EXAMINATIONS

29 September 2004 (am)

Subject 304 — Pensions and Other Benefits

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 7 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 Actuarial Tables and your own electronic calculator.

1 A developing country, in which there is a wide variety of employer-sponsored pension provision, is looking to improve and standardise disclosure of information to the members of those pension schemes.

(i) List documents which could provide useful information to the members. [2]

(ii) Outline the content of those documents. [6]
[Total 8]

2 A defined benefit pension scheme provides a range of benefits available on retirement, death and leaving service.

(i) List six benefit options which the trustees might wish to consider granting to scheme members. [3]

(ii) Describe the principles which determine the terms for such options. [4]

(iii) Give examples of the restrictions which the trustees might place on the exercise of such options. [4]
[Total 11]

3 A company is considering offering its employees a "continuing care" scheme to provide benefits to meet post retirement healthcare costs. The company already operates a defined benefit pension scheme.

(i) Describe the factors to consider in deciding the level of benefit under the "continuing care" scheme. [5]

(ii) State four methods the company might use to finance the scheme, and for each method state one key advantage and one key disadvantage. [6]
[Total 11]

4 You have been asked to advise a company which is proposing to set up a defined benefit pension scheme.

(i) List four benefits which the company may wish to insure [2]

(ii) For each benefit listed in (i) describe, from the company's point of view, the advantages and disadvantages of obtaining insurance. [10]
[Total 12]

5 A company operates a pension scheme which provides pensions on a with-profit deferred annuity basis. Under the terms of the scheme, member and employer contributions are used to provide a deferred annuity payable from the member's normal retiring age. The deferred annuity is then credited with bonuses depending upon the performance of the underlying assets of the scheme. Once in payment no further bonuses are applied. The bonus can be positive if investment performance is good or negative if investment performance is poor. The assets are invested 60% in equities and 40% in government bonds and the investment strategy was established after an asset liability modelling exercise. There is no requirement for the company to make contributions above the fixed rates prescribed in the rules.

You have been appointed as the actuary to the trustees of the scheme. You have undertaken your initial valuation and the results show that there is a significant deficit in the scheme against the basic level of deferred annuities (making no allowance for future bonuses). Your valuation basis has made allowance for the current investment strategy being adopted by the trustees and in setting the investment return assumption, equities have been assumed to return 3% per annum more than government bonds.

You have recommended to the trustees that a negative bonus be declared so that the deficit is removed on your recommended valuation basis. This has elicited the following response from two of the trustees who are also members of the scheme:

> Trustee 1 — I disagree with the investment strategy being adopted for the scheme. The scheme should be invested entirely in equities. I have calculated that if this occurred, and you made allowance for the increased equity content in your valuation basis, there would be no deficit in the scheme and no need to declare a negative bonus.
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> Trustee 2 — I disagree with the investment strategy being adopted for the scheme. The members need to be able to plan for their retirement, and have certainty in relation to the pension that they will receive. The assets should be invested entirely in government bonds. I appreciate that this will make the valuation deficit bigger and require a higher negative bonus declaration, but at least there will be certainty afterwards.

Outline the points that you would make in your reply to the trustees, including an assessment of whether or not the valuation basis should reflect the investment strategy being adopted for the scheme and the relative impact on members' benefits under the two approaches. [17]

6 You are the actuary to a scheme which provides only the following lump sum benefits when a member leaves employment for any reason or reaches retirement age.

Years of Service	*Lump sum paid (months of last basic salary)*
Less than 10 years	Nil
10-20 years	12
20-25 years	24
25-30 years	36
More than 30 years	48

Death in service benefits are provided via a separate insured arrangement.

The scheme is wholly funded by regular employer contributions. Local legislation requires that valuations be carried out every five years on an ongoing basis using the projected unit funding method.

The accrued liabilities are compared with the market value of the assets to determine the funding level of the scheme.

(i) List eight experience items which could be analysed at each actuarial valuation. [4]

(ii) For each item in (i), explain how the differences between actual and assumed experience might affect the change in the funding level from valuation to valuation. [4]

(iii) Describe how you would analyse the scheme's withdrawal experience over the five year period between valuations. [3]

(iv) Describe how you might use the analysis in part (iii). [4]
[Total 15]

7 You have been appointed as the actuary to a government which is considering introducing a state-sponsored retirement pension system.

With reference to the stages and inputs of the actuarial control cycle, describe how you would advise the government on designing, implementing and maintaining such an arrangement, giving examples of the issues faced and decisions to be taken.
[26]

END OF PAPER