INSTITUTE AND FACULTY OF ACTUARIES

EXAMINATION

1 October 2019 (pm)

Subject SA4 – Pensions and Other Benefits Specialist Advanced

Time allowed: Three hours and fifteen minutes

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. *Mark allocations are shown in brackets.*

4. *Attempt all questions, begin your answer to each question on a new page.*

5. *Candidates should show calculations where this is appropriate.*

Graph paper is NOT required for this paper.

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.

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1 A firm of consulting actuaries has decided to establish a centralised Actