Actuarial Society of South Africa

EXAMINATION

12 May 2026

Subject F204 - Pensions and Other Benefits Specialist Applications

EXAMINER'S REPORT

Overall, this was not believed to be a difficult exam and gave sufficient opportunity for candidates to demonstrate their knowledge and understanding of the subject matter. Relative to the final mark allocation per question there were many marks available. Well-prepared candidates scored well throughout the paper. *Candidates who are not working in the Pensions field or who are not getting a broad enough exposure to the pensions field and current legislative environment would struggle to demonstrate enough competence to qualify as a pass.*

QUESTION 1 [35 Marks]

There was a reasonable spread of results across this question with some candidates scoring very well while others scoring poorly. IAS19 should be sufficiently familiar and investment strategy design and understanding should not be challenging. Many candidates did not fully articulate the differences in the nature of the two liabilities that would lead to differences in an appropriate investment strategy to match the liability. Generally, candidates identified the core or more obvious issues but did not expand sufficiently into the nuances.

i. Comment on the asset composition of the pensioner assets of the fund. [6]

- Asset composition consists of 50% equities split between local and foreign, 40% local fixed interest and 10% cash.	
- This portfolio is expected to provide guaranteed pensions for the lifetime of pensioners - And aim to fund pension increases of 100% of CPI	
- The fixed income bonds provide a suitable match for the current level of future pensions - The equities would be expected to provide above inflation returns and hence provide for pension increases - Cash is appropriate for liquidity purposes to pay pensions	
- Local and foreign equity are expected to outperform bonds / fixed interest over the longer term. - Higher returns will result in lower potential cost to the employer.	
- Could consider **inflation linked** bonds as an asset to match the real nature of the liabilities - The more closely matched, the lower the risk to the employer - At the possible cost of enhanced returns	
- The funding level of the fund could be enhanced if superior returns are earned through the current higher allocation to equity - However, falling real yields increase the level of the liabilities which suggest a matching strategy would be more prudent -	

- The appropriateness of the asset composition also depends on how material the pensioner liabilities of the fund are in the overall company liabilities o Company effectively guarantees the payment of pensions and would be expected to have some input into the investment strategy of the fund	

ii. **Estimate the "Amounts recognised in the Balance Sheet" at 31 December 2025 and what the "Profit or Loss" for the 6 months to 31 December 2025. State any assumptions or simplifications that you make. [10]**

	Result
Return for 6 months to 31 Dec 2025	
a1 - assume asset composition remain stable	
Local equities: 35% x 6%	2.10%
Foreign equities: 15% x -1%	-0.15%
Local fixed interest: 40% x 15%	6.00%
Local cash: 10% x 4.5%	0.450%
Total return	**8.4%**
Pension payments	
a6 - Assume new retirees replace retirees who pass away therefore pensions uniform over period	
Pension payment for 6 months R11m x 6 /1.032	63.95
Expected assets 31 Dec 2025	
Asset: R1 744m *1.084-R63.95*1.084^.5 =	1823.91
Investment return: -R1 744m+R63.95+R1823.91m =	143.86
Expected interest return on assets (1.111)^0.5-1=	5.40%
Interest income on assets: R143.86m / 8.4% * 5.40%=	92.55
Liability as at 31 Dec 2025	
Opening at 1 July 2025:	
- Pensioner	1 727.00
<u>Pensioner liability</u>	
Pensioner liability: R1 727m*1.111^.5-R63.95m*1.111^.25=	1 754.67

Remove 4.2% pension increase assumption for 1 year 1754.67/1.042	1 683.95
Allow for 3.2% actual increase : R1 683.95m*1.032	1 737.83
Assume interest change = 8% liability change (or any reasonable)	
Final liability: R1 737.83*(1+(11.1-9.1)*8%)=	**2015.88**

Interest cost

Interest cost: R1 727m*((1.111)^.5-1)-R63.95*((1.111)^.25-1)= **91.62**

Value of obligations	
- Assets	1 823.91
- Pensioners	**-2 015.88**
Deficit	**-191.97**

