Actuarial Society of South Africa

EXAMINATION

2 November 2010 (am)

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 in the booklet until instructed to do so by the supervisor.*

4. *Mark allocations are shown in brackets.*

5. *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.

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QUESTION 1

You have recently been appointed as valuator to an employer's pension fund with a defined benefit and defined contribution section. The defined benefit (DB) section has been closed to new members since 1 January 2000. (Prior to this date all members belonged to the DB section.) On 31 December 1999 members of the Fund were given an option to transfer the value of their accrued benefits to a new defined contribution (DC) section. All new employees have to become members of the DC section.

One of the members who elected to transfer from the DB section to the DC section on 31 December 1999 has approached the trustees to query the projected retirement benefits in his latest benefit statement (effective 31 December 2009). The value in this benefit statement is much lower than the projected retirement benefit on his conversion statement effective 31 December 1999.

You have been provided with the following information from the member's benefit statements:

Member's details	**1 January 2000**	**1 January 2010**
Age	40	50
Past service	10 years	20 years
Annual salary	R200 000	R520 000
DC section value	R570 000 (enhanced)	R2 300 000

Projection assumptions	**1 January 2000**	**1 January 2010**
Investment return	13.0% p.a.	9.0% p.a.
Salary increases	11.5% p.a.	8.0% p.a.
Inflation	9.0% p.a.	6.0% p.a.
Annuity at 65*	11.4	13.6

*Allows for a 50% spouse's pension contingent on the member's death-in-retirement

The basic structure of the Fund has not changed since January 2000 and is summarised below.

DB section:

- Pension formula at retirement is 2% of final salary for each year of pensionable service.
- A spouse's pension of 50% of the member's pension is payable on death after retirement.
- Pension increases in payment are in line with 75% of inflation.
- Member contributions are 7.5% of salary.
- Normal retirement age is 65.

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DC section:

- Member contributions are 7.5% of salary.
- Employer contributions are 10% of salary less the cost of managing the Fund and insuring risk benefits. These costs have remained stable at 2.5% of salary since 1999.
- Members can choose to invest their benefits in one of four investment portfolios (high equity, balanced, conservative and money market) and can switch freely between portfolios.
- Normal retirement age is 65.
- Pensions must be purchased from an insurer at retirement.

(i) Estimate the following values, both in nominal terms and as a percentage of salary, that would have appeared on the member's 1999 conversion statement:

- projected salary at retirement
- projected DB pension at retirement
- projected DC pension at retirement

Estimate the applicable corresponding values that would have appeared on the member's 2009 benefit statement.

State any extra assumptions you make and briefly comment on the results. [7]

(ii) Analyse the impact of the various changes in the projection assumptions on the value of the projected DC pension at retirement. Set out any other factors that affected the change in the value of the projected DC pension from the conversion statement to the 2009 benefit statement [8]

(iii) The member lodged a formal complaint with the trustees alleging that he had been misled by the projections in the 1999 conversion statement. Discuss the actions that the trustees should take in this regard. [9]

(iv) The trustees have asked for your opinion regarding the member's complaint. Set out the additional issues that you would consider in your investigation [6]

(v) Discuss the wider implications of this case for the sponsoring employer. [7]

[Total 37]

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QUESTION 2

You have just been appointed as the valuator to a 500 member defined benefit pension fund with R100 million in assets. The Fund's last valuation, effective 31 December 2006, showed a funding level of 95% on a best-estimate basis with a required employer contribution rate of 10% of salaries. On exit, members have to take their benefits in cash or transfer the benefit to another fund or purchase a pension. The average age of the membership was 38 years and the average salary R120 000.

In 2006 the employer stated that the company was not comfortable with the uncertainty of pension costs and that their medium term objective was to convert to a defined contribution structure. The employer offered to pay contributions of 13% of salaries in order to reach a funding level where a full conversion would be possible. With this objective in mind, the trustees decided to invest assets aggressively and decided on an asset allocation of 85% in equities, 5% in cash and 10% in government bonds. There is only one investment manager, being a small private company that mainly deals with private clients and only invests in local assets.

A new chairman has been elected by the board of trustees and has requested you to comment on the current investment strategy. Outline the points you would make.

[Total 18]

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QUESTION 3

A company in the retail industry (Company A) recently acquired another business in the manufacturing industry (Company B), with the intention of diversifying its business interests. Company A believes it can enhance the values of both companies by transferring certain skills and employees between them.

Each company has their own defined benefit pension fund, Fund A and Fund B, open to new employees. Both funds have pensioner and deferred pensioner members. Due to higher staff turnover, Fund B has a relatively high proportion of deferred pensioners.

Both funds' valuators use the projected unit method with best-estimate assumptions.

The benefit designs of the two funds differ although on the whole it is difficult to tell which one offers better value. For example, Fund A provides a higher accrual rate whilst Fund B offers better death and disability benefits.

Company A is considering merging the two funds.

You are an actuary but act as an independent trustee on Fund A's board.

At the last Fund A trustee meeting one of the trustees compared the statutory valuation results of the two funds and commented that Fund A's benefits must be better. His reasoning was that the contribution rate required by Company A for future benefits was higher even though the methods and bases were similar and the valuation dates were only three months apart. The trustees usually look to you for input when issues such as these arise.

(i) Set out the points you would raise in answer to this comment, indicating whether or not you agree with the trustee. [7]

(ii) Discuss the issues that need to be considered before a merger of the two funds can be implemented. [14]

Fund B has no contingency reserves and was underfunded by almost 10% at the recent statutory valuation. It was agreed to transfer Fund B's members into Fund A. A number of Fund B's deferred pensioners have asked if they could have their individual benefits transferred to another pension fund of their choice (e.g. a preservation pension fund or their new employer's pension fund).

(iii) Outline the issues that the trustees of Fund B should consider in response to the deferred pensioners and the factors that they should take into account in establishing an appropriate transfer value basis for those who opt to transfer their benefits to this alternative arrangement. [11]

[Total 32]

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QUESTION 4

A pension fund's Pension Increase Policy includes provision for annual increases of 75% of increases in the Consumer Price Index. At the fund's last statutory valuation in February 2008, at which time the fund enjoyed a surplus of 20% of accrued liabilities, the valuator recommended that an additional pension increase be granted to pensioners. Approximately half of the accrued liabilities are attributable to pensioners.

(i) Describe the calculations that the valuator would have had to make in order to arrive at the recommended additional pensioner increase. [5]

(ii) Discuss the additional considerations that the valuator would have taken into account before making this recommendation. [4]

A year later, in the midst of the economic crisis, and despite the pensioners' objection, the trustees approved the valuator's proposal of a 0% pension increase as at 1 February 2009.

Six months later, once markets had partly recovered, the pensioners asked the trustees to consider an interim pension increase.

(iii) Comment on the pensioners' request. [4]

[Total 13]

END OF PAPER