INSTITUTE AND FACULTY OF ACTUARIES

EXAMINATION

15 April 2016 (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 question. 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 answer in the booklet until instructed to do so by the supervisor.*

4. *Mark allocations are shown in brackets.*

5. *Attempt all five questions, beginning your answer to each question on a new page.*

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 (i) State four methods by which the government could have a role in the provision of retirement benefits. [2]

The government of a developed country requires all employees of private sector companies to enrol in a defined contribution (DC) pension arrangement provided by their employers and which meets the government's criteria.

The criteria include:

- All employees must take benefits at age 65.
- At retirement an individual's accumulated fund must be used to purchase an inflation-linked annuity, which includes a 50% spouse's reversionary pension.

The government is proposing to remove these two criteria, instead allowing all employees to receive their benefits any time after they reach 55, and use the accumulated fund however they wish.

(ii) Suggest reasons for the government's proposal. [3]

(iii) Set out the advantages and disadvantages of removing the criteria for:

(a) employers.
(b) employees.
(c) annuity providers.

[6]

A recent national survey found that 95% of the members of these arrangements have their pension assets invested in lifestyling funds which are structured to target annuity purchase at age 65.

(iv) Discuss the issues that the providers of the lifestyling funds will need to consider if the criteria are to be removed. [9]
[Total 20]

2 The assets of a large defined benefit pension scheme are currently invested in 50% equities and 50% bonds. The trustees of the scheme have recently reviewed their investment strategy. They propose to invest entirely in a mix of government and corporate bonds, disposing of all equities, because they believe it is the best way to reduce risk within the scheme.

However, the sponsoring employer wants to dispose of the bonds and invest entirely in equities and riskier assets in order to increase the return on the assets held.

(i) Discuss the key features of the trustees' and employer's investment strategies. [8]

(ii) Discuss the likely impact on the scheme's funding position of each proposed investment strategy. [6]

The trustees have asked their investment adviser to provide a report setting out the practical issues with implementing either of the proposed investment strategies.

(iii) Set out the key issues that the adviser should include in the report. [6]

(iv) Suggest other ways that financial risk could be reduced in the scheme. [4]
[Total 24]

3 A defined benefit pension scheme provides members with a single life pension at age 65, which increases each year in line with price inflation. At retirement, members can choose any of the following options:

- Exchange up to 25% of the pension for an immediate lump sum, calculated as £15 for every £1 per annum of the member's pension given up.

- Swap the pension that increases with price inflation for a pension that increases at a fixed 3% per annum.

- Reduce the member's pension by 10% in order to provide a spouse's pension on death of 50% of the member's pension at the time of death.

(i) Discuss the issues that members should consider in deciding whether to exercise these options. [15]

Current price inflation is 2% per annum and it is expected to remain around this level in the short term.

(ii) Suggest why the scheme sponsor offers the option to choose fixed pension increases of 3% per annum rather than inflation linked increases. [3]

(iii) List the other main retirement options that could be made available to the member at retirement. [2]
[Total 20]

4 A large defined benefit pension scheme includes provision for ill-health retirement. On retirement due to ill health active members receive a pension based on their current salary and prospective service to their normal retirement age. The scheme insures an amount equal to the actuarial liability of the ill health benefit for each member.

The sponsoring employer has expressed concern about a succession of increases to the premiums.

(i) Suggest reasons why the premiums have been increasing. [7]

The insurer has introduced a new policy, where the amount insured by the scheme for each member is equal to the shortfall between the actuarial liability of ill health benefits and the actuarial liability of the accrued benefit as at the latest funding valuation.

(ii) Set out the advantages and disadvantages of the new policy to:

(a) the insurer.
(b) the scheme.

[6]

(iii) Suggest other actions that could be taken to reduce the premium. [5]
[Total 18]

5 A small defined benefit scheme ceased accrual some years ago, and the trustees have expressed a desire to buy out all of the scheme's liabilities with an insurance company. The sponsoring employer has stated that they will not provide the additional funds required to provide full benefits with the insurance company, but are happy to fund the scheme on a self-sufficiency basis.

(i) Write down what is meant by a self-sufficiency basis. [2]

(ii) Compare the self-sufficiency and buy-out options. You should consider this from the perspective of:

(a) the trustees.
(b) the sponsoring employer.
(c) the members of the scheme.

[7]

A trustee has commented that they would have expected the value of the liabilities on the self-sufficiency basis to be the same the buy-out basis cost.

(iii) Explain why the actuarial liability on a self-sufficiency basis is expected to be less than the buy-out cost. [5]

Agreement is reached to continue the scheme, and funds are made available to fully fund on a self-sufficiency basis.

(iv) Suggest why the scheme might require additional funding in the future. [4]

[Total 18]

END OF PAPER