Profit or Loss (Importantly IAS describes P&L to exclude OCI)	
Interest cost	**--91.62**
Interest income on fund assets	92.55
Interest income on unrecognised asset ceiling -**R17m** *((1.111^.5)-1) =	-0.92
Loss	**0**

iii. Set out what the trustees should consider when setting an investment strategy. [10]

The fund's objectives • What level of return the members should expect to earn o Real return necessary • What level of risk the members should expect to take o DC so members bear risk – trustees need to consider what is acceptable • Is the fund targeting a particular replacement ratio? • Based on target pension increases of 100% of CPI	
Nature of the fund • Long -term liabilities • Real in nature • Targeting an income at retirement – pension fund so members will have to convert their lump sums into income at retirement – at unknown terms	
The size of the fund – increasing, decreasing, static • Informs the investment options o negotiating power wrt fees o split of asset managers vs a single manager o Whether the fund assets are large enough to justify specialist mandates and segregated portfolios	
• Expected cash flows o Impacts liquidity requirements for the fund – if net outflows need higher cash holdings to pay benefits - the fund has fewer restrictions if benefit payments can be funded from contributions	
Tax o The fund would need to consider the tax treatment of any investments – South African tax laws allow for income and capital gains to be accrued in retirement funds without being taxed	

Fees • Investment fees directly erode members benefits • Can be significant over long periods of time	
Investment choice • Need to consider whether to give members choice or not • Added administration complexity if there is choice • At an added cost • Member's might appreciate the choice as they have different needs and risk appetite	

iv. Draft your response to the trustees. [9]

- The nature of the liabilities for the actives and pensioners is different - Active members liabilities are increasing in line with salary inflation - In order to retirement benefits to keep pace with the earnings expected to be replaced at retirement - Salary inflation expected to be higher than CPI inflation - Appropriate to include more aggressive assets that are expected to beat inflation over the long-term e.g. equities - The current allocation to equities in respect of pensioners is likely too low to be appropriate for active. - For younger members with long time horizons, could expect an investment in equities of between 80% to even 100% - Could maintain some split between local and offshore equities, but this introduces additional currency risk for actives – who may not have the appetite for this - Pensioner assets not appropriate – especially not for younger members - Even as members age, could consider transitioning members' assets into investments that match the conversion rate to post-retirement annuity - Index-linked annuities likely to behave in a similar way to the annuity factor at retirement - Current pension investments have no index-linked bonds	
- Risk appetite - The pensioner pool is effectively underwritten by the employer - Choice of investments less important for pensioners - Very important for actives o Who bear investment risk - And the risk of uncertain conversion terms - A carefully considered separate investment strategy is key for actives	
- Cashflow requirements - Pensioner assets should include a portion in cash to meet pension outgo - May not be needed in the active pool, depending on the level of contributions vs exit benefits - Cash is not a good match for the nature of the active member liabilities	

QUESTION 2 [31 Marks]

The question tested candidates understanding of the annuity environment and in particular the advantages, disadvantages and risks associated with the annuities from both a Fund and member perspective.

This proved to be marginally more difficult although saw a narrower spread of results with candidates not maximising their scoring potential. It did through the calculator section test a combination of the understanding of the valuation of the liability as well as some pricing and risk management factors.

While candidates understood the products from a member perspective the understanding from the perspective of a retirement fund and its Board of Trustees was not as well understood and not as well answered. This would be a critical skill for retirement fund valuators.

i) Describe the difference between these two annuities? [3]

- A living annuity offers members flexibility, allowing a member to choose the income that they wish to draw but carries the risk of running out of money either due to high withdrawals, poor investment performance or due to the member living longer than expected.
- The in-fund annuity would offer a guaranteed pension where the majority of risks are carried by the Fund. Because pension increases are not guaranteed there is a risk that the pension will not keep up with inflation.

ii) Compare a living annuity to the current in-fund life annuity from a member's perspective noting the advantages, disadvantages and major risks?

