INSTITUTE AND FACULTY OF ACTUARIES

EXAMINATION

30 April 2015 (am)

Subject SA4 – Pensions and other Benefits Specialist Applications

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 both 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 The valuation of a UK final salary pension scheme has just been completed. A summary of the key assumptions and results is given below. The Scheme is closed to new entrants but open to benefit accrual.

		£ million
Technical Provisions:	Active members	20
	Deferred pensioners	80
	Pensioners	50
	Expense reserve	6
	TOTAL	**156**
Assets:	Global equities	90
	UK corporate bonds	50
	TOTAL	**140**
Deficit:		16

Assumptions:	Discount rate pre retirement	5.0% per annum
	Discount rate post retirement	3.5% per annum
	Pension increases (retail price inflation)	3.0% per annum
	Pensionable salary increases	4.0% per annum

The discount rate is set with regards to the expected return on Scheme assets.

Following the valuation, the sponsoring employer is contributing £0.5m per annum to cover the cost of future accrual and is paying deficit reduction contributions of £2m per annum to clear the deficit over a 10 year recovery plan. The gross redemption yield on UK gilts and investment grade corporate bonds of appropriate duration is 3.2% per annum and 4.0% per annum respectively.

(i) Outline the risks associated with the current asset allocation. [6]

The Trustees appoint an investment consultant to review the Scheme's Statement of Investment principles.

(ii) List the main requirements for the preparation and review of the Statement of Investment Principles. [6]

A new trustee suggests to the Trustees that they should invest the Scheme's assets fully in UK gilts.

(iii) Estimate what impact this would have on:

(a) the deficit in the Scheme; and
(b) the deficit reduction contributions.

You should show any calculations and state any assumptions you make. [10]

(iv) Outline the advantages and disadvantages to the Trustees of adopting the investment strategy suggested by the new trustee. [10]

Following poor trading results, the Trustees believe that the financial strength of the employer has weakened significantly.

(v) Describe the investigations and the actions that the Trustees should consider taking. [6]

Because of the news about the sponsoring employer's covenant, the Trustees are seriously considering switching the Scheme's investments into gilts. The Finance Director ("the FD") further advises that an increase in the sponsoring employer's contribution rate to more than £3m per annum would result in the insolvency of the sponsoring employer.

(vi) Discuss whether it is viable for the sponsoring employer to continue to operate the Scheme in its current form.

Your answer should consider both with the current investment strategy and the proposed gilt-based strategy.

You should show any calculations. [12]

The Trustees implement the investment strategy suggested by the new Trustee.

(vii) (a) Discuss the principles that apply to the setting of assumptions used to calculate CETVs from the Scheme.

(b) Suggest, with reasons, what assumptions the Trustees may use to calculate CETVs under the Scheme. [11]

The FD is aged 56 and has an accrued pension of £100,000 per annum under the Scheme. He applies to have a cash equivalent transfer value (CETV) of his benefits paid into a self-invested personal pension.

Having agreed the assumptions, the Trustees ask the Scheme Actuary for advice in determining the amount of transfer value they should pay.

(viii) Discuss the points that the Scheme Actuary should cover in his advice to the Trustees. [9]
[Total 70]

2 An individual who was aged 65 retired on 1 June 2014 with a defined contribution fund of £400,000. He did not purchase an annuity. He elected to take 25% of the fund as a tax-free cash sum and draw an income from the remainder of the fund via capped income drawdown.

Under capped income drawdown, the fund remains invested, with the investment strategy set by the member. The member selects what income to take each year within limits set by the government. In the event of the member's death, the remaining fund is available to provide dependant's benefits. The member may elect to buy an annuity with the remaining fund at any point in the future.

The maximum annual income that can be taken via income drawdown is based on 120% of the level, single life annuity that the government estimates the member could purchase with his remaining fund. The member's income limit is reviewed and recalculated every three years. The minimum income that can be taken is zero.

(i) Discuss the advantages and risks to the member of taking income drawdown compared with purchasing an annuity at retirement. [13]

The member elected to draw 90% of the maximum income on 1 June 2014 and leaves his income unchanged at the three-yearly reviews on 1 June 2017 and 1 June 2020. It is now 2023 and the 1 June 2023 income review is now due. You may assume the following:

- 15 year government bond yields at 1 June 2014 and 1 June 2023 = 3.0%
- government published annuity rate for 65 year old in 2014 = 17
- government published annuity rate for 74 year old in 2023 = 13.5
- average investment return (before deduction of 1% per annum investment management fees)
  - 1 June 2014 to 1 June 2017: 4.0% per annum
  - 1 June 2017 to 1 June 2020: 8.0% per annum
  - 1 June 2020 to 1 June 2023: 0.0% per annum
- pension policy fee (deducted from fund) = £500 per annum
- the member's income is within the maximum amount at the interim income reviews

(ii) Calculate the maximum income the member can draw after the 1 June 2023 income review. You should show your workings and state any additional assumptions you make. [7]

(iii) Estimate the maximum income the member could have drawn after the 1 June 2023 income review if government bond yields at 1 June 2023 had fallen to 2.5%. [1]

The member is alarmed that the income he is permitted to draw has fallen and does not understand the reasons why because his investments have returned more than government bonds over the period.

(iv) Explain the reasons for the fall in income. [3]

The member tells his financial adviser that his pension represents the majority of his income and he cannot afford another large drop.

(v) Explain, with reasons, what course of action the member should consider. [6]
[Total 30]

END OF PAPER