

INSTITUTE OF ACTUARIES OF INDIA

Subject SP2 - Life Insurance

May 2026 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 examiners have given credit for any alternative approach or interpretation which they consider to be reasonable.

Solution 1:

i)

Factor	Impact on Solvency	Impact on EV	Impact on Profit Emergence
Sales exceed projections (+35%)	Likely to reduce due to capital strain because of acquisition expenses, reserving, and capital requirements	Increase in EV if VNB margins are positive	Lower short-term profits due to strain; higher future profits if experience is favorable
Higher premium pause utilization	Higher uncertainty around persistency and potential anti-selection risk may increase capital requirements	Reduced EV due to: Reduction in PVFP due to lower premiums Higher cost of options if behavior is anti-selective	Depending on the duration of the policy and the reserves that the company is holding before and after premium pause there will be an impact on profitability.
Drop in wearable engagement after Year 1	Increased uncertainty and potential deterioration in risk profile results in higher capital requirements and lower solvency	Lower expected margins due to mispricing risk reduce EV	Gradual erosion of profitability and higher volatility in experience
Increase in YRT reinsurance rates	Higher costs reduce available capital Capital requirement may increase because of potential increase in retention due to reinsurance becoming less viable	Reduction in EV due to lower future margins	Immediate reduction in profits Increased volatility due to either external pricing risk or higher retention

[8]

ii)

Underwriting risks inherent in the product structure:

- Limited medical checks due to simplified underwriting increase risk of misclassification and anti-selection at purchase.
- There is reliance on annual repricing instead of upfront selection. Assuming such subsequent pricing correction may lead to lag in recognizing true risk.
- Healthier lives may lapse when premiums increase, while poorer risks persist. Such anti-selection results in deterioration of risk pool.
- Premium pause feature allows policyholders to alter coverage dynamically, creating further scope for anti-selective behavior.
- Wearable-based underwriting limitations:
- Risk of data asymmetry (selective engagement/manipulation),
- declining engagement over time,
- incomplete capture of medical risk resulting in mispricing risk.

CFO's argument and evaluation

Argument: Underwriting risk is limited due to annual renewability and repricing; therefore, retention should be increased to improve margins.

Evaluation:

- Annual repricing does reduce long-term guarantee risk, as premiums can be adjusted to reflect emerging experience.
- However, this does not eliminate underwriting risk because:
 - Simplified underwriting at entry increases initial misclassification and anti-selection.
 - Repricing may lag true risk changes, especially where health deterioration is not immediately observable.
- The effectiveness of repricing depends on data quality and completeness:
 - Wearable data may be incomplete, manipulable, or decline over time, reducing its reliability as a proxy for risk.
 - As a result, repricing may not fully reflect underlying mortality risk.
- Increasing retention assumes that a larger portfolio improves margins, but:
 - Selective lapses may occur, with healthier lives lapsing when premiums rise, while poorer risks persist.
 - Higher retention may therefore worsen the overall risk pool, rather than improve profitability.
- Repricing may also be constrained by:
 - Policyholder behavior (sensitivity to premium increases), and
 - Regulatory or reputational considerations, limiting the ability to fully reprice risk.

Head of Underwriting's argument and evaluation

Argument: Behavioral effects and data asymmetry may increase long-term risk.

Evaluation:

- Behavioral features of the product (annual repricing, premium pause, digital flexibility) create dynamic anti-selection:
 - policyholders can adjust participation based on perceived value of their health leading to deterioration in the risk pool over time.
- Selective lapses are particularly relevant:
 - healthier lives are more price-sensitive and more likely to exit,
 - resulting in a concentration of higher-risk lives among persisting policies.
- Data asymmetry from wearable usage is a significant risk:
 - policyholders may selectively engage or alter behavior to influence scores,
 - Declining engagement reduces the effectiveness of ongoing underwriting.
- The wearable-based approach may also fail to capture all relevant health risks, leading to systematic mispricing.
- These effects are likely to compound over time, meaning underwriting risk may increase rather than decrease in later durations.

iii)

