & significantly increase contributions of members. They will be objecting to admit the retired members. On other hand a separate mechanism for the small, retired to group will be expensive for the company (1)

Administration: Identifying & reaching out to the retired members, notify them & enrolment of membership, collection of members contribution if any, formulation of scheme rules will add to administrative complexities. (0.5)

Since the retired pool is large, extending PRMS benefits will result in a large obligation on the company. The company needs to access the implications on books and share-holders' reactions before implementing any such proposal. (0.5)

Company needs to verify the tax treatment of the expenses incurred towards ex-servicemen on benefits that were not originally promised as per the work contracts. (0.5)

[Max 8 Marks]

iii) Option (a): Current Mediclaim policy

Advantages

- This option provides continuity to the existing mediclaim policy & it is easy to commence the scheme by admitting the retired members. (0.5)
- Members benefit from TPA services for disbursement of the benefit across various locations (0.25)
- This will be consistent if the company decides collect member's contribution on annual basis.

(0.5)

- Insurance company, as a professional risk manager, is better equipped to do the medical / claims underwriting and is expected to charge premiums in line with the risk (0.5)
- Transfer of risk associated with claims severity and frequency to the insurer. (0.5)
- The risk is diversified across the larger portfolio of the insurer. (0.5)
- The insurer will be offering participation in profit sharing if the claim experience if favourable that may result in reduction in premium. (0.5)
- Company can generally expect competitive rates from insurers for the group policy considering the group size (15000 current members and potential 3000 new members). (0.5)
- Tax benefit is available on the insurance premiums paid. (0.5)

Disadvantage

- Premiums generally include commissions, expenses and profit margins of the insurer and contributions of members & company will be higher than the contributions to PRMS fund. (0.5)
- Insurer in recent times are increasing the mediclaim premium to reflect adverse experience in the mediclaim portfolio as a whole & the increasing cost of managing the same. This will further increase the premium rates of members & company. (0.5)
- There will be taxes such as GST on premiums which will increase the cost further. (0.5)
- Insurer generally quotes a single unitized rate for the group based on the age & other profile of the group. This involves cross subsidy between different member groups. By admitting retired group of members to the existing mediclaim, the premium rates quoted will significantly increase. This may result in increase of premium by the in service members especially younger members. They may object to any increase in premium. (1)
- The age profile of "in service" members is young; due to this the premium for the group will remain low & relatively stable. The favourable claim experience of the group would result in reduction in premium. These benefits of the group will be vanishing over the future period by the entry of retired members into the scheme. (1)
- On the other hand any age related quote of the insurer will result in different contributions for each members which will be difficult to communicate & implement. (0.5)
- Success of the scheme depends on the service quality of the insurer. Poor service can create bad reputation for a large company. (0.5)
- Insurer may impose certain limits or waiting periods that may defeat the purpose of scheme to the aged retirees as Post retirement employee benefit. (0.5)
- Claims rejected by insurers may be resented by members. If the company decides to make some payment on exgratia basis, then it is retaining some of the risk & the company needs to have some fund to make such payment. This will increase the cost of the company. (0.5)

<u>Option (b): PRMS fund</u>

Advantages

- The contributions rates into the PRMS fund will be lower than the insurance cost as it saves commissions, expenses and profits margins of the insurer & the GST on premiums (0.5)
- Company retains control over the corpus & it benefits from the interest income if the fund size is expected to be significant. (0.5)

- This option is suitable especially when it decides to introduce the benefits by collecting one time contribution from the members. (0.5)
- Company does not need to generate funds immediately to meet the claim outgo as corpus already generated can be used to pay benefits. (0.5)
- Administratively simple (after initial year) as the company needs to mange one single scheme for all the retired members, (0.5)

