

Institute of Actuaries of India

Subject SA4 – Pensions and Other Benefits

December 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 objective of the due diligence exercise is to assess realistic value of the pension cost, uncertainties associated with the figures and its impact on the purchase price of the company. The actuary will also be assessing the risks relating to the scheme to advise the company B on the need to make suitable adjustments in the purchase price. (1)

The starting step is to assess the realistic actuarial liabilities of the plan and add margins to the risks associated with the pension scheme to arrive at the total cost to be reflected in the purchase price of the company. (0.5)

In this process the actuary will be looking into the following aspects.

Members data: Correctness of the members data is to be ensured & all the existing members satisfy the eligibility conditions of the scheme. These include verifying the entry age, vesting conditions, salary ceilings, retirement age etc. The data will be verified with the independent source such as payroll, data used in valuation to check its consistency. (1)

A realistic valuation of the actuarial liabilities is to be carried out. The approach should be such that it does not underestimate the pension cost figures. A margin is to be kept to allow for the uncertainties. (0.5)

The discount rate may be set with reference to the Government Bond of suitable term. The scheme is having an outstanding term of 40 years. Therefore the rate must be adjusted to allow for the mismatch in terms of duration. (0.5)

The salary escalation should be reflect the company B's view on the salary increases to its employees especially those who have been transferred & enjoying the defined pension benefits. (0.5)

It is advisable to have no pre retirement exits due to in service death or withdrawal for this exercise as the benefits due to the early exits are less favourable than the retirements pension benefits. (0.5)

The annuity rates used in the calculations should reflect the rates available in the market consistent with the pension benefits of the scheme. (0.5)

PU method should be used in the valuations. Market value of the assets relating to the scheme should be considered for this purpose. (0.5)

The scheme is exposed to various risks such as interest rate risk, annuity risk (possible changes in the annuity rates), operation risk, mismatch risk. A stress test should be carried out to assess the realistic cost of the various risk & must be added to the pension cost figures. (1)

The figures arrived should be compared with previous valuation figures to check its consistency. If it materially differs, a discussion should be initiated with the scheme actuary to understand the possible causes for the variation. (0.5)

During the exercise the following points are also to be considered & its impact on the figures & on the possible take over should be assessed. (0.5 marks for each point; maximum 2)

- ✓ Quality of assets: significance of self investments if any
- ✓ Significance of new entrants especially just prior to the sale(65 new members joined during 1 year)
- ✓ Any pension benefits paid out from the fund eg DA increases
- ✓ Disputes relating to the pension scheme that remain unresolved

- ✓ Pension benefits already vested but not yet purchased
- ✓ Significance of deficit and the reasons for the unfunding - eg is it due poor covenant?
- ✓ Tax & Regulatory compliance
- ✓ Powers of Trustees

Data required to quantify the risks and validate the scheme cost include –

(0.5 marks maximum 3 marks)

- ✓ Complete membership data including date of birth, date of joining, current pensionable salary, etc.
- ✓ Last three years' actuarial reports and compare with the data received
- ✓ Funding report to understand the funding methodology and contribution rate
- ✓ Auditor report
- ✓ Any statements of funding or investment principles along with the asset liability management report
- ✓ Regulatory approval of the Trust from the Income Tax Department
- ✓ Trust balance sheets along with the fund statements over last three years
- ✓ Trust Audit report

[Max 10]

ii) Ways to de-risk the defined benefit scheme A are as below – (For each option 2 marks)

