Actuarial Society of South Africa

EXAMINATION

20 May 2015

Subject F204 – Pension and Other Benefits Specialist Applications

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 center).

2. Candidates are required to submit their answers in Word format only using the template provided.

3. Save your work continuously throughout the exam, on your computer's hard drive with which you have been provided.

4. You have 15 minutes at the start of the examination in which 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, beginning your answer to each question on a new page.

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 answers on the hard drive.
Hand in your question paper with any additional sheets firmly attached.

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.

QUESTION 1

You are the valuator to Fund X which is a defined contribution pension fund with R25 billion in assets.
On retirement, a member has the option to secure a pension from within the Fund or the member can elect to purchase an annuity outside of the Fund in their own name. The Fund currently has 20 000 active members and 7 000 pensioners.
The rules of the Fund set up a separate Pensions Account which contains the assets attributable to pensions in payment. The rules state that the Employer is responsible for maintaining the financial soundness of the Pensions Account. The assets in the Pensions Account currently exceed the pensioner liabilities by 12%.
The pension provided by the Fund is a with-profit type annuity. It is determined using a 4.0% post retirement interest rate which aims to provide pension increases between 80% and 100% of inflation. Pension increases are granted as at 1 July each year and are determined by the Trustees, based on the advice of the valuator.
A spouse's pension of 75% of the retiree's pension at date of death is provided. This benefit applies to the spouse of the retiree at the date of retirement.
The Fund provides a guarantee that the total payments made in respect of a retiree (commuted lump sum at retirement plus monthly retiree and spouse pensions) will not be less than the retiree's fund credit at the date of retirement. Any shortfall will be paid to the retiree's or spouse's estate.
The expenses incurred in administering and managing the Fund are paid by the Employer. Investment management fees are paid by the Fund and amount to 0.30% of assets per annum. The Fund only has 1 investment portfolio which is invested 70% in growth assets (predominantly equites and property) and 30% in secure assets (predominantly bonds and cash).

i) Set out the advantages and disadvantages to a retiree of the Fund pension compared to purchasing an annuity from an insurer. [5]

ii) Describe the risks placed on the Employer as a result of the Fund providing in-fund pensions. Comment further on how you would quantify the risks and mitigate against each risk. [13]

iii) Discuss how you would set the assumptions and determine the liability in respect of the pensions in payment for the Fund's statutory actuarial valuation. [18]

The Trustees have received a proposal from Insurer Y to secure the existing and future pensions through with-profit annuities underwritten by Insurer Y and secured in the name of the pensioner. The with-profit annuities have the following features:

- A post-retirement interest rate of 4.0% per annum;

- A 75% spouse's pension that commences after the expiry of a 5 year guarantee period.

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- Upfront charges of 1.5% and 2.0% (excluding taxes) of the value of the annuity to cover commission and administration fees respectively.
- Annual charges of 0.8% and 1.2% for investment fees and the cost of the insurer’s shareholder capital respectively.
- The with-profit annuity pool is invested 50% in growth assets and 50% in secure assets.

iv) Comment on the likely impact on the Fund, existing pensioners and future pensioners if the Trustees accept Insurer Y’s proposal. State any assumptions that you make. [11]

v) Suggest how the with-profit annuity proposal by Insurer Y could be amended to better meet the needs of the Fund. [3]

The Government has indicated that in order to make the provision of income in retirement more affordable, they are proposing to set up a national with-profit annuity pool that any retiring person may join.

The Trustees have asked you to comment on the Government’s proposal.

vi) Set out your comments on the proposal including any further information that you would require. [12]

Total [62]

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QUESTION 2

Company Z has never had a retirement benefit arrangement for its employees. However, after a recent purchase of another company, Company Z has now inherited a long established defined benefit pension fund with 30 employees participating in the fund. Company Z is considering what retirement benefits to provide to its other 970 employees.

It was agreed with the unions that the 970 employees would contribute 4% of salaries in year one, 6% of salaries in year two and 7.5% of salaries from year 3 onwards. Salaries and benefits costs will in future increase in line with inflation.

You are a consulting actuary who has been appointed to assist Company Z. The finance director has asked you to prepare a report on the options available for the provision of the retirement benefits for the 970 employees.

i) Describe the possible forms the benefits may take if either a defined benefit or a defined contribution approach is used. [12]

ii) Set out the advantages and disadvantages of the two approaches outlined in part (i). [6]

iii) Outline what needs be considered in formulating the design of the benefits. [11]

iv) Briefly describe the considerations for the investment strategy which will need to be taken into account for the new retirement arrangement. [6]

v) Outline any potential impact that there may be for the defined benefit pension fund arising from the introduction of the retirement benefit provision for other employees. [3]

Total [38]

GRAND TOTAL [100]

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END OF PAPER