EXAMINATION

12 September 2005 (pm)

Subject ST4 — Pensions and other Benefits Specialist Technical

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 9 questions, beginning your answer to each question on a separate sheet.*

6. *Candidates should show calculations where this is appropriate.*

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.

1 For each of the main types of investment classes in which trustees might consider investing pension fund monies, outline the possible disadvantages associated with that investment class from the point of view of the scheme trustees. [6]

2 You are the actuary to a large defined benefit pension scheme. The trustees have requested you to prepare a short paper explaining how the various financial assumptions will be determined for the forthcoming triennial actuarial valuation to determine a recommended contribution rate.

Set out the points you would include in your paper. [7]

3 The government of a developing country is considering setting standards for the disclosure of information regarding pensions liabilities in company accounts.

(i) State why such standards may be desirable. [3]

(ii) List the main items which might be disclosed in respect of a final salary pension scheme. [5]

[Total 8]

4 You are the actuary to a non-contributory final salary pension scheme and the following information is available to you.

Valuation as at	*1 January 2002* *£m*	*1 January 2005* *£m*
Assets	80	75
Liabilities:		
Actives	40	57
Deferred Pensioners	8	9
Current Pensioners	12	11
Surplus/(Deficit)	20	(2)

As a result of the surplus disclosed by the 2002 valuation, the employer did not pay any contributions to the Scheme during the intervaluation period.

The financial basis used for both valuations is summarised below:

		% p.a.
Interest Rate	=	5.5
Salary Increases	=	4.0
Price Inflation	=	3.0
Pension Increases	=	3.0

The following additional information is available:

- Benefit accrual is 1/60ths of pensionable salary for each year of service.
- Normal Retirement Age (NRA) = 65 years
- Annuity at NRA = 18
- Average age of active members at 1 January 2002 = 45 years
- Total pensionable salaries at 1 January 2002 = £10m p.a.
- Total pensions in payment at 1 January 2002 = £1m p.a.
- There have been no changes to the membership over the intervaluation period, in particular no members have left service, retired or died.

Calculate the total approximate actuarial gain/loss arising over the intervaluation period in relation to:

- Actives
- Current Pensioners
- Contributions
- Investments

[8]

5 You are an actuary advising the senior management of an investment bank in setting up a new defined contribution scheme for new employees instead of the current defined benefit pension scheme. Set out the various design issues you will discuss with your client before preparing the report. [10]

6 You have been instructed by the professional physical sports association (which covers football, rugby, hockey and lacrosse) of a developing country to advise on the establishment of an industry wide healthcare scheme for players, coaches and managers.

(i) List the benefits that such a scheme might offer. [4]

(ii) Set out the particular characteristics of the potential membership, and how these might impact on the design of the scheme. [8]

[Total 12]

7 The government of a country is reviewing its State provided retirement benefits scheme, which was first set up 20 years ago. The review has been prompted as the cost of the current scheme is proving an increasing burden on the State's finances.

The Scheme provides a flat rate pension at age 60, which is payable for life and available to all citizens who have paid at least 10 years' State retirement contributions (at a rate of 3% of wages).

The benefit was set at a level equivalent to 40% of national average wages when the system was set up; since then the flat rate has been adjusted annually in line with the State measure of price inflation.

(i) Suggest possible reasons for the increasing cost burden. [4]

(ii) Discuss the measures the State could introduce to alleviate the problem highlighting any difficulties that might be encountered in implementing the proposed new measures. [8]
[Total 12]

8 The human resource (HR) director of a large employer has decided that "all benefits should be offered on a fully flexible basis" so that the employee can choose the design of ancillary benefits offered to supplement his/her basic salary. The employee will be able to spend a fixed percentage of basic salary on such ancillary benefits.

The employer is committed to continue to offer its defined benefit scheme which provides pension and life assurance benefits to existing staff and new entrants. The defined benefit scheme will fall within the scope of the flexible benefit arrangements, and you have been asked to advise the HR director how the scheme's benefits could fit into the flexible benefits package.

Set out the points you would cover when offering your advice, in relation to:

(a) benefits on retirement

(b) other benefits [16]

9 You are the actuary to a defined benefit pension scheme. The trustees are reviewing the current benefits available on transfer from the scheme.

(i) Outline the issues that should be considered when setting the terms for transfer values. [4]

(ii) Discuss the key features of the following possible methods of setting transfer values:

- using a prescribed transfer value basis
- using an approach based on scheme specifics and allowing actuarial judgement
- using a method reflecting the likely expectations and requirements of the individual members

[9]

(iii) Outline the advantages and disadvantages of using a method of calculating transfer values that produces transfer values within a narrow range for members of different schemes with similar benefit structures, periods of service and salary levels. [3]

(iv) The trustees have questioned why the transfer value for a member 5 years from his normal retirement date differs from the recently quoted immediate annuity cost of the alternative early retirement benefit. Set out the points you would make in your reply. [5]

[Total 21]

END OF PAPER