

EXAMINATION

5 October 2009 (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 before 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 seven 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 from the approved list.

- 1** The valuation of a defined benefit scheme which has 50,000 pensioners is now due.
- (i) Describe the factors the actuary would take into account in setting a suitable mortality assumption for the forthcoming valuation. [5]
 - (ii) Indicate how the approach might differ if the scheme had only 50 pensioners. [2]
- [Total 7]

- 2** A defined benefit pension scheme provides a pension benefit at age 65 based on salary at age 65 and service with the company. All scheme members are in service and there are no pensioners or deferred pensioners.

The Trustees have written to all members to tell them that the scheme is to be wound up with members' benefits under the scheme bought out with an insurance company. Members have been told that the scheme assets are sufficient to purchase benefits which are 50% of those which they would have received if they had left service just before the wind up commenced.

- (i) Discuss how a member might have assessed their expected benefits from the scheme had the wind up not taken place. [4]

A member has complained that his benefits following the wind up are well below his expectations.

- (ii) Outline the points to be made to the member in reply. [6]
- [Total 10]

- 3** The government of a developing country wishes to encourage employers to sponsor arrangements that provide for employees' income in retirement.

- (i) Describe how the government could encourage such arrangements. [5]

- (ii) List the ways that the government could improve the security of such arrangements. [7]
- [Total 12]

- 4** You are the actuarial adviser to the Trustees of a defined contribution pension scheme. Currently the Trustees of the scheme use the accumulated fund at retirement to purchase an annuity with an insurance company in the name of the member.

The Finance Director, on behalf of the sponsoring employer, has suggested that, for future retirements, the scheme should retain control of the investments after retirement and pension benefits paid directly from the scheme.

Explain the factors which the Trustees should take into account when considering this suggestion. Your answer should cover:

- the level of the annuity
- details of any regular monitoring required
- how any funds could be invested, and
- any possible statutory issues

[12]

- 5** A country with established occupational pension schemes is expected to experience a sustained period of high inflation combined with very low investment returns.

(i) Discuss the possible impact on both members and sponsors of the country's funded defined benefit pension schemes. [9]

(ii) Outline the possible impact on members of defined contribution plans. [4]

[Total 13]

- 6** An international company operates a single defined benefit pension scheme for all its permanent employees above a certain grade who work in the country in which the head office is located. The Finance Director has sought advice on extending the scheme's eligibility to cover all employees worldwide without any change in the level of benefits provided.

Set out the points to be made in reply covering:

- the issues associated with the design of the scheme
- funding
- investment strategy
- any other issues associated with running a scheme internationally

[16]

7 The Trustees have asked their actuary to review some of the scheme's actuarial factors.

The factors have been unchanged since the inception of the scheme 20 years ago. Since that time the commutation factors used to calculate the amount of pension a member gives up in exchange for cash at retirement have been fixed for males and females at £9 of cash for each £1 per annum of pension.

There have been no payments of transfer values or any early retirements during the last five years and the Trustees believe the terms should be improved to provide a greater incentive for members to transfer or retire early.

- (i) Set out the general and actuarial issues that need to be considered in a review of transfer values, commutation factors and normal health early retirement terms. [9]
- (ii) Discuss how the actuary might make allowance for commutation in funding the pension scheme. [4]
- (iii) Outline how the actuary would assess the impact of commutation as part of the analysis of surplus and explain how they might use the results of this analysis. [4]
- (iv) Outline the possible impact on the cost of the scheme if the actuarial factors for the three options are made more generous for the member. [3]

The Trustees are considering whether different early retirement terms should apply to members retiring early on the grounds of ill-health.

- (v) Discuss the considerations which should be taken into account when determining appropriate terms for members retiring early on ill-health grounds. [10]
- [Total 30]

END OF PAPER