Risk area	Specific risk	Implications for the company
Operational	Dependence on third-party APIs for data flows	Risk of outages, delays, or inaccurate data leading to incorrect premium calculations, service disruption, and poor customer experience
	Premium reset process not stress-tested under high volumes	System failures or processing errors during repricing cycles → incorrect premiums, delays, financial loss, and remediation costs
	Reliance on wearable data flows	Data gaps or inconsistencies may lead to mispricing and inconsistent customer outcomes
Regulatory	Fairness and discrimination concerns from opaque algorithm	Potential breach of treating customers fairly (TCF) expectations → regulatory scrutiny or sanctions
	Lack of transparency in premium setting	Customer complaints and regulatory intervention, possibly requiring product redesign
	Data privacy and consent risks (wearables + APIs)	Risk of data breaches or misuse, leading to penalties, reputational damage, and loss of trust

[6]

iv)

- Stochastic modelling is appropriate for this product as it allows assessment of the **distribution** of future profits and capital outcomes, **rather than a single expected value** as in deterministic modelling.
- The product is exposed to **significant uncertainty in key assumptions**, including:
 - Mortality, particularly given simplified underwriting and emerging adverse experience,
 - Lapse and behavioral patterns, such as premium pauses and selective lapses,
 - Wearable engagement, which may decline over time and affect risk assessment.
- These risks are **highly volatile and interdependent**:
 - for example, repricing may trigger lapses, which in turn affects the mortality profile of persisting lives.
- Such interactions are difficult to capture using deterministic scenarios.
- The product also involves **reinsurance repricing risk**, where future YRT rates are uncertain and may have a non-linear impact on profitability.
- Stochastic modelling allows the company to:
 - assess the **range and variability** of outcomes, including adverse scenarios,
 - quantify tail risks** (e.g. low-profit or loss-making outcomes),
 - evaluate the probability of **breaching capital thresholds**.
- This is particularly important given the company's **modest free surplus**, as it needs to understand not just expected profits but the risk of adverse capital outcomes.

[4]

v)

Value-at-Risk (VaR) framework

- Solvency capital is set as the amount required to ensure that the insurer can withstand adverse outcomes over a one-year horizon with a specified confidence level (e.g. 99.5%).

- This corresponds to covering extreme but plausible losses, i.e. the loss that will not be exceeded with the chosen probability.

Role of stress scenarios

- Individual risk drivers (e.g. mortality, lapses, expenses, market variables) are subjected to adverse stresses or shocks to assess their impact on the balance sheet.
- These stresses help quantify the capital required for each risk type, including severe but plausible scenarios.

Diversification effects

- Risks are not perfectly correlated, so total capital is less than the sum of individual risk capitals.
- The framework allows for diversification benefits by recognising interactions between risks, reducing overall capital while still maintaining the required confidence level

[3]

vi)

- Restrict premium pause duration/frequency
- Remove or reduce cover during pause
- Apply waiting period after policy restart
- Introduce caps/floors on premium repricing
- Smooth premium adjustments over time
- Link premium discounts to sustained wearable engagement
- Reduce reliance on annual repricing (e.g. multi-year rate bands)
- Offer fixed-premium option with lower flexibility
- Use longer-term or partially guaranteed reinsurance instead of pure YRT

[3]

[30 Marks]

Solution 2:

i) Define the objective and scope of the investigation

The actuary should clearly define the purpose of the investigation, for example to assess whether mortality assumptions remain appropriate given the observed deterioration.

The scope should specify:

- the products to be analyzed (e.g. term assurance)
- the period of experience
- the relevant policy cohorts

Given the case study, the investigation should specifically consider policies sold through digital distribution channels, where adverse experience has been observed.

Gather and validate relevant data, including:

- policyholder characteristics (age, gender, underwriting class)
- policy details (issue date, policy duration, sum assured, distribution channel)
- claim information (date and cause of death).

The data should be validated to ensure accuracy, completeness and consistency, and reconciled with administrative systems and claims records.

Calculate exposure to risk

The exposure to mortality risk should be calculated for each policy during the investigation period.

This involves determining the period each policy was in force, allowing for risk commencement, lapses or surrenders

claims and policy terminations.

Segment the experience appropriately

Experience should be analyzed separately for groups where mortality risk may differ. Example:

- distribution channel (digital vs other channels)
- policy duration, particularly early durations
- age and underwriting class
- policy issue year or cohort.

Segmenting by channel and cohort will help identify whether adverse experience is concentrated in recent digitally sold policies.

Compare actual experience with expected experience

The number of deaths observed should be compared with expected deaths based on the mortality assumptions used in pricing or valuation.

This comparison is typically expressed using actual-to-expected (A/E) ratios.

Significant deviations may indicate that assumptions are no longer appropriate.