Disadvantage

- It is likely that the fund will be depleted by the claim outgo of retired members admitted into the scheme. It reduces the security of benefits of the "ïn service" members which are funded & financed partially by them. (1)
- The reduced funding level is likely to lead to increasing contributions from the members of the PRMS fund. (0.5)
- Employees expect that their contributions to the PRMS fund & the funding level remain unaffected by the decision of the company to extend the benefit to the retired employees (1)
- They may demand injection of funds to PRMS fund from the company to meet the payment out go. This may result in cash-flow issues to the company. (0.5)
- "Ring fencing" of funds relating to the employees may be a solution to this problem but it poses administrative challenges (0.5)
- Exposes the fund to risk of extreme events like epidemics. (0.5)
- The members may challenge the method of computation of contributions if the amounts vary significantly across different ages. (0.5)
- Potential for intentional/ unintentional errors thus leading to big losses. (0.5)
- Ultimately all the risks associated with extending the benefits is retained within the PRMS fund & it may be difficult for the company to share the increased cost with the employees beyond a certain level. The existing 50:50 sharing of the cost will be altered. (0.5)
- Tax treatment for contributions towards a PRMS scheme is not clear (0.5)

[Max 12 Marks]

iv) The investigation involves analysis the movement of funds over the successive years to understand the causes for the depletion of funds & the increase in contributions for all stake holders. (1)

Areas that significantly contribute to the adverse experience contributions, benefit payment, investment returns, expenses & other factors. (0.5)

General approach of the investigation will be comparing the actual experience with the expected experience assumed in the actuarial investigations for deciding the recommended rates. (1)

The data used for this purpose is a)members data, b) accounts data, c) scheme rules & the actuarial report (0.5)

The first investigation is to compare the actual data of members with the data used actuarial valuation. If the age, service & benefit profile of members is significantly differing with the data used in valuation, this could be a reason for the adverse experience. (1)

Such reconciliation of data may reveal significant movement of members between successive valuation

(massive entry of new members) into the scheme that has not been considered in valuation (0.5)

Verify the recommended rate of contributions is implemented and the actual contributions received as per account data must tally with the recommended contributions. Any significant difference will lead the adverse fund position. (0.5)

Also examine whether a cost & benefit analysis is carried while extending this scheme to retired members by the company. If this was not carried out, such extension of benefits to high risk group will impact the financial position of the fund. (1)

Profile of assets relating to the fund will be a source for the deficit. The actual investment return on the funds must be compared with the discount rate used in valuation. A lower actual return will significantly reduce the investment return. Holding of Non-performing assets, delay in investment decision will also be contributing factors. (1)

We need to have a detailed claims investigations to compare the actual payment outgo as against assumed payouts in the valuation. Such analysis must be carried out a) age group wise b) newly retired vs already retired but new entry into the fund c)different benefit levels d) single vs multiple claims etc (1.5)

The analysis will reveal that the actual payout for one or more groups is significant higher than assumed in the valuations. This may show inadequacy of contributions not meeting the claim experience for one or more group, (0.5)

Other contributing factors include (max 2)

- Expenses charged to the fund
- Errors in data
- Incorrect payout due to system & other causes.
- Changes in the basis & method used in valuation
- Other external factors not valued
- Random fluctuations

<u>Possible measured to control the cost :</u> (max 2)

Ultimate decision depends on the significant of the cost due to the extension of benefits.

- Segregation of funds between two groups & limit the contribution of members. Any deficit will have to be met by the company. It will be considered as fair.
- If the funding level of new members is not significant, a fund within fund approach will be suitable to ring fence the funds (0.5)
- Differential contribution rated for the active members & retired members (0.5)
- Bring changes in the Scheme rules such as restriction of benefits, strengthening the claim payout process. (0.5)
- One time transfer of risk of retired members to an insurance company (0.5)
- Strengthening the basis of actuarial valuation to ensure adequate reserving (0.5)

[Max 12]

v)

- The company has offered to its current and future retirees a medical benefit of upto INR 10-50 lacs p.a. This is a post-retirement defined benefit.
- The 3 key aspects of the accounting are described below:

  - Recognition (2)
    - The company computes the Obligation as accrued portion present value of the of the expected post retirement benefits for all the members
    - The value of Obligation less the value of assets or reimbursement rights is recognized in the books as net provision towards PRMS benefits.

  - Measurement (3)
    - The basis for discount rate assumption would be same in both the approaches. i.e. yield on G-Sec bonds for term equivalent to the term of obligation
    - The basis for medical costs would differ in both approaches:
      - The fund approach would use average medical cost reimbursed every year at various ages.
      - The group policy approach would use the expected insurance premiums .
    - The medical inflation rate could be similar in both the cases.
    - Other assumptions like pre/post retirement mortality, attrition rates, salary growth etc would be same under both the approaches.
    - Under the PRMS fund approach, the value plan assets would be equal to the fair value of instruments held by the fund.
    - Under the Mediclaim policy approach, the plan assets would be equivalent to the reimbursement rights enjoyed by the company under the policy. Typically the policy would expire at the end of the year and the expected reimbursements would be equivalent to the expected pay-out till the policy end date.