- **Close the plan to new entrants & maintain a separate fund**
 - a. All risks relating to the defined pension scheme retained by company B
 - b. This option will reduce the future service cost for employer if
 - c. Average contribution rate as a percentage of salary for the employer will initially increase increasing age of the employees and will reduce once employees retire
 - d. Funding may need to be accelerated to make up for the deficit of the scheme
 - e. Existing employees are not directly impacted
 - f. Managing two different pension funds will bring administrative complexities
- **Secure the liabilities with an insurance company by buying out pension–**
 - a. All risks associated with the defined benefit will be transferred to the insurance company
 - b. The annuity purchase will be expensive as compared to the realistic cost as the annuity rates will include margins for insurer's expense & profits.
 - c. High cash injection will also be needed
 - d. Annuity products that exactly matches with scheme benefits may not be available; due to some benefits need to be paid out from fund- some risks are to be retained due to this.
 - e. For employees being transferred, external provider option may not have guarantees, so no backup if the insurance company goes bankrupt
 - f. Connection will be lost with the sponsor which may be valued by employees usually
- **Freeze accrual of benefits in terms of service and salary linkage –**
 - a. Current service cost in the expense will become nil with this change
 - b. The P&L expense of employer for scheme A will reduce with this change
 - c. Employees with longer future service to lose out their future benefit & the final salary link & hence they may resist
- **Transfer the accrued benefits to a Defined Contribution plan and convert ongoing Defined Benefit scheme to Defined Contribution**

This option may be fair if the transfer value offered reflect the accrued past service benefits of transferred employees. All risks relating to the scheme is transferred to the members. Company B also stands to gain if it reflects deficit (or underfunding) of employer

- a. Employer will need to setup an Income tax approved Trust for Defined Contribution scheme
- b. Actuarial valuation not needed going forward
- c. Investment of assets will determine the benefit that employees receive

- d. Benefit illustration needs to be issued to the members to demonstrate the fairness of the transfer value
- e. the Employees will not receive the benefit which is defined, while the benefit on retirement will be dependent on the accumulated corpus
- f. Risk will be transferred completely to the employees – example, the risk of rising annuity rate, increasing longevity, low investment returns, higher salary growth than assumed
- g. Effectiveness depends upon the take up rate & the transfer value offered. Members close to retirement may not be willing to take up that option. Legal dispute may arise.

- **Plan Termination**

- a. This would be an extreme step by the company B;
- b. It would mean terminating the plan and settling the accrued benefit to the employees
- c. This needs to be agreed upon by the seller as well as the employees getting transferred
- d. May face resistance from employees of company A; the purchase of the company may face legal dispute.
- e. Younger employees with few years of service or employees not satisfying the vesting criteria who are not likely to stay longer with company B may like this option as they get immediate cash benefits.
- f. Those close to retirement may take up if the cash settled reflect the past service, salary increases & the market annuity rates ; but such cash settlement may attract immediate income tax

[Max 8]

- iii) The derived contribution rates should be such that the value of annuity purchased with the contribution together with the vested pension benefits should be reasonably compare with the defined pension benefits available under scheme A when the members reach superannuation. (1)

The pension benefits used in the calculation should be the same as under Scheme A & the salary. (0.5)

The contribution rate should be fair to all employees. It means a service based contribution rate or age related contribution may be considered fair. (0.5)

It should encourage most of the members to take up the option. By switching to the DC scheme, the company B stands to gain in terms of saving in cost & the potential release of prudent margin. Hence a reasonable share of the gains with the members will serve the purpose. (1)

- There are majorly four methods used to determine the contribution rate – (1)
 - Attained age or Aggregate method
 - Entry age method
 - Projected unit method
 - Current unit method

- Attained Age method is a prospective method and it aims to achieve stability in contribution rates. It builds fund in earlier years and less in later years to achieve the stability. Thus the contribution derived will be higher than the accruing cost. Hence the cost to the employer will be higher than the cost of accrual under old scheme but will be lower at later years. (1)

- Under the Entry Age method, the assumed entry age remains unchanged and any new members do join at that age. This is not suitable for a scheme like this where the scheme is closed to new entrants (0.5)

- Projected Unit credit method is fund driven. It is consistent with the cost of accrual but will increase as the cost of accrual increases with the age/service. Hence it is necessary to calculate the contribution rate every year. The contribution rate vary with the members due to service & age. It may therefore introduce communication issues with the members. It is possible to maintain stability by bringing a 2 or 3 year control period. (1)

- Under the current unit method, little or no allowance is used for future salary increases. This approach requires calculation contribution rates every year based on members salary. The

contribution rates may be low for the company B but likely to rise significantly as the salary & service profile of the member changes. (0.5)

