

Actuarial Society of South Africa

EXAMINATION

26 October 2015

Subject A302 — Communications

Time allowed: Three hours

INSTRUCTIONS TO THE CANDIDATE

1. *Candidates will be issued with instructions to log in using a password (which you will be provided with at the exam centre).*
2. *Enter all the candidate and examination details at the beginning of each question. Ensure that your Candidate number appears at the top of each page handed in. [Select “Insert”, then “Header”, input your candidate number on blank header template and select “Close Header”].*
3. *Save your work continuously throughout the exam, on the provided computer’s hard drive.*
4. *You have 15 minutes at the start of the examination to read the questions. You are strongly encouraged to use this time for reading only, but notes may be made. You then have three hours to complete the paper.*
5. *You must not start typing your answers until instructed to do so by the invigilator/supervisor.*
6. *Mark allocations are shown in brackets on exam papers.*
7. *Attempt all questions, saving each question in a new file.*
8. *Candidates should show calculations where this is appropriate.*

Note: The Actuarial Society of South Africa will not be held responsible for loss of data where candidates have not followed instructions as set out above.

AT THE END OF THE EXAMINATION

*Save your work continuously throughout the exam at the location indicated by the invigilator.
Hand in your question paper with any additional sheets firmly attached.*

<p><i>In addition to this paper you should have available the 2002 edition of the Formulae and Tables and your own electronic calculator from the approved list.</i></p>
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QUESTION 1

You are an investment consultant with a small actuarial firm. Mr Bill Yates, a long-standing client, invested R1 million in each of Grow Sure's Fund A and Fund B on 1 January 2013. Fund A and Fund B are unit trusts that send out annual statements. His 1 January 2015 statements showed that both funds had achieved an annualised return of 7% pa over the last two years. However, the accumulated balance in Fund A was greater than that in Fund B.

Mr Yates wrote you a letter asking what an annualised return is. He included copies of both statements. He ended with "How is it possible to get a 7% annualised return in both funds, but end up with R17 850 more in one fund than the other? I invested an equal amount in both and made the same deposit into both. My broker even mentioned that the funds earned the same returns."

Write a letter of between 500 and 600 words to your client in response to his questions.

You have previously discussed investment returns with Mr Yates and may assume that he understands the accumulation of a lump sum investment after one year under positive and negative annual returns. This may be used as a starting point in an explanation of fund accumulation over a longer period.

You have decided that the best way to explain the difference in accumulated amounts is by showing the accumulation of his initial investment and subsequent deposit separately.

Notes:

- Mr Yates dislikes formula-based explanations and prefers a step-wise explanation.
- Mr Yates deposited a further R70 000 in each fund on 31 December 2013.
- The individual statements show that:
 - Fund A earned annual returns of -5% and 20.5% for 2013 and 2014, respectively.
 - Fund B earned annual returns of 20.5% and -5% for 2013 and 2014, respectively.
- Values shown in the investment statements are correct.
- Annualised returns are determined based on the growth of lump sum investments. They are periodic returns rescaled to a period of 1 year. As such, they can be seen as average annual returns earned on the investment, allowing for the compounding of returns.
- As you'll be using a company letterhead, create all other format details.
- Indicate word count on your draft solution. Count your words from the subject line to the closing sentence without counting address(es) or the complimentary close/signature.

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REMEMBER TO SAVE

PLEASE TURN OVER

QUESTION 2

You are the actuary to the XYZ Pension Fund, a defined contribution arrangement with 300 members on 1 October 2015. There are no pensioners in the fund as pensions are outsourced on a member's retirement to a Life Office.

The members contribute 5% of salaries toward their retirement funding.

The employer contributes 5% toward the member's retirement funding and, in addition, pays the cost of the administration and risk (death) benefits (currently 0.8% and 2.5% of salaries, respectively).

The employer has proposed to the trustees that the employer's contribution should change to an 'inclusive' basis from 2016. The employer proposes a total fixed employer contribution of 9.5% which would cover the administration and risk costs with the balance going to the members' retirement funding.

The trustees have asked you, as an independent adviser, to explain this proposal and indicate the advantages and disadvantages to both the employer and members. You are not required to advise the trustees on whether to accept the employer's proposal or not.

You have done a very rough draft of the first two slides of a presentation and these are given below, but may need some refinement. Also given below is other relevant information you have gathered:

1. The membership has gradually reduced from 450 five years ago.
2. During this time the average age of members has increased from 35 on 1 October 2010 to 39 on 1 October 2015.
3. The proportion of female members has reduced over this period from 63% to 52%.
4. The above trends can be expected to hold over the next five years.
5. The administration costs can be expected to remain at 0.8% of salaries as long as the membership remains in the range 150-300.
6. The risk costs were at 1.8% five years ago and may be expected to increase to 3.2% in five years' time, if the above trends hold.
7. The management of the company are investigating starting a new venture which would be to set up a call centre in 2017 that would employ about 200 new people, the larger portion of which would be female.

Draft the presentation to the trustees with 8 to 10 slides in total (including the two slides already drafted).

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XYZ PENSION FUND
CONTRIBUTION RATE PROPOSALS
IMPLICATIONS

By Henry Ivor Ikew

(Actuary to the Fund)

Date: 26 October 2015

XYZ PENSION FUND
CONTRIBUTION RATE PROPOSALS

- PRESENTATION OVERVIEW (Main Headings)
 - The Current Situation
 - Relevant Trends
 - Possible Developments
 - The Proposal
 - Advantages & Disadvantages
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[TOTAL 100]

REMEMBER TO SAVE

END OF EXAMINATION