  - Disclosures (3)
    - This being a post-retirement benefit, the remeasurements arising every year are recognized immediately in the statement of Other Comprehensive Income (in both the approaches).
    - The quantitative disclosures i.e. reconciliation of obligation, plan assets, asset ceiling, funded status, employee benefit expense, OCI, future cashflows and sensitivities would remain the same under both the approaches.
    - The qualitative disclosures pertaining to reliance on third parties for management of the plan, funding policy and risks faced by the plan would differ under both the approaches.

[Max 8]

[50 Marks]

Solution 2:

i) The following aspects are to be examined for assessing the cost of the pension plan of XYZ;

1. Scheme benefit features & eligibility conditions - These include the pension formulae used in pension calculations, benefits payable on retirement, early retirement, death & other contingencies such as resignation, permanently disabled etc, NRA, benefit increases (including DA increases), commutation rules & factors etc

Trust deed & deed of variation, minutes of Trustee meetings will be source to verify the features. (1)

2. Profile of members covered under the scheme: The age, salary distribution of the active members, deferred pensioners, the age/pension profile of (family)pensioners.

The actual data of the members of the scheme are to collected from Trustees & it must be verified with some other source (eg data used in actuarial valuation or employees data of xYZ) to ensure its correctness. (1)

3. Financing arrangements: How the ongoing cost is financed – if members share the cost, the proportion of cost shared by them, the funding arrangements & the targeted funding objectives etc - These aspects can be verified by the discussion with Trustees, Scheme rules (0.5)

4. Financial/Funding Status of the Scheme: Past Actuarial valuation reports will help to ascertain the liability provisioned with respect to the plan, Fund value of the assets and net funded status & the recommended contribution rate & the long term actuarial assumptions used for arriving at the liability. These figures are to be compared with financial statements of the Trust & the Company to understand the significance of the cost & company's/Trustees plans to manage the cost. (1.5)

5. Investment Management: If significant funds are available, investment objectives of the Trustees, & its consistency with funding objectives, the asset categories chosen to invest & their distribution, its consistency with the pension liability. Trust deed, minutes of the Trustee meeting will be a source to verify this feature.

The schedules of assets will help to verify the quality of assets & its matching with the liabilities & verify the extent of "self "investments if any & the funds parked with insurance companies. (1.5)

6. Cash flows of the pension scheme over the past years will help to assess the liquidity risks of the scheme & to verify the progress of the scheme on the expected lines. These include contributions paid as compared against the recommended, benefits paid as compared against the estimated benefit outgo, investment income earned as compared with expected yield etc. (1)

8. Other aspects:

- Any actuarial investigations done in the past to understand the surplus/deficit of the Scheme
- Employer/Trustees power to make amendments in the rules of the scheme – details of the amendments made especially before the "take over" of XYZ
- Compliance to Income Tax authorities,
- Disputes relating to the pension Scheme
- Insurance arrangements & Expenses relating to the Scheme
- Union agreements, if any (1.5)

[Max 8]

ii) Projected (pension) expense in terms of past service liability is calculated as below -

- Current Service Cost is provided to be 15% of past service liability
- Interest Cost and return on asset under IND AS19 would be calculated using the discount rate assumption of 6.5%. Hence the net interest cost would be
    - Interest cost = 6.5% * (past service liabilities less expected benefit payouts * 0.5) minus
    - Expected return on asset = 6.5% * (fair value of assets less expected benefit payouts * 0.5)

Hence net interest cost would be 6.5% * 20% of past service(unfunded) liability = 1.3% of PSL (2)

If the sponsor wants to retain minimum of 80% of funding, next year's contribution should be at least 80% of expected P&L, i.e. 80% * (15% + 1.3%) * PSL = 13.04% of PSL (2)

Other assumptions made in the above calculation – (each valid assumption 0.5 mark; max 2 marks)