- For the proposed DC scheme where future accrual for defined benefit scheme is closed, attained age method is recommended (0.5)
- Here, the standard contribution rate is the stable rate of contribution paid over the expected future membership of a beneficiary, will accumulate (with investment returns) to the value required to provide the benefits that are expected to accrue over that future period of membership (0.5)
- The Attained Age Standard Contribution is computed as a percentage of earnings as the present value of all benefits that will accrue to present members after the valuation date, by reference to service after that date and projected final earnings divided by the present value of total projected earnings for all members throughout their expected future membership (0.5)
- In this case, the future service liability of the Defined Benefit Pension scheme should be computed basis the agreed set of assumptions. In some cases, attrition rate is ignored while converting the Defined Benefit scheme to Defined Contribution scheme (0.5)
- This future service liability is then divided by the present value of future salaries to arrive at the contribution rate percentage (0.5)
- In such a conversion from DB to DC scheme, assumptions play an important role because once the contribution rate is arrived at basis the assumptions, benefit gets fixed under Defined Contribution scheme. (0.5)
- If the salary increases at a higher rate compared to the assumption in future or if the investment returns are lower than assumed, defined benefit scheme would have given a higher benefit than the defined contribution scheme basis this contribution level. (0.5)
- Hence to arrive at the contribution level, sometimes it may be worth arriving at employee wise contribution rates as well depending on the age, future service, etc. to analyse the number of winners and losers on the aggregate contribution level (0.5)

[Max 10]

iv)

- Salary at retirement: $50,000 \times (1+7\%)^5 = \text{INR } 70,128$
Service at retirement: 5 years from date of transfer
Defined Benefit monthly pension in Company B: $1/70 \times 70128 \times 5 = \text{INR } 5,009$
Cost of buying this pension at age 60 years: $5,009 \times 12 \times 14$ (annuity rate) = INR 841,512 (2)
- This means that in the Defined Contribution scheme, the corpus needed to meet the target Defined Benefit pension at retirement is INR 841,512. (0.5)
- Basis the contribution rate and assumptions provided, given below is the projection to see the accumulated corpus (3)

Age	Monthly Salary	Opening corpus	Contribution amount (20% of salary)	Interest at 7%	Closing Corpus
55	50,000	0	120,000	8,400	128,400
56	53,500	128,400	128,400	17,976	274,776
57	57,245	274,776	137,388	28,851	441,015
58	61,252	441,015	147,005	41,161	629,182
59	65,540	629,182	157,296	55,053	841,531
60	70,128	841,531	0	0	0

- It can be seen that Defined Contribution corpus of INR 841,531 is achievable (0.5)
- Other assumptions/caveats:
 - ✓ Salary escalation/ discount rate remain unchanged during projection period.
 - ✓ There is no change in the annuity rates during this period.
 - ✓ Members survive up to the NRA & pre retirement exits ignored
 - ✓ This is an illustration showing the progress of building of funds for pension purchase for a member aged 55.

- ✓ the actual progress of the fund will differ on year to year basis and hence it may be necessary to revise the illustration at the end of each year based on actual experience
- ✓ This is an illustration only & not a recommendation for a switching from Defined benefit to defined contribution.
- ✓ This illustration is not valid whose profile is different from the figures given in the data.

(for each valid assumption 0.5 marks; maximum 2)

[Max 8]

v)

- **Retain the obligation to provide past service benefits:**

- ✓ Company A may provide the benefits as and when it falls due in respect of the transferring members. Hence it retains all the risks of managing closed defined benefit scheme.
- ✓ The profile of the transferring employees is relatively young & hence the company may take a longer time to build up funds for providing this benefit.
- ✓ There is no immediate need to liquidate assets and reduce the deficit in the fund.
- ✓ It will be easier to conclude the takeover by the company B if the pension liabilities are excluded from the calculations.
- ✓ However it poses lot of administrative challenges; it need to track the movement of transferring employees.
- ✓ Especially it needs to collect the data of the transferring employees every year for actuarial valuation to assess the liabilities.
- ✓ The salary increases for these employees will be provided by company B & hence it may be exposed to the risk of higher salary increases.
- ✓ There is a need to maintain the Trust to manage the closed fund.
- ✓ Transferring employees will not be agreeable to this arrangement as it provide little or no security of their past service benefits.
- ✓ Tax/Regulatory authorities may not approve the sale if part of the liabilities are excluded from the calculations.