[8]

Living annuity compared to in-fund annuity

- The operation of a living annuity is generally easy to understand
    - Easily likened to a bank account
    - and the annuitant has control of many of the features of the annuity which may make it relatively more attractive
    - compared to an in-fund annuity where:
    - the pricing of the annuity may be difficult to understand
    - mechanisms for granting increases are not transparent or easy to understand
    - control is largely in the hands of the fund/trustees
- The pensioner can select the level of income to draw whereas under the in-fund annuity the pension is fixed based on a pre-determined price or set of factors

    - This may be particularly attractive for a person in poor health who may be able to access higher levels of income than he or she would under the fund annuity.
    - The level of income drawn is flexible. This means that the income the pensioner chooses to draw can be increased or decreased as the pensioners spending needs change.
    - For the in-fund annuity increases are determined by the Fund / Trustees and therefore there is no flexibility
    - If the pensioner has an alternative source of income or wealth, they can minimise drawings from the living annuity upfront and protect the capital in the living annuity for as long as possible.
- Any balance of capital is payable to the nominated dependent on death of the pensioner.
    - This is an attractive feature for a living annuity as this removes the risk that a pensioner dies soon after retirement and loses the balances of wealth.
    - In-fund annuities may provide some guarantee period and a spouse/ child pensions but otherwise the pension effectively dies with the member
- The pensioner can still purchase a life annuity later – by deferring annuitisation. Again, providing more flexibility through the living annuity option – might provide a perceived best of both worlds situation.
    - Once in an in-fund annuity there would be no option to transfer out the fund or change any options
- High investment returns directly benefit the annuitant. There is no upside limit to this.
    - The pensioner can also choose what the living annuity is invested in to try and maximise these returns, based on the level of risk the annuitant is willing to take.
    - While investment performance does influence the in-fund pension increases there is not necessarily a direct relationship
    - Could be a hurdle rate or some other funding requirements that distort the direct relationship

Major risks of the living annuity compared to the in-fund annuity

- Retirement savings being depleted too soon
    - as pensioners are choosing their drawdown rates
    - Initial rate chosen could result in income higher than that quoted on for a fund annuity, making the living annuity more attractive, but potentially unsustainable
    - and may not have the expertise to know what rates are appropriate for sustainable income for life
    - Pensioner may have to live on a reducing income that is too low to cover expenses
        - And expenses likely to increase with inflation and increased need for medical assistance
    - Pensioners living longer than expected have no guarantee
- Pensioners need to continue making decisions and choosing draw down rates as they age

- Becomes more difficult especially where health of mind and body are deteriorating

Compared to the in-fund annuity where there is:

- Certainty of the income level
- Guarantees of payment for life
- Increases once granted will not be taken away
- No need for any input from the pensioner as they age

- Poor investment returns on capital
  - The pensioner has no guarantees or protection against investment risk
  - And a decreasing time horizon for asset values to recover
  - While investment performance of the in-fund annuity may also be poor, this will affect future increases but not affect the guaranteed income level
- Excessive fees and charges
  - This is a competitive market but there are many options to choose from.
  - It is difficult for a retiree to know what is good value
  - This is effectively a retail product with needs being met and advice and decisions at an individual level – this is costly
  - Some of these fees and charges may be negated by an in-fund living annuity

iii) Compare the added complexity of providing an in-fund living annuity to the current in-fund life annuity from the Fund's perspective?

[8]

- When considering a fund's annuity strategy the board must take the following considerations into account:
  - The annuity strategy should represent the average member of a specific category
  - It should assist those who may not feel comfortable making a decision
  - It should consider the general risks that members are exposed to of retirement savings being depleted too soon,
  - poor returns on invested capital and excessive fees
- an in-fund life annuity to a large extent better meets these criteria and allows more control for the board when compared to a living annuity
- Where the Board includes a living annuity there are additional complexities that need to be take into account
- The additional risks introduced by the living annuity need to be addressed more stringently if the living annuity is being presented as a default option within the fund
- Under the in-fund annuity the pension will be determined based on a fixed set of factors with perhaps some options for guarantee periods and or spouse pensions
- In the living annuity the Fund will not set the income level but will need to determine drawdown levels
  - should be compliant with a prescribed standard
  - although they may be set more conservatively