- If the current service cost does not include cost of new entrants, new entrants are ignored
- Assumptions like pension increase, salary increase, mortality rate, attrition rate, etc. used by the prior actuary are reasonable and would be borne out in practice
- No changes in the Scheme Benefits, measurement & accounting of pension liabilities
- All the benefits would be paid from the fund
- Actual return on assets would be in line with the assumed return at discount rate

Considerations for choosing the funding method – (each valid point 0.5 mark; max 2 marks)

- Financial ability of the Company and the balance required between the stability of contribution rate and security of member's benefits
- Purpose of the funding valuation – whether it is to achieve a stable contribution rate or to achieve a target standard fund
- Strength of the actuarial assumptions used in recommended contribution rates- higher the prudence margins lesser will be the funding target
- Attained Age Method and Entry Age Method are the prospective funding methods aimed to achieve a stable contribution rate. They build funds earlier to achieve this purpose. Hence lower funding target may be appropriate.
- Profile of members: If the profile of members is young, pension benefits will be vesting over a longer period of time. Employer may be having longer time horizon to manage the deficit.
- Employer may be meeting the expenses of the Scheme & he may be providing investment/operational support to Trustees for management of the Scheme.

[Max 8]

iii) Commutation factors –

a) It is the factor which represents the present value of the annual pension which would be foregone at retirement to arrive at the lump sum amount to be given to the retiring member upfront.

b) It provides an option to the retiring member to receive a lump sum(usually tax free) that may be used to meet his outstanding lump sum liabilities on retirement (eg housing loan)It takes into account various (expected)economic and demographic factors like interest rate, mortality

rate, pension increases, age profile of the employees, etc.

c) The trustees of the scheme generally ensure that the terms of commutation should be broadly fair between a member who exercises the option and who does not.
d) The Trustees & the members will also prefer to have stability in the Commutation factors over longer period of time.
e) It means the commutation factors is unlikely to reflect the market conditions & the health profile of individual retiring members.
f) For a retiring member who is not in good health, the commutation factor would be attractive.
g) If the interest rate is high at the time of retirement, the commuted lump sum that the retiring member would receive can be invested at higher returns
h) But if the interest rates are low at retirement & if the commutation factors have not been revised, the retiring members will perceive the factor as unfair & hence may demand revision.
i) Market based commutation factors based on market factor will help the Trustees to remain risk neutral in the commutation. This requires more frequent revision of commutation factors to reflect market conditions. But this means members retiring at different period time will receive different lump sum amount for the pension commuted. This creates uncertainty to retiring members.
j) If the scheme size is big, scheme specific mortality table could be used instead of the standard mortality table to reflect the profile of the group while revising the commutation factors.
k) It is possible to have factors to reflect the individual health condition of a member by introducing some health assessments such smoking status, other existing ailments etc. But members may resent such restrictions.
l) It is therefore advisable for the Trustees to keep the commutation factors fairly stable over a longer period to reflect the long term value of the pension commuted & provide a choice to the members in commutation.
m) The retiring member while deciding on commutation should consider personal circumstances like need of such lump sum as against the need of regular income.
n) Individual health conditions- eg members not in good health may prefer to commute
o) Tax benefits on the commuted lump sum(eg: commuted lump sum on retirement will be tax free)
p) Impact on other pension benefits (eg family pension, pension increases- will it be impacted?
q) Member may also choose to adopt a hybrid approach while deciding the commutation. (For example; may commute less pension than the permissible limit)

[**0.5 mark for each point; max 8**]

iv) I. Closing the scheme to new entrants and not extending to the original employees of EPL

(0.5 mark for each point; max 3 marks)

a. Age & salary profile of the scheme XYZ will increase over the time if the scheme is closed to new entrants
b. If the new hires do not enter the plan, the cost of funding the liabilities would be spread over a declining number of active employees. As a result, contribution rate is likely to increase for EPL & the members of XYZ scheme(if they contribute)
c. Future liability accrual for the employer EPL will be controlled and there will be more predictability in the cost of the scheme over a future period of time.

d. If the Scheme XYZ is in deficit & it is not considered at the time take over, new employer EPL/Trustees may face challenges in addressing the deficit over a shorter period of time. They may have revise the funding strategy.
e. Investment strategy of the scheme XYZ may also require revision to match the rapid maturing profile of XYZ.
f. Existing employees of XYZ are not directly impacted following closure; but change in management may indirectly impact the security of the vested benefits.(eg covenant of the new employer may change)
g. Employees of EPL largely remain unaffected as their benefits are on DC basis & funded through NPS
h. Administrative hassle of managing different benefits for different groups of employees