(2)

- **Offer transfer value for the Past service benefits portable to a Defined Contribution Scheme –**

- ✓ assets with respect to the past service benefit to be transferred from the Defined Benefit Tax approved Trust to the Income Tax approved Defined Contribution Trust. This would be a one time tax-efficient transfer.
- ✓ But what is fair transfer value in respect of the past service benefit foregone? It will widely differ if the age/service/salary profiles of transferring employees widely differ.
- ✓ Fairness should demonstrated to all employees through benefit illustrations & disputes may come if the actual payouts at the time of exits is different from the figures illustrated.
- ✓ Transferring employees may agree to this proposed transfer value if sale of company A is taking due to its poor performance. The transfer value may provide better security as compared to the vested past service benefit supported by company A having poor covenant.
- ✓ For those employees who will be leaving the service will benefit from this arrangement as funds are already vested in their individual accounts. However, employer can consider including a vesting clause in the DC scheme in line with the DB scheme
- ✓ Also employees will not get the Defined Contribution pension benefit equivalent to the DB pension if assumptions basis which past service liability is transferred are not borne out in practice
- ✓ Trustees have to be in agreement with this change
- ✓ Buy-in for this change needed from the employment committee, seller's management, global team, etc.

(2)

- **Transfer the actuarial liability to the buyer –**

- ✓ This would mean no change for the in-scope employees
- ✓ However the buyer will need to hold this liability in their books until all members retire and are settled
- ✓ This option will retain all the DB related risks for the buyer with respect to past service

- ✓ Defined benefit Pension Trust will have to be formed in order to receive funds from the seller with respect to the past service benefit
- ✓ Responsibility of ongoing actuarial valuation, audit, administration and management of assets will be with the employer
- ✓ The buyer will need compensation for undertaking all risks relating to the scheme. Hence he may need adjustment in the purchase price for these risks. The margins for these risks may be higher if the bargaining power of company B is strong.

(2)

- **Pay off the past service pension for all employees upfront -**

- ✓ This will lead to a gain to employees who are not vested, young and were intending to separate from the Company before retirement
- ✓ Immediate cash requirement for seller to settle the same
- ✓ Settlement actuarial accounting will be needed to close out the books
- ✓ Assets invested for this scheme should be liquid enough to pay off upfront in this special scenario
- ✓ If the payout is happening through annuity buyout, insurance company should have the relevant annuity products
- ✓ Employees should be in agreement with the settlement being made – might need some communication sessions and illustrations. There could be tax disadvantages for some of the employees due to such lump sum pay outs.

(2)

[For each valid alternative 2 marks; **Max 8**]

vi) Advise on how tax effectively can this DC arrangement be implemented by Company B from employer and employee perspective.

- In India, there are two commonly known funding vehicles where Defined Contribution scheme can be administered – Superannuation and National Pension System (1)
- Section 36(1)(iv) of the Income Tax Act, 1995 when read in conjunction with rule 87 of the Income Tax Rules states that any sum paid by the employer by way of contribution towards a recognized provident fund or an approved superannuation fund upto 27% of salary is a tax-deductible expense for employer (1)
- Contribution to provident fund is 12% of salary, hence the balance 15% to super annuation Trust is tax deductible (1)
- Further, Section 36(1)(iva) states that for Employer's Contribution to National Pension System (NPS), the employer can claim deduction for contribution towards a pension fund as specified under Section 80 CCD, however, the deduction allowed will be limited to the extent of 10% of employees' salary. (1)
- From employee's perspective, section 17(2) of the Income Tax Act states that total annual contribution to recognized Provident Fund, Approved Superannuation Trust and National Pension System exceeding INR 750,000 will be taxed as perquisite in the hands of employees. (1)
- Accordingly, the 20% contribution can be split as 15% in Approved Superannuation Trust and 5% in NPS or 10% in Approved Superannuation Trust and 10% in NPS to be tax efficient. (1)

[Max 6]**[50 Marks]****Solution 2:**

i) Occupational Scheme = (OS) Social Security = (SS)