- It is likely that there would be some relationship between the in-fund life annuity factors and the basis for determining appropriate range of draw down rates
- Sustainable income
    - The fund must measure the sustainability of income, considering whether a particular level of income will continue to be paid for the lifetime of the pensioner,
    - assuming income increases with inflation.
- Monitoring sustainability
    - The fund must establish a mechanism to monitor the sustainability of the income from the default living annuity
    - The fund must communicate a reasonable drawdown rate and income at inception
    - Subsequent communication must be annual and must provide information on the performance of the annuity and updates on its continued sustainability
    - where the living annuity is provided by the Fund this is monitored by the Fund; and
    - Where purchased on behalf of a member is monitored by the external provider applying the same criteria that would be applied by the fund.
- For the in-fund life annuity this is managed at an overall pensioner portfolio level and not at the level of each and every individual member
- For the living annuity the Fund will need to ensure that individual members receive individual advice
- The sustainable income level may result in a monthly pension that is lower than the required living income.

Communication to members

- Where living annuity is part of the strategy and paid by the fund or a fund policy must communicate to members:
    - At inception the expected commencement income and drawdown rate and risk and sustainability of the annuity;
    - Subsequent to inception information on the performance, updates on the continued sustainability and warnings where increase targets or targeted income may not be achieved.
- Where purchased from external provider:
    - Agree that the external provider communicates on the same basis;
    - And monitors this communication.
- There must be clear communication that this type of annuity provides no guarantees.

- In contrast the communication required in terms of the in-fund annuity is far less complex,
    - Would include annual reports by the Board
    - Perhaps specific pensioner communication noting fund’s investment performance, funding level and any increase decisions
    - Any changes in pension increase policy
    - Does not need to be individualized or specific to a pensioner as would be required under the living annuity

Investment risk

- An in-fund life annuity can be managed in a variety of ways:
    - At the extreme the Board could outsource the annuity to an insurer through a policy in the Fund's name
    - It could adopt a balanced investment strategy taking into account the nature of the liability and cashflow requirements; or
    - Adopt a more specific cashflow matched strategy removing or reducing interest rate and cashflow risks
    - Investment risk lies with the Fund although members are impacted through pension increases
- For Living annuities the fund would need to consider the investment portfolio options
    - should have no more than 4 investment options
    - and these should be appropriate to the nature of the pension liability
    - the risk of poor performance is however carried by the member

Longevity risk

- The fund carries the longevity risk in relation to the in-fund life annuity
    - longevity risk is not easily mitigated other than through the pooling arrangements of a large fund or the purchase of a policy in the Fund's name
- while the risk of pensioners outliving their living annuity is ultimately the risk of the member, the funds obligations in terms of attempting to ensure sustainability are still onerous

iv) Set out how you would design and manage an appropriate calculator for the in-fund life annuity noting the parameters that must be taken into account? [12]

Design

- The calculator would need to be based on the benefit structure of the fund
  - Take account of different pensioner categories if appropriate
    - Funds may have different increase target pensioner pools
    - 13th cheques
  - Allow for any guarantee periods in terms of rules
    - Do members have choice or is there a single fixed period
  - Allow for spouse reversion percentage/s in terms of rules
    - Do members have choice, fixed range of choices or unlimited
- The desired output would need to be clear:
  - Monthly or annual pension that could be purchased for a fixed lump sum amount
  - Would the calculator need to include the commutation chosen or would the input be based on net of commutation amount
  - Would the calculator serve for both final benefit calculations as well as quotations
  - For quotations the output may need to take account of a range of scenarios
    - Different commutation amounts
    - different spouse's pension or guarantee periods
  - Would there be a quotation calculator and a separate final benefit calculator
- Account must be taken of the user of the calculator:
  - Administrators may require simple input and output without access to backend
  - Consider whether this should be developed within the administration system or as a stand-alone calculator
  - System developers may require detailed background to build into the administration system

Parameters to be included:

- Parameters could be split between inputs required and backend assumptions and factors
- Inputs:
  - Member share of DC fund at date of retirement from fund
  - Chosen commutation or net capital for purchase
  - Member age and gender
  - Spouse indicator
  - Spouse age and gender
  - Date of retirement from fund
  - Pensioner category if applicable
  - Chosen guarantee period where applicable

    - Chosen spouse reversion percentage where applicable
- Back-end factors and assumptions:
    - Calculator would be based on joint life annuity
    - Inputs may feed into a back-end annuity calculator (e.g. in an excel model)
    - Or may be more efficient from run time perspective to develop and capture range or annuity factors by age and gender
        - Main/single life plus joint life portion
        - Calculator could interpolate and combine with the chosen spouse reversion and guarantee periods
    - Factors or back-end calculator would require demographic/mortality assumptions
        - Aligned to the statutory valuation
    - Economic assumptions:
        - Discount or expected return assumption
        - Inflation and/or pension increase assumptions
        - Or net post-retirement rate
        - Based on valuation principles

Ongoing management:

- Calculators should be subject to regular review and testing
    - Review for errors, omissions, unanticipated scenarios, rule changes
    - Updated for efficiencies where applicable
- Assumptions should be reviewed:
- Mortality may be reviewed less frequently,
    - update following statutory valuations
- Economic assumptions may be reviewed more frequently
    - Should align to principles used in the valuation but may not be appropriate to retain the exact assumptions between valuations
    - May review at annual interim valuations
    - May review monthly based on changes in economic marker indicators, bond yields etc
    - Could apply fund policy where review subject to movement of the rates outside of acceptance tolerance, example 0.5% change in net PRI
- Reviews would need to align to communication strategy
    - Members may prefer stable rates and factors to allow better financial planning
    - Fund may require monthly reviews to ensure the factors align to the cost of matching assets
    - Communication should be clear on the review and that rates are subject to change in line with the chosen strategy

QUESTION 3 [34 Marks]

This question asked candidates to be familiar with recent changes in tax legislation and have a general understanding of benefit projections. *The question was well answered by all candidates and would have contributed to an ability to generate an overall higher mark across the whole exam.*

i. Discuss why a government would consider offering tax deductibility on contributions to retirement funds. [5]

- Encourage savings for retirement o Increase the likelihood that individuals will be able to take care of themselves financially in retirement, increases social stability o Without incentives, people would be unlikely to save for themselves o Makes saving for retirement financially more attractive	
- Reduce future burden on the government o If members have saved sufficiently, it reduces the likelihood that they will claim state-funded old age grants or other welfare programmes o This could reduce long-term public spending – to the extent that the tax incentives are cheaper than supporting pensioners for their future lifetimes	
- Stimulate economic growth o Savings in retirement funds are often invested in government or corporate bonds, infrastructure, equities, creating investment capital to support economic growth.	
- Encourage employer participation o Tax incentives encourage employers to establish retirement funds and contribute to these on behalf on their employees. o Promotes the creation of a formal private retirement savings system which can be regulated to ensure its stability	
- Can be redistributive o Depending on the tax structure, tax deductibility can provide greater benefits to lower-income individuals, helping them save for retirement and reducing inequality. o further benefit is that low-income individuals who did not manage to save large amounts (and most likely did not benefit much from the tax concession on contributions) also benefit from the tax-free threshold	

ii. Set out the conditions in The Income Tax Act that a retirement fund needs to meet to be granted tax approval. [4]

Fund rules must specify recurrent contributions at specified scales.	
Membership must be a condition of employment for all or a specified class of Employees.	
When a fund is established, current employees must be given the option to join within 12 months.	
Not more than one third of the annuity may be commuted for cash (excluding pre- 1 March 2021 accrual in a provident fund, and the entire provident fund benefit if the member was aged at least 55 years at 1 March 2021).	
Management of the fund must preclude the employer from control of the fund or the fund's assets, and from deriving any monetary advantage.	
SARS must be notified of all changes to the rules.	
The rules of the fund have been complied with.	

iii. Calculate the present value of future contributions for this member before and after the limit was increased. [8]

Current salary = R1 400 000p.a.