II. Pension frozen service but retain linkage to final salary: (0.5 mark for each point; max 3 marks)

- Freezing the service will help to control the future pension cost of the scheme as there will be gains in the form of curtailment. But the scheme is still exposed the risk of higher salary increases.
- The impact depends on the age/ salary Profile of members of XYZ at the time of take over.
- It also depends upon the salary growth plans of new employer EPL for its employees especially for the erst while employees of XYZ
- Any differential plans for these two groups will be considered as unfair & may result in disputes.
- For eg employees of XYZ are offered lower pay growth as compared to EPL employees may be unacceptable to XYZ. On the other hand uniform salary growth for all groups may be considered as unfair by EPL employees as the pension cost is not considered.
- Employees of XYZ who are closure to retirement or who has reached the maximum eligible service are largely remain unaffected by the freeze.
- But young employees who joined XYZ before merger for whom the benefits have not been vested will be heavily impacted by the freeze. It may seem unfair to the employees as they were promised this benefit on complete service until retirement leading to dissatisfaction.
- The changes will result in increased immediate cash follow to the employer if affected members of XYZ are offered NPS DC contributions.
- There could be changes in the employees attrition level following the changes.

III. Change in Retirement age from 58 to 60 years: (0.5 mark for each point; max 2 marks)

- Since the benefit is closed to future accrual of service, increase in retirement age will lead to reduction in liability of the plan as pension will be paid for 2 less years
- This change will be recognized as past service credit through P&L under IND AS19
- But there will be increased salary cost if the XYZ employees are allowed to be in service upto age 60 & this may negate the gains in pension cost.
- There will be shift in the proportion of in service members & the pensioners.
- Many members of XYZ may consider the extended service as a replacement of the pension foregone
- Commutation factor at age 60 would be lower when compared to age 58 as the probability of survival for 15 years from age 58 years is higher than age 60 years

IV. Steps to be taken to manage risks: (0.5 mark for each point; max 2 marks)

- Although these measures help to manage the overall cost of the pension scheme there could be short term challenges to EPL
- The closed XYZ scheme needs closure monitoring. Asset Liability matching positions is to be monitored more closely.
- Cash flows position of the Scheme needs more frequent review
- Any realistic underfunding in XYZ are to be immediately addressed.
- Can consider other risk mitigation measures such as buying annuities
- Communication is the key in addressing the issues relating to II & III. Benefits illustrations are to be given to the members impacted by the decision
- Educate the XYZ members on the importance having secured (but reduced) pension benefits rather than having unfunded pension promises.
- Trustees should be given sufficient administrative, financial support to implement the above changes.
- Consider introducing a phased approach for different age groups of people, that is, no change to employees above 55 years and age while all the changes can be implemented for the younger population.

[Max 10]

v) The changes introduced by EPL would affect the pension amount calculation of a retiring member –

- Since the accrual for future service is closed, service applicable for the pension benefit for this member would be frozen at 22 years but the linkage to final salary on separation is retained.
- Accordingly, the pension benefit at age 60 years would be higher to the extent of salary increases that the employee would get from 58 years to 60 years
- If the salary increase per annum is in line with the above assumption at 7% then salary at 60 years would be 1.07^4 times the current salary at age 56 years and at 58 years would be 1.07^2 time the current salary.
- Also pension at 58 years would be reduced by 4% as per the scheme rules.

Monthly Pension amount at age 60 = 1/60 * 22 * 100000 * 1.07^4 = INR 48,063

Monthly Pension amount at age 58 = 1/60 * 22 * 100000 * 1.07^2 * 0.96 (factor to reduce the pension) = INR 40,300

- Pension amount at age 60 would be almost ~19% higher but the retiring member would receive two less years of pension as the employee would be drawing the usual salary in these two years.