General

The results of actuarial evaluation of OS impacts the financial position of sponsor. In case SS, the results would likely impact the current taxation (and hence the population at large) or budgetary provisions hence potentially impacting the other sections of economy. (0.5)

The results of actuarial evaluation of SS will act as input for other policy decisions (regarding administration of SS and change in benefits etc) that will likely impact the financially weaker section

of society. Results of evaluation of OS will impact the current and future beneficiaries of the enterprise. (0.5)

Reputation risk of an incorrect decision is much higher in case of a government scheme (SS) and is often subjected to much larger public scrutiny. (0.25)

Actuarial valuation:

Actuarial work for OS is governed by APS 26, whereas that for SS is governed by APS 20 (0.5)

Appointments of Actuary for the valuation work is often for limited period in both the cases and it is possible that a different actuary had performed the previous evaluation. However Challenges surrounding analysis of previous report, methodology, data and setting of assumptions are much higher in case of SS than in case of OS. (0.25)

The SS is generally financed through budgetary provisions & payouts are made on PAYG basis. The security of the benefits are relatively high as the sponsor is primarily the Government. But OS are generally funded to take advantage of tax relief available to members & the employer. OS set up on PAYG basis provide inadequate security of the vested benefits. (1)

Objective of valuation:

Evaluation of OS primarily focuses on the calculation of Obligation whereas in case of SS the primary focus will be on projection of cash-flows. (1)

Data

The member data in case of an OS is easily available with the sponsor or the trustees. In case of a SS, the data related to the individual members is rarely available and assumptions need to be made regarding demographic profile. (1)

Even if membership data is available, the volume of data may be so high that member-wise calculations would require extremely high computational resources. Hence construction of appropriate model points would be essential. (0.5)

Assumptions

The OS are often small in size and hence mortality is generally based on standard tables whereas in case of SS, the target population is often from a lower socio economic status hence the standard tables would not be applicable. (0.5)

The membership in SS is often large enough to perform experience analysis of mortality rates. (0.5)

Methodology

Discount rate is used in OS to reflect the time value of money & generally depend Government bond rates. Whereas the SS scheme are generally unfunded & a low discount may be appropriate to arrive at the results. (1)

Generally Projected Unit Credit Method or Attained Age method would be used to evaluate the financial position of OS. These methods cannot be applied to SS. The method used to evaluate the SS would depend on the objective and should be described in detail in the report. (1)

Results

In OS the results will be pension cost, contribution rates & the funding status. Whereas in SS the results will be liability figures & the projection of pension payout over the next few years. (1)

Variability of the results are generally illustrated through changing one/more parameters in OS. But stress testing under several scenarios will be done to illustrate the variability as the SS figures are unlikely to be impacted by random variations. (1)

Variation in results due to deviation in the data points should be shown in the report. This is generally not required in OS as the data received for actuarial valuations is generally audited by other professionals. (0.5)

[Max 10]

ii) Likely reasons for the low take up rates:

- ✓ The profile of the target group: may have limited resources to fund for their own retirement benefits Other section of population may have alternate arrangements.
- ✓ People may value the guaranteed benefits more than uncertain benefits hence reluctant to join the scheme.
- ✓ People may find it difficult to predict the amount of pension that will be actually received under the scheme.
- ✓ The level of options provided under the scheme may confuse the target group. Proper assistance or support may be missing at the point of sale.
- ✓ The concept of retirement planning may be new to the country. Hence the awareness and motivation to subscribe to the scheme may be lower.
- ✓ The tax incentives offered by the government may not be attractive enough.
- ✓ The scheme favourable features like co contribution by Government, tax relief etc may not be adequately highlighted by government.
- ✓ Mean testing to verify the income limit may be a barrier for large level entry into the scheme. (0.5 marks for each reason; maximum 5)

Likely solutions:

- ✓ Market the scheme aggressively through various government offices or other media.
- ✓ Create educative literature explaining implication of each option.
- ✓ Offer a certain minimum pension for a given contribution amount.
- ✓ Conduct a survey to check what is the most unattractive feature or the most preferred feature.
- ✓ Require the insurer to launch special annuity plans with lower expenses and commissions so that better annuity rates can be offered.
- ✓ Allow corporate to offer this pension benefit in lieu of other statutory benefits.
- ✓ Reduce tax concession on other long term investments if citizen is not a member of this scheme. Or increase tax concessions contributions made to this scheme.
- ✓ Incentivize agents / brokers / other intermediaries at government's cost to promote efforts from people who have experience in selling plans.
- ✓ Make the mean testing criteria simple & if possible remove it
- ✓ Issuance of benefit illustration on the likely pension on age 62 (0.5 marks for each valid solution; maximum 3 marks)