Investigate the causes of adverse experience

Where actual mortality exceeds expected levels, further analysis should be undertaken to identify potential causes, such as:

- changes in underwriting practices
- deterioration in risk selection due to rapid growth
- higher-risk customers entering through digital channels
- non-disclosure of pre-existing medical conditions, as identified in claim investigations.

Assess credibility of the results

The actuary should assess whether the observed experience is sufficiently credible to draw conclusions. This involves considering:

- the number of claims observed
- the exposure volume
- the length of the investigation period.

If credibility is limited, the results may need to be supplemented with industry or reinsurer experience data.

Draw conclusions and recommend actions

Based on the findings, the actuary may recommend actions such as:

- revising mortality assumptions
- strengthening underwriting controls
- modifying distribution practices
- reviewing reinsurance arrangements.

ii) Mortality assumptions

Observed mortality experience is higher than expected for policies issued through certain digital channels. The actuary may therefore consider:

- strengthening the mortality assumption used in the valuation
- differentiating mortality assumptions by distribution channel if adverse experience is concentrated in digitally sold policies.

Early duration mortality

The increase in claims within the first policy year suggests that early duration mortality may be higher than assumed. The valuation basis may therefore require:

- higher mortality rates in early policy durations
- adjustments to reflect anti-selection or weaker underwriting.

Persistency (lapse) assumptions

Persistency has been weaker than expected, particularly after the second policy anniversary. The valuation may therefore require:

- higher lapse assumptions
- potential differentiation by policy duration or distribution channel.

Interaction between lapses and mortality

Lower persistency may lead to selective lapsation, where healthier lives lapse while higher-risk lives remain insured.

This may further worsen mortality experience for the remaining in-force portfolio and may need to be reflected in valuation assumptions.

Underwriting and risk selection assumptions

Evidence of non-disclosure of pre-existing medical conditions suggests potential deterioration in underwriting quality.

If this behavior persists, the actuary may consider allowing for:

- higher baseline mortality
- additional allowance for risk selection deterioration.

Cohort effects and business mix

The rapid growth of the portfolio and the expansion of digital distribution may have changed the risk profile of new business.

The actuary may therefore analyze experience by policy cohort and adjust assumptions if recent cohorts exhibit consistently worse mortality experience.

Credibility of experience before assumption changes

Before changing valuation assumptions, the actuary should consider whether the observed experience is sufficiently credible and statistically significant, or whether it may be due to temporary fluctuations.

[7]

[14 Marks]

Solution 3:

i) Participating endowment policies:

- Surrender values for participating policies are typically determined with reference to the policy's asset share.
- The asset share represents the accumulated value of premiums paid, allowing for investment return, expenses, mortality costs, tax and bonuses allocated to the policy.
- The surrender value is usually set as a proportion of the asset share, possibly subject to smoothing to avoid excessive volatility.
- The insurer may apply deductions for surrender expenses or penalties, particularly at early durations to recover acquisition costs.
- The surrender value may also reflect declared reversionary bonuses and possibly part of any terminal bonus, depending on the company's bonus philosophy.
- The resulting surrender value may therefore differ across policies depending on investment experience, expense allocation, and bonus declarations.

Unit-linked insurance policies

- For unit-linked products, the surrender value is generally linked directly to the value of the policyholder's unit fund.
- The surrender value is typically equal to the bid value of units held in the policyholder's fund.
- From this amount, the insurer may deduct surrender charges or penalties, particularly in the early years, to recover acquisition expenses.
- These charges usually reduce over time as the policy duration increases.
- Since investment risk is borne by the policyholder, the surrender value depends directly on market performance of the underlying assets.

Term assurance with return-of-premium (ROP) features

- For term assurance with ROP features, surrender values are typically determined with reference to the expected value of the return-of-premium benefit.
- The product generally provides a refund of premiums (possibly without interest) if the policy survives to the end of the term.
- Early surrender values may therefore be very low and may increase gradually as the policy approaches maturity and the expected return-of-premium benefit becomes closer.

Why surrender values differ between products

Surrender values differ across these products mainly because of differences in:

- Benefit structure and guarantees
- Investment risk borne by the policyholder versus the insurer
- Cost recovery mechanisms (charges, penalties or expense deductions)
- The method used to determine the underlying policy value (asset share, unit fund value, or reserves)

[7]

ii)

Surrender values in early policy years are often significantly lower than premiums paid due to the structure of costs and benefit provisions in life insurance contracts.

