

## EXAMINATIONS

7 September 2001 (am)

### Subject 304 — Pensions and Other Benefits

*Time allowed: Three hours*

#### **INSTRUCTIONS TO THE CANDIDATE**

1. *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.*
2. *You must not start writing your answers in the booklet until instructed to do so by the supervisor.*
3. *Write your surname in full, the initials of your other names and your Candidate's Number on the front of the answer booklet.*
4. *Mark allocations are shown in brackets.*
5. *Attempt all 7 questions, beginning your answer to each question on a separate sheet.*

#### **AT THE END OF THE EXAMINATION**

*Hand in BOTH your answer booklet and this question paper.*

<p><i>In addition to this paper you should have available Actuarial Tables and an electronic calculator.</i></p>
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- 1** The trustees of a long established medium sized final salary pension plan are about to review its investment policy.
- (i) Outline the key areas that should be considered. [5]
  - (ii) Describe the features of active and passive investment management. [5]
- [Total 10]
- 2** A national employers' group is considering whether to establish a central discontinuance fund (CDF) to provide pension benefits when an employer's pension plan is discontinued. The country's legislation does not give employees any statutory rights to benefits in these circumstances, but the employers want to be able to demonstrate to employees that their reasonable benefit expectations will be met.
- Discuss the following:
- (i) what reasonable benefit expectations members of pension plans might have when a scheme is discontinued, and [6]
  - (ii) how the CDF might operate and how likely it is that a CDF will meet those expectations [6]
- [Total 12]
- 3** (i) The following possible methods have been suggested as ways of ensuring pension rights are properly taken into account when members negotiate a financial settlement on divorce.
- Offsetting — where member's own pension rights are totally undisturbed but taken into account in the overall financial settlement.
  - Earmarking — where the member's benefits are earmarked so that payment of some or all of this pension could be made to the former spouse on the member's retirement.
  - Pension credit — where the ex-spouse is given a "credit" in the member's pension scheme and the member's pension is correspondingly reduced at the time of divorce.
- Briefly discuss each of these methods and outline the financial considerations associated with negotiating a financial settlement on divorce. [8]
- (ii) Discuss the possible issues and financial considerations for a defined benefit pension plan in providing death benefits for non married partners. [4]
- [Total 12]

- 4** You are the actuary to a company that has asked you to advise on setting up a post retirement medical plan for its senior staff.
- (i) Describe 3 ways in which this benefit could be financed. [10]
  - (ii) State with reasons which method you would recommend. [3]
- [Total 13]
- 5** A developing country is currently experiencing a sustained period of low inflation and low real investment returns.
- (i) Discuss the possible impact on the expectation of cost and future benefit design for the country's final salary pension plans. [8]
  - (ii) Outline the possible impact on the members of defined contribution pension plans. [6]
- [Total 14]
- 6** You are the actuary to a medium sized final salary pension plan incorporating both retirement and death in service benefits. The trustees have asked you to draft a short report discussing the possible ways of using insurance contracts to reduce the mortality risks and uncertainties.
- Your report should include
- (a) The features of the different insurance contracts that may be used.
  - (b) The advantages and disadvantages of using insurance contracts.
- Draft the report.
- [Drafting marks 4]  
[Total 15]
- 7**
- (i) Describe the stages and inputs of the actuarial control cycle with reference to a funded pension arrangement. [7]
  - (ii) In considering the matching of assets to liabilities in a pension arrangement, explain what review would have to be built into the control cycle for choosing investments. [4]
  - (iii) Describe what information would be required before performing an asset liability modelling exercise using a stochastic model. [7]
  - (iv) Describe the possible outputs of an asset liability modelling exercise. Explain how these outputs might be best used, detailing any special care that should be taken. [6]
- [Total 24]