[Max 8]

iii) The approach should be to assess the cost of giving this guarantee taking into account the members profile and express it as an annual contribution over the expected life time of the members. The annual contribution can be split between Government & member in proportion. (1)

Data

Data pertaining to the membership details will be required i.e. the counts, age profile, bifurcation into members in accumulating phase and members that are drawing pension. It is preferable to have data of individual members. (1)

It is likely that the volume of data of members will be huge & may not be available. In such case the number of members at each age may be collected. (1)

The level of assured benefit is dependant on the investment choice made by the individual. For example the equity dominated investment will likely to lead higher investment return & higher corpus amount but with greater volatility. On other hand, the bond related investments will deliver lower but steady investment return & lower fund corpus. (2)

Similarly members paying higher level contribution may expect higher level of assured benefit. (0.5)

Cash flow approach will project assured pension payout from age 62, investments returns, contribution for all model points over the expected vesting time of the members, payouts before vesting age due to death or other decrements. (2)

The model points chosen for projection should consider the age profile, investment choice, level of contribution of the members. (1)

Assumptions

The assumption chosen for the projection should reflect the expected experience of the group.

Assumption for future investment income under various options would be required

It may take several years to have a reliable demographic experience of the group. Hence the general population census data may be used with modification to set the mortality basis of the group. (1)

Approach

There will a cost of giving assured benefit if the benefit payout exceeds the pension corpus for a model point. (0.5)

The cash flow projection will result in distribution of the results (benefit-pension corpus). The extreme end of the projection will show the cost of guarantee with a given probability. (1)

The results will be discounted using the risk free discount rate to given the value of the guarantee. This could be spread over the expected contribution period before vesting age of 62 to arrive at the annual contribution. (1)

It is possible to vary the annual contribution depending on the level of contribution, members age profile, investment choice etc. (0.5)

If the objective is to keep the design simple a simple uniform rate can be set depending on the investment choice. (1)

Several illustrations using various assured benefit levels needs to be prepared to enable the Government to set the level of assured benefits for several classes of members. (0.5)

The experience of the group is likely to remain stable & hence the volatility of the cost due to random variations may be small. (0.5)

Stress testing using several shocks such as increase in membership by 50%, improvement in longevity 10%, equity crash by 25% will help to illustrate the variability of the cost to the Government. (1)

There is a need a to review the contribution levy charged & the adequacy of the fund to meet the guarantee needs to monitored through periodic valuation. (0.5)

Professional Guidelines

The work for social security scheme is governed by APS 20 (0.5)

Actuary should ensure that the assumptions are determined without any political or external influences. In case the assumptions are set by third parties, the report should mention the source of assumptions. (1)

The actuary should appreciate that the end users of the report may not be finance professionals and due care should be taken while wording the report so that it is understood by various stakeholders with various backgrounds. (0.5)

Each of the points i.e. purpose, data used, assumptions, methodology, results and conclusion should be reported with adequate detail. (0.5)

[Max 2]

[Max 12]

iv) This flexibility in choosing the retirement age will be suitable for the people choosing to work longer beyond the NRA age 62. They will be having regular income from their active profession & there may not be any need for pension outs. (1)

Late retirement will also allow the fund to accumulate and earn returns. Contributions during the additional years will add to the corpus. There will be higher pension corpus to support the pension pay outs depending upon the choice of the individual members. (1)

Members, by choosing higher vesting age will also be getting higher pension payouts as the mortality rate increases with age. (1)

Financially literate or well informed subscribers can also choose the timing of vesting age depending on market circumstances. This will avoid risk of compulsory annuitization during adverse market events. (1)

Members choosing this flexibility are expected to be in good health to have higher steady regular income during payout period. In the event of pre mature death they stand lose out if they have chosen "Life" pension option at the time vesting. (1)