A significant proportion of premiums in the early years is used to cover acquisition expenses such as commissions, underwriting costs, marketing expenses and policy issue costs. These costs are typically incurred upfront and therefore reduce the funds accumulated under the policy in early durations.

Premiums are priced assuming that these initial expenses will be recovered over the life of the policy.

If a policyholder surrenders early, the insurer may not yet have recovered these costs, leading to lower surrender values.

Part of the premium is used to provide life insurance protection during the policy term. The cost of providing mortality cover reduces the amount available to accumulate value for the policyholder.

Furthermore, since the premiums are level in nature and mortality cost is increasing function of age (and hence policy duration), continuity of premiums is even more relevant for term products.

Designing Early Surrender Values:

When determining surrender values, insurers must balance the need to recover costs with the requirement to treat policyholders fairly.

If surrender values are set too high in early years, continuing policyholders may subsidize those who surrender, which would be inequitable.

Even though surrender values may be lower than premiums paid, insurers should ensure that values do not appear excessively low compared with premiums paid, particularly where policy illustrations or sales material may have influenced expectations.

The surrender value basis should be consistent with the product design and the charges disclosed to policyholders at the point of sale.

While surrender penalties may be necessary to recover costs, they should not be excessive or create unreasonable outcomes for policyholders.

Insurers must ensure surrender values comply with regulatory requirements and do not result in customer dissatisfaction, complaints, or reputational damage.

[6]

iii) Customers may not fully understand product features

If key features such as surrender penalties or benefit structure are not clearly explained at the point of sale, policyholders may later realize that the product does not meet their needs and choose to surrender the policy.

Unrealistic expectations created at the point of sale

Sales agents may emphasize projected returns or benefits while downplaying charges or restrictions. When actual policy values or surrender values differ from these expectations, customers may feel misled and surrender the policy.

Products sold without assessing customer suitability

Policies may be sold to customers whose financial circumstances or investment horizon are not aligned with long-term insurance products. Such customers may later surrender when they realize the policy does not suit their needs.

Failure to disclose surrender penalties and charges

If surrender penalties or the low value of early surrender benefits are not properly communicated, customers may be surprised when they attempt to exit the policy and receive lower-than-expected values.

Poor ongoing communication with policyholders

Insufficient information about policy performance, charges or policy benefits during the policy term may reduce customer trust and increase dissatisfaction.

Loss of trust and reputational impact

Perceived mis-selling may lead to formal complaints to the insurer or regulator and encourage policyholders to surrender their policies prematurely.

[4]

iv) To protect policyholders from excessive penalties

Restrictions on surrender charges help ensure that policyholders are not unfairly penalised when exiting a policy, particularly in cases where the product may have been mis-sold or poorly understood.

To promote fair customer outcomes and transparency

Limits on surrender charges encourage insurers to design products with reasonable cost recovery structures and ensure that customers receive fair value when surrendering their policies.

To prevent unfair sales practices

If surrender penalties are very high, distributors may be incentivised to sell unsuitable long-term products since policyholders would face large financial losses on surrender. Regulatory restrictions help discourage such practices.

To maintain confidence in the insurance market

Ensuring that surrender values are reasonable helps build trust in life insurance products and protects the reputation and stability of the insurance industry.

[2]

[19 Marks]

Solution 4:

- i) The investment strategy of ABC Life should be driven by the nature of the underlying liabilities, which differ materially between participating business and deferred annuity / pension products.

Participating endowment policies

- Participating liabilities are long-term and involve a combination of guaranteed benefits and discretionary bonuses, with outcomes smoothed over time.
- The presence of discretion in bonus declarations allows the insurer to absorb short-term asset fluctuations and therefore invest in a diversified portfolio, including equities and property, to enhance long-term returns.
- However, the existence of guaranteed benefits requires that a portion of assets be invested in secure, fixed-income instruments, to ensure the ability to meet minimum obligations under adverse conditions.
- The requirement to support bonus smoothing implies that the investment strategy should balance:
 - growth assets (to generate surplus), and
 - stable assets (to manage volatility),

ensuring that payouts remain stable despite market fluctuations.

- The long-term nature of liabilities allows the insurer to invest in illiquid or long-duration assets, but this must be balanced against potential surrender risk and the need for liquidity.