Apart from the above, the member should evaluate –

- Expected increase in salary over the future years, probable promotions, etc. since the final salary linkage is retained for the benefit calculation. The above illustration is based on the assumed salary increase rate of 7% p.a.
- The need for a lump sum at age 58 (eg home loan repayment), personal health conditions and tax implications on the same

- Financial needs in the family like any immediate mortgages, loans, etc. to paid off
- Consider the risk of employer changing the scheme rules again going forward
- Market condition like interest rate, inflation rate affecting salary growth, commutation factors etc.
- Member should also consider the additional salary income received in the ages 59-60 under these two options.
- Health condition of the employee and the personal state of dependents

(For each factor 0.5 marks , max 2 marks)

The draft response should help the member to take informed decision on this issue. The primary factors impacting level of pension would be salary growth & the reduction factors. Several illustration with different salary growth may be provided. It is be communicated that the decision to retire or not is to be taken by the members taking into consideration his own financial/personal circumstances & the illustration should not be considered as recommendation for early retirement (or otherwise)

[Max 6]

vi) Factors to be considered –

a. Buying annuity rates from insurers makes sense as the risk of longevity, fluctuations in market rates are passed on to professional risk managers like insurance companies.
b. Insurance companies in India are regulated by IRDAI & hence the risk of default in annuity payment will be low.
c. It is possible to buy annuities at best competitive terms as most of the companies are offering annuity products. But the annuity rates is likely higher due to profit margins & expenses of insurer.
d. The company EPL need to liquidate assets to buy out annuities for pensioners. There is a risk of liquidating assets when market conditions are not favourable.
e. The company EPL looses the flexibility in managing pensioners fund & there is a risk of losing the benefit favourable longevity, interest & expense experiences of the group.
f. Check if the insurer offers the type of annuity opted by the pensioners and family pensioners. Insurance companies may not be having products that exactly matches with Scheme benefits (eg DA increases)- In such cases either risk is retained & it becomes administratively complex to make these pay-outs.
g. Prevalent annuity rate in market – if the fund value is sufficient to purchase the annuities for all pensioners and family pensioners basis the annuity rate which would also have insurer's profit margin included
h. Consideration of restoration of pension - Since some of the pensioners would have opted for commutation, their pension would have to be restored after 15 years. This portion may have to be bought again when the restoration triggers
i. If the Scheme is in deficit, annuity purchases place "pensioners" high on the priorities & they do not face the risk of underfunding any more. This aggravates the risk of under funding of the remaining members.
j. Need to check the Trust Deed rules to see if there are any restrictions of how the funds should be invested and any change may have to be directed through deed of variation
k. Preferable to understand the impact on Net liabilities by stress testing under different

scenarios of buying annuity or paying from the Company, before taking a decision.

[For each valid point 0.5 marks; max 5 marks]

vii) a) Sponsor continuing to pay pension – (max 2 marks)

i. The impact of introduction of the new mortality table depends upon the significance of improvement in longevity at each ages & how it compares with earlier base table. (0.5)

ii. It also depends upon the prudence built into the actuarial basis (eg rating down by few years) for the expected improvement in longevity in the annual actuarial investigations. (0.5)

iii. liability is generally expected to increase for actives, pensioners as well as family pensioners due to this introduction of new table. (0.5)

iv. But the actual cost will depend upon the actual mortality experience of the pensioners of the group. For example if the pensioners of the group do not experience improvement in longevity, there will be release reserves over the future period & the long term cost may not vary significantly. (1)

v. There may be a demand for revising the commutation factors to reflect the expected longevity. (0.5)

b) sponsor deciding to buy out annuities from an insurance Company (max 2 marks)

i. Insurers will be immediately revising the annuity rates to reflect the longevity improvements. The annuity purchases will be expensive & this will impact the asset side as more funds are to be utilised for the purchases.

ii. The impact on the liabilities depends upon the approach used by the actuary to value the post retirement pension benefits & its comparison with annuity rates. (1)

iii. If the actuarial valuation uses annuity rates of insurance companies to assess post retirement pension cost, the increase in liabilities will be only to the extent of increase in annuity rates and would depend on the timing of purchase of annuity. (1)

iv. If the actuarial valuation uses an existing mortality table to assess the post retirement liabilities, there may be a need to adopt the new table (with adjustments). There will be significant increase liabilities due to this adoption. (0.5)

Accounting Treatment

The impact due to change in mortality rate table will be classified as actuarial loss on account of change in demographic assumptions. This would be recognized through Other Comprehensive Income under IND AS19 as Defined Benefit pension plan is classified as post employment benefit plan.

(1)

[Max 5]

[50 Marks]

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