Impaired lives will most likely opt for deferment thus allowing use of money for other expenses which may not be available in case corpus is annuitized. (1)

In case of death during deferment, transfer of corpus to successors is more cost effective as the amount saved towards insurer's expenses and commissions is saved. (1)

[Max 5]

v) Buying annuity = BA Systematic Withdrawal = SW

- ✓ Annuity amount is fixed in BA. The amount can be modified to meet individual circumstances in SW
- ✓ BA does not require any professional advice (once the corpus is annuitized). Under SW, inputs may be required from finance professional in case member is not financially savvy enough to determine the appropriate withdrawal amount.
- ✓ Income is guaranteed till the life of the member in case BA. The income may prove to be insufficient in SW in case there was significant withdrawal during early period. However a ceiling on the amount of withdrawal can be imposed to ensure the payout during the entire life time of the member.
- ✓ Market risk is avoided in case of BA. Market risk is retained in case of SW.
- ✓ IN BA, current market (with regards to interest rates) dictate the life long income as the annuity rates are fixed. SW offers an opportunity to get better rate during high interest rate scenario or due to other factors like competition/ product innovation etc.

- ✓ Income to dependents needs to be decided at the time of annuitization (for BA). There is no option to recover the loss in case dependent dies before the death of member. SW allows the member to assess the need and extent for dependents' income. In any case the corpus will be transferred to the dependent in case of death of member during drawdown phase.
- ✓ Member can choose between various annuity types (in case of BA). In case of SW, the member can choose between withdrawal of fixed amount or fixed number of units or any other drawdown plan.
- ✓ BA does not allow freedom for need based income whereas under SW, member can withdraw additional amount in case of special events like medical emergencies.
- ✓ Tax treatment of income through BA may be different from tax treatment of capital gain from redemption of units.
- ✓ In case of BA, counter party risk is limited to one party (the insurer). In case of SW, the counter-party risk is towards all the entities that the fund manager has invested in. Default by any one or some of the corporate can adversely impact the NAV of the fund.
- ✓ In both the options there will expense related charges. In case of BA it is pre-fixed but in case of SW either a market related/ flat charge is levied on each withdrawal.

[For each valid comparison 1 mark, **Max 10**]

- vi) The adviser should avoid any assurance of income at the point of retirement. Instead it must be made absolutely clear that the income levels depend on the investment performance & the level of contributions he chooses to make. (0.5)

It also depends upon the continued eligibility of the individual to receive the co-contributions of the Government & the type of annuity option chosen by the individual. (1)

The pension of Rs. 5000 per month payable from retirement age if adjusted for inflation will be 1037 in today's term. There is a need to inform the individual about inflation adjusted pension payouts. (5000 after 27 years is equivalent to $5000/1.06^{27} = 1037$) (0.5)

After deciding on the inflation adjusted amount of pension, the adviser should then compute the corpus required for the same & the annual contribution required to get the target pension.

Considering the profile of the individual, it is not advisable to suggest high risk equity investment choice. A passive investment strategy that delivers steady safe returns may be suggested. (1)

It must be explained in simple terms the factors that might impact the target pension or the level of contributions. (2)

- Illustrations on the target pensions for several annuity rates may be provided OR
- Illustration for several level contributions to reach the target pension may be given.
- Various scenarios must be provided for different rates of return and salary growth so that the person gets an idea about the variation in level of income on retirement.
- Illustration of target pension for several annuity options

Explain the subscriber that the projections illustrated are based on certain long term assumptions on salary growth, investment return, movement of annuity rates etc. & they are likely to differ in real situations depending on actual circumstances. (1)

Explain the impact of co contributions of the Government on the target pension. Illustrate how the target pension reduce (or the annual contribution increase) in case the contribution of Government stops or terminated. (1)

If any other options are available to the member other than annuitization, (like flexibility in choosing NRA, systematic withdrawal), the advisor must explore such alternatives before making recommendation. (1)

Need for regular monitoring of the progress of the pension corpus built-up & the target pensions should be emphasized as the assumption parameters or other circumstances may change over time.

(0.5)

[Max 5]

[50 Marks]