Deferred annuity / pension products

- Deferred annuity liabilities are also long-term but are more sensitive to interest rate movements, particularly where guaranteed minimum annuity rates (GMAR) are offered.
- These guarantees create asymmetric risk for the insurer, as policyholders are more likely to exercise the option when market annuity rates are lower than the guaranteed rates.
- This necessitates an investment strategy focused on close matching of assets and liabilities, particularly using fixed-income securities whose cashflows align with expected annuity payments.
- The presence of flexible vesting options introduces uncertainty in the timing of liability cashflows, requiring the insurer to maintain:
 - sufficient liquidity, and
 - flexibility in the asset portfolio
- Compared to participating business, there is less scope for investment in volatile assets, as the insurer bears a greater proportion of financial risk due to guarantees.

Overall implications

- The differing liability characteristics imply different risk tolerances and investment objectives across product lines:
 - participating business allows for greater investment flexibility due to discretion,
 - deferred annuities require tighter matching due to guarantees.
- Therefore, assets should be managed in a manner that ensures appropriate alignment between asset strategy and liability profile, potentially requiring separate management of assets for different product lines.

[7]

ii) The insurer can adopt a combination of investment, product, and risk management actions to manage ALM risks arising from participating and deferred annuity products.

- **Improve asset–liability matching**
 - a. Align the asset portfolio more closely with the duration and cashflow profile of liabilities, particularly for pension products with guaranteed benefits.
 - b. Increase allocation to fixed-income assets to better match interest-sensitive liabilities such as annuities and GMAR guarantees.
- **Use hedging strategies (with limitations)**
 - a. Use instruments such as interest rate swaps or bonds to hedge exposure arising from guarantees (e.g. GMAR).
 - b. However, the effectiveness of hedging may be limited by uncertain policyholder behaviour, particularly surrenders and flexible vesting, which can lead to hedge breakage or mismatch.
- **Strengthen liquidity management**
 - a. Maintain sufficient liquid assets or liquidity buffers to meet increased and volatile surrender and transfer outflows.
 - b. Structure asset portfolios with staggered maturities to reduce the need for forced asset sales.
- **Adjust investment strategy for behavioural uncertainty**
 - a. Reduce exposure to illiquid or long-duration assets where liabilities are subject to unpredictable behaviour.
 - b. Incorporate behavioural assumptions (e.g. surrender rates, vesting patterns) into ALM decisions to better reflect expected cashflows.
- **Review product design and guarantees**

Modify product features to reduce exposure to adverse behaviour, for example:

- a. revising or limiting guarantees such as GMAR
- b. introducing surrender penalties or restrictions
- c. reducing flexibility in vesting options

This helps reduce embedded optionality and associated ALM risk.

- **Segregate and manage assets by product type**
 - a. Manage assets backing participating and pension products separately, reflecting their different liability characteristics and risk profiles.
 - b. This allows more appropriate alignment between assets and liabilities for each product line
- **Dynamic ALM and monitoring**
 - a. Adopt a more dynamic ALM framework, regularly reviewing emerging experience and adjusting asset strategy in response to changes in behaviour and market conditions.
 - b. Use scenario testing to assess the impact of different interest rate and behaviour scenarios.
- **Align pricing and new business strategy**
 - a. Ensure that pricing of new products adequately reflects the cost of guarantees and behavioural risks.
 - b. Where necessary, redesign or restrict new business to limit exposure to ALM-intensive features.

[7]

iii) ALM Risks due to Higher Surrenders in Participating endowment policies:

- Participating business is typically backed by long-term assets (e.g. long-duration bonds, property) aligned with the long-term nature of liabilities and smoothing of returns.
- Following a rise in interest rates, the market value of existing fixed-income assets may fall, while policyholders are incentivized to surrender and move to products offering higher returns.
- Increased surrenders may therefore force the insurer to liquidate long-term assets at depressed market values, leading to crystallization of losses.
- This disrupts the intended asset–liability matching, as assets are realized earlier than expected while liabilities reduce more rapidly.
- Surrenders are likely to be non-random, with policyholders more likely to exit policies that appear unattractive relative to current market conditions, while those with more valuable guarantees or accrued benefits may persist.
- This can worsen the financial profile of the remaining with-profits fund, as:
 - a higher proportion of liabilities may carry guarantees
 - fewer policies remain to support smoothing
- There may also be liquidity strain, particularly if assets are relatively illiquid, requiring the insurer to hold additional liquid assets or adjust investment strategy.
- Overall, these effects create a mismatch between the long-term, illiquid asset strategy and increasingly volatile and shorter-term liability outflows.

