INSTITUTE AND FACULTY OF ACTUARIES

EXAMINATION

20 September 2018 (pm)

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 must not start writing your answers in the booklet until instructed to do so by the supervisor.*

3. *You have 15 minutes of planning and reading time before the start of this examination. You may make separate notes or write on the exam paper but not in your answer booklet. Calculators are not to be used during the reading time. You will then have three hours to complete the paper.*

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 A large company, Seller Inc, is considering selling the business of a subsidiary company, Ionic Metalworks, to another large company, Buyer Corp.

Seller Inc and Buyer Corp both sponsor UK final salary pension schemes. Each scheme is closed to new members but remains open to future benefit accrual. Ionic Metalworks is a participating employer in Seller Inc's scheme.

(i) Describe two methods by which Buyer Corp can buy the business of Ionic Metalworks, indicating, for each method, any implications for the employment contracts of the transferring employees who are active members of Seller Inc's scheme. [3]

Seller Inc and Buyer Corp agree that they wish to continue providing the transferring members with final salary benefits. This will be achieved by admitting Ionic Metalworks as a participating employer in Buyer Corp's pension scheme, which will then provide benefits to the transferring members in respect of past and future service. The table below summarises the main differences in the benefit structure of the two pension schemes:

	Seller Inc	*Buyer Corp*
Normal retirement age	62	65
Accrual rate	1/80	1/60
Member contribution	3% of basic salary	5% of basic salary

In each case, Final Pensionable Salary is the member's basic salary at retirement, pensions increase in line with the same price inflation index capped at 5% in deferment and in payment, and a 50% spouse's pension is provided.

Buyer Corp intends to provide transferring members with added years of pensionable service on its benefit structure in respect of their accrued benefits in Seller Inc's scheme. A simple conversion rate will be applied to all members' past service in Seller Inc's scheme, with the objective of providing past service benefits of equivalent value.

(ii) Estimate, stating your assumptions, how many added years of pensionable service might be provided in Buyer Corp's scheme for each year of past service in Seller Inc's scheme. [4]

Ionic Metalworks is currently paying a Standard Contribution Rate of 20% of basic salaries into Seller Inc's scheme in respect of future benefit accrual. Buyer Corp intends to provide the transferring members with future service benefits on its own benefit structure. The Finance Director of Buyer Corp suggests adjusting the member contribution rate in respect of future service such that Ionic Metalworks' Standard Contribution Rate would remain at 20% if calculated using the same assumptions.

(iii) Estimate the member contribution rate that transferring members would pay based on the Finance Director's suggestion. [2]

(iv) Discuss the Finance Director's suggestion, considering the impact on both Ionic Metalworks and the transferring members. [6]

(v) Describe the elements of the Sale and Purchase Agreement which set out the process by which the accrued liabilities of the transferring members will be transferred from Seller Inc's scheme to Buyer Corp's scheme. [12]

(vi) Describe the issues that the Trustees of the two schemes will need to take into account in respect of the transfer. [8]

Seller Inc suggests that the transfer of accrued liabilities should take place without the consent of the members. The Trustees of Seller Inc's scheme ask their Scheme Actuary to prepare a report advising whether this can happen. The report should include the impact of the transfer on members' benefits and the issues that need to be considered by the Trustees and Scheme Actuary of Seller Inc's scheme.

(vii) Discuss the points the Scheme Actuary should make in her report. [10]

The transaction proceeds, and the active members employed by Ionic Metalworks transfer to Buyer Corp's scheme. The Directors of Seller Inc note that their pension scheme now has a number of pensioner and deferred pensioner members who previously worked for Ionic Metalworks. They ask their actuarial adviser what steps they could take to extinguish the liability in respect of some of these members.

(viii) Describe the advantages and disadvantages of the options the actuarial adviser might include in his response. [10]
[Total 55]

2 A medium-sized UK company, which is not part of a larger group, sponsors a defined benefit pension scheme which has been closed to benefit accrual for 10 years. Pension increases before and after retirement are in line with price inflation. The Scheme's assets are invested 60% in global equities and 40% in UK corporate bonds. The regular actuarial funding valuation is currently being undertaken. The preliminary results, together with the results of the previous actuarial valuation three years ago, are shown below:

	Previous valuation 3 years ago	*Current valuation*
Discount rate pre retirement	5.0% per annum	4.0% per annum
Discount rate post retirement	3.0% per annum	2.5% per annum
Price inflation	3.5% per annum	3.5% per annum
Pensioner liabilities	£120 million	£180 million
Deferred pensioner liabilities	£150 million	£160 million
Assets	£200 million	£265 million
Deficit	£70 million	£75 million
Market yields:		
Long-dated gilt	2.5% per annum	1.5% per annum
Long-dated index-linked gilt	–1.0% per annum	–2.0% per annum
Long-dated corporate bond	3.5% per annum	3.0% per annum

Since the previous valuation date:

- The company has been paying contributions of £10 million per annum to reduce the deficit.
- Benefit payments from the scheme have been £5 million per annum on average.
- Price inflation has been 5.0% per annum on average.

The Trustees cannot understand why the deficit has not reduced, given that the company has paid £30 million into the Scheme and investment returns have been good. They have asked the Scheme Actuary to provide a numerical analysis of the inter-valuation experience.

(i) Prepare an analysis of surplus explaining the change in deficit, stating any assumptions made. [8]

The Finance Director informs the Trustees that the company is undergoing trading difficulties and is unlikely to be able to afford contributions of more than £5 million per annum in the future. The Trustees undertake a covenant review. This confirms that if the company contributes more than £5 million per annum to the Scheme, then this will reduce the amount it is able to invest in the business, which will jeopardise its long-term viability.

(ii) Outline four actions the trustees might take as a result of these developments, setting out the advantages and disadvantages of each. [8]

The Trustees ask the Scheme Actuary to prepare a report which describes how the actuarial valuation assumptions should be set, taking into account the covenant and investment strategy, which considers whether the preliminary valuation assumptions are appropriate.

(iii) Set out the points the Scheme Actuary should make in his report. [10]

The Trustees' investment consultant has reviewed the investment strategy and recommends changing the asset allocation to 25% equities and 75% long-dated index-linked gilts.

(iv) Discuss the implications this change in investment strategy would have for the Scheme, including the impact on the valuation assumptions. [13]

The Trustees ask the Scheme Actuary for advice on the following three courses of action:

Course 1: Maintain the current investment strategy and agree to the reduced contribution rate of £5 million per annum.

Course 2: Move to the recommended investment strategy and agree to the reduced contribution rate of £5 million per annum.

Course 3: Move to the recommended investment strategy and require the company to maintain the existing contribution rate of £10 million per annum.

(v) Discuss the likely impact of each course of action on the security of members' benefits. [6]

[Total 45]

END OF PAPER