Old dispensation:

Implies that the maximum contribution of R350 000 per annum applies (as 27.5% of R1.4mis R385 000)
Assuming the current tax dispensation remains unchanged – salary increases will not change the level of contributions and the PV of future contributions will just be :

$350000\, a^{(12)}_{\overline{10}|}$ at 8 % = 350 000 x 6.952699 = R2 433 445

New dispensation:
Current contribution immediately increases to R385 000 p.a. and will increase from there.
Will now only hit the maximum contribution after n increases where ($(1.05)^n = \dfrac{430000}{385000}$) and n is 2.26 which means the contributions will exceed the new maximum after the 3rd salary increase.

The contributions will increase by 5% for 3 years and then stay constant at R430 000 for the last 7 years:

PV of contributions:

$$= 385000 a^{(12)}_{\overline{1}|} + 404250 a^{(12)}_{\overline{1}|} V^1 + 424463 a^{(12)}_{\overline{1}|} V^2 + 430000 a^{(12)}_{\overline{7}|} V^3 \text{ at 8\% p.a.}$$

= 385 000 x 0.959405 + 404250 x 0.959405 x 0.888338 + 424463 x 0.959405 x 0.822535 +430 000 x 5.394618 x 0.793832
= R 2 919 058

(credit will be given for reasonable simplifications – example assuming contributions happen half-way through the year for the first 3 years)

iv. Explain the impact of the new limit on future contributions for this member. [3]

Current salary: R500 000 per annum Contributions of R137 500 per annum. Over the next 10 years, there will be 9 salary increases, and contributions will reach a maximum of R213 308.	
Will always remain below the threshold of R430 000.	
The tax change will make no difference to this members' future retirement contributions and thus retirement benefits.	

v. **Comment on the fairness and impact of the change for high and low earners. [4]**

o May be considered unfair as richer members get a greater tax benefit than before as a result of the changes	
o However, lower earners have been benefiting from tax relief on the full 27.5% of contributions, and higher earners have had this capped	
o Lower earners not worse off than before	
o It would have been expected that the cap would increase annually in line with inflation (or salary increases). o However, the R350 000 cap has been fixed since 2016 and as such has not kept pace with salary increases. The result is that the level of tax deductible contributions for higher earners has been reducing in % of salary terms	
o At some point, this will have an impact on the replacement rations higher earners are able to achieve through approved funds	
o Seems appropriate that this limit was adjusted.	

vi. **Discuss the suggested change in the company's normal retirement age in respect of the company and its employees. [10]**

Employee considerations:	
• The request is not unreasonable as higher earners have been contributing at an effective contribution of lower than 27.5% p.a.	
• This will potentially impact their ability to save towards a reasonable NRR	
• This is not just about contributions: o Depends on how long the members have been saving for – 27.5% may not be necessary if members have preserved their retirement benefits during their working lifetimes o Investment returns will have a significant impact o Expenses also matter o Retiring later will result in a lower annuity rate at retirement, and higher incomes can be afforded	
• Employees will also enjoy risk benefit for longer o This will likely be highly valued given the nature of employment	
Employer considerations:	
• The majority of South African occupational retirement funds offer retirement ages of 65	
• Age 60 may be considered therefore relatively early	
• It does align with the age at which the State Old Pension age	

• However, as this is a construction company, expect many employees to be involved in heavy physical labour • 60 may be appropriate o Do not expect these employees to be able to work much past this age	
• Age 60 is likely to be the industry retirement age	

• May not want to change the retirement age across the board
  • If introduced at all, may need to make it optional to work up to 5 years later
  • Not the employer's responsibility to compensate for member's not saving appropriately throughout their working lifetimes	

• Will be an impact on risk benefit costs • As older members enter the risk pool, the average cost of risk benefits will increase • May impact younger members' risk costs negatively if all members pay the same rate	

• Need to consider impact on realistic productivity for construction staff
  o Older staff will not be as productive in the construction environment as younger employees
  o Can't force the change on current employees	