[4]

[18 Marks]

Solution 5:

i)

- Mark-to-market (MTM) losses on equity and fixed-income portfolios.
- Changes in interest rates and yield curves, impacting both assets and liabilities (depending on accounting and valuation regimes)
- Increased policyholder risk aversion, leading to movement towards safer investments like guaranteed products.
- Higher surrenders, withdrawals and fund switching activity, especially in market linked segment.
- Shift in product mix, with higher demand for protection or guaranteed products.

- Impact on unit-linked fund values, reducing policyholder account balances.
- Reduction in fund management charges in ULIP business.
- Deterioration in persistency experience, especially in volatile markets.
- Potential changes in mortality experience, both due to direct as well as indirect effects of conflict (e.g. stress, healthcare disruption).
- Need for changes expense assumption, due to inflationary pressures or operational disruptions.
- Increased capital requirements, driven by higher market risk, lapse risk or stress calibrations.
- Greater regulatory scrutiny, particularly on risk management, solvency and customer outcomes.
- Impact on reinsurance costs or availability, if driven through relevant global markets.
- Exposure to currency risk and cross-border financial impacts, if business is written in multiple geographies.
- Potential disruption to investment operations or counterparties, especially in affected regions.
- Increased uncertainty in actuarial assumptions, requiring more frequent review and updates.

[6]

ii)

- In unit-linked business, investment risk is largely borne by policyholders, with liabilities typically linked to the value of underlying unit funds, so traditional asset–liability mismatch is limited.
- However, significant switching from equity to debt funds leads to large and rapid changes in asset allocation, requiring the insurer to rebalance assets in line with policyholder decisions.
- This can create execution and timing risk, as asset trades may not perfectly align with the timing of unit switches, especially in volatile markets.
- Large-scale switching may also lead to forced buying and selling of assets, potentially at unfavourable market prices, particularly if switching behaviour is concentrated over short periods.
- There may be liquidity risk if the underlying assets (especially in certain debt funds) are not sufficiently liquid to meet switching demands.
- Frequent switching increases operational and transaction risk, including:
 - processing errors
 - delays in unit pricing or trade execution
 - increased transaction costs
- The shift from equity to debt funds also changes the fee income profile for the insurer, potentially reducing margins and affecting profitability.
- Additionally, if switching behaviour is driven by market conditions, it may exhibit pro-cyclical patterns (e.g. switching out of equities after market falls), which can amplify operational and liquidity pressures.

[4]

[10 Marks]

Solution 6 :

i) Data used for monitoring experience:

- The basic requirement is that there is a reasonable volume of stable, consistent data, from which future experience and trends can be deduced.
- Consistent means that, when comparing the experience of one group with another, the data used as a basis for the calculations for each group should be:
 - in a similar form
 - preferably extracted from the same source
 - grouped according to the same criteria
 - equal in terms of reliability.
- The data needs to be divided into sufficiently homogeneous risk groups, according to the relevant risk factors.
- It should be balanced against the danger of creating data cells that have too little data in them to be credible.

- The level of detail in the classification of the data depends upon the volumes of data available. The volume of data will not only indicate whether an analysis will produce meaningful results, but it will also indicate the extent to which data can be subdivided without leading to similar problems. For example, it may be necessary to group data on two-year age bands rather than single-year bands if volume of data is not adequate.
- It is necessary to have data on the exposure to risk, divided into the same cell structure as the experience data. An analysis of experience is not valid unless experience and exposure to risk are matched.

[4]

ii) Steps to be taken by insurance company to manage and control expenses:

- regularly monitor actual expenses against the expected expenses and check to see whether they are higher than expected
- regularly monitor new business; e.g. cost of sales versus volume of new business/expense allowances for new business
- regularly monitor withdrawal rates; for example checking that overheads remain proportional to the volume of in-force business
- Matching of charges and expenses by amount and time
- Implementing cost control measures in the event of expenses exceeding budget. For example, merge the branch offices if two offices are located in same geographical area.
- Increasing operational efficiencies. For example, increasing automation to reduce the cost of more expensive manual tasks
- Having a robust business planning process for future periods. For example, ensuring in future periods expense levels are proportional to the projected volume of in force business and new business
- Contracting out administration to a third party who assumes the expense risk. For example, outsourcing routine activities like dispatch to a third party
- Implementing robust operational procedures with monitoring of effectiveness e.g. to reduce the risk of additional costs being incurred rectifying errors
- For a long term contract, some of the charges in the contract may be reviewable and hence if actual expenses are different the charges can be revised.

[5]**[9 Marks]**
