Actuarial Society of South Africa

EXAMINATION

1 November 2011 (pm)

Subject F204 - Pensions and Other Benefits Specialist Applications

Time allowed: Three Hours

INSTRUCTIONS TO THE CANDIDATE

1. Enter all the candidate and examination details as requested on the front of your answer booklet.

2. 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.

3. You must not start writing your answers on the answer sheet provided until instructed to do so by the supervisor.

4. Mark allocations are shown in brackets.

4. Attempt all questions, beginning your answer to each question on a separate sheet.

AT THE END OF THE EXAMINATION

Hand in BOTH your answer booklet, with any additional sheets firmly attached, and this question paper

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 a final salary pension fund. Following a sale of part of the business, a significant part of the assets and liabilities of the fund are to be transferred to another final salary pension fund.

You are in the process of completing the latest statutory valuation. The last one was submitted more than three years ago and showed a small surplus in the Employer Surplus Account, and a solvency reserve. There is no Member Surplus Account and no other contingency reserves.

Since the last valuation, equities, representing 72% of the fund's assets, have dropped sharply.

Discuss the issues you should consider in determining the transfer values to be paid including the legal framework, basis, method and other factors that might be used to calculate them.

[22]

PLEASE TURN OVER

QUESTION 2

You are the valuator to the open defined benefit pension fund of Company X. You also carry out the IAS19 valuations of the fund for Company X.

Members contribute towards the fund at 7.5% of salaries. Company X is on a full contribution holiday, financed from the Employer Surplus Account.

Under its rules the fund keeps separate accounting records in respect of its active members and pensioners. The rules of the fund further state that any surplus or deficit in the active member section of the fund will be allocated to the Employer Surplus Account. The rules are silent on the treatment of any surplus or deficit in the pensioner section of the fund. In terms of the fund rules, Company X's consent must be obtained before any pension increase greater than inflation is granted.

The following has been extracted from the 31 December 2009 IAS19 disclosures of the fund:

	31 December 2009 (Rm)
Market value of assets:	
- Active member section	800
- Pensioner section	750
Total assets	**1 550**
Liabilities:	
- Active member section	600
- Pensioner section	570
Total liabilities	**1 170**
Surplus:	
- Active member section	200
- Pensioner section	180
Total surplus	**380**
Balance sheet surplus recognised by Company	**200**
Surplus not recognised in terms of IAS19 Paragraph 58	**180**
Service cost (15% of salary)	20
Past service cost	0

Assumption as at 31 December 2009	*% per annum*
Discount rate (long term)	9.00
Expected price inflation (long term)	5.50
Expected salary inflation rate (long term)	7.00
Expected pension increases (long term)	5.50
Expected return on active member assets	12.00
Expected return on pensioner assets	10.00

The following additional information applies for the 2010 calendar year:

- The actual returns on active member and pensioner assets were 14% and 20% respectively.
- Pension payments and benefits paid in respect of active members amounted to R45 million and R25 million respectively. In addition, new pensions with a capitalised value of R30 million arose during the year.
- Member contributions amounted to R15 million during the year.
- Government and corporate bond yields remained constant during the year.
- A salary increase of 9% was granted as at 31 December 2010.
- A 7% pension increase was granted as at 31 December 2010.
- Company X recognises actuarial gains and losses in full in the year they occur.

Company X's 31 December 2010 year end accounts are being compiled. Company X has recently appointed a new finance director (FD).

i) The FD has asked you to explain why only R200 million of the R380 million surplus as at 31 December 2009 was recognised on the Company X balance sheet. Outline the points you would make in your response to the FD. [4]

ii) Based on the above information, estimate the following, stating any assumptions that you make:

(a) The overall surplus in the fund and the surplus recognised in the balance sheet of Company X as at 31 December 2010.

(b) The components of the actuarial gain / loss for the year to 31 December 2010.

(c) The Net Periodic Pension Cost for the year

(d) The reconciliation with the balance sheet asset. [18]

The FD had indicated that Company X is in financial difficulty. The FD has requested your advice on how Company X can recognise a larger portion of the surplus in the fund.

iii) Outline the points you would make in your response to the FD. [4]

The Trustees and Company X agree to the following:

- The pensioners in the fund as at 31 December 2010 will be outsourced to an insurer through a Section 14 transfer. Guaranteed inflation linked annuities plus an enhancement to the current pension will be provided. The total cost of the annuities with the enhancement is R800 million. Any remaining surplus or deficit in the pensioner section of the Fund as at 31 December 2010 will be allocated to the Employer Surplus Account.
- Active members will remain entitled to their current benefits. On retirement, active members will in future have their retirement benefits secured in their own name through an annuity that provides for identical pension increases as provided for in the Fund.

iv) Based on the agreement above, re-estimate the following:

(a) The overall surplus in the fund and the surplus recognised in the balance sheet of Company X as at 31 December 2010.

(b) The components of the actuarial gain / loss for the year to 31 December 2010.

(c) The Net Periodic Pension Cost for the year.

(d) The reconciliation with the balance sheet asset. [8]

v) Comment on the change in the fund surplus and the surplus recognised in Company X's balance sheet above. [2]

[Total 36]

PLEASE TURN OVER

QUESTION 3

You are the newly appointed valuator to the staff pension fund of Insurer X. The fund is a 200 member defined contribution fund with R50 million in assets.

The normal retirement age is 60 years and late retirement is not permitted. On retirement a member must apply their accumulated share (less any commutation amount) to purchase an annuity contract in their own name from a registered insurer.

The fund has negotiated an arrangement with Insurer X in terms of which a retiring member can select one of the following two annuity contracts on preferential terms:

- A living annuity, subject to a minimum investment amount of R500 000; or
- A with-profit annuity based on a post retirement interest rate of 3% per annum. No minimum investment amount applies under this option.

To date, all retiring members from the fund have secured their post retirement benefits through Insurer X.

The fund's assets are currently invested with an external asset manager in a pooled balanced fund portfolio. The investment returns earned on this portfolio are directly credited to the accumulated member share on a monthly basis.

The trustees have asked you to assist them in documenting a new investment strategy for the fund.

i) Discuss the main issues that an investment strategy document should cover. [10]

One of the trustees has raised the possibility of introducing a life stage investment model for the fund.

ii) Discuss the concept of a life stage investment model and how you would recommend that the fund implement such a model. [14]

iii) Outline any further issues that the Trustees should consider in introducing a life stage investment model. [5]

[Total 29]

PLEASE TURN OVER

QUESTION 4

You are attending your first meeting as the new actuary to an established defined benefit pension arrangement. It so happens that there has recently been a Trustee election and the majority of the Board of Trustees are newly appointed and have little knowledge of the Fund.

Part of the pack of information that the Trustees received on being appointed is a copy of the most recent statutory actuarial valuation. One of the Trustees has commented on a section titled "AOS"

(i) Explain to the Trustees what this is and its purpose. [3]

The Trustees have noted a deterioration in the financial position of the Fund over the 3-year inter-valuation period.

(ii) Note the factors which may have lead to the deterioration in the reported financial position [10]

[Total 13]

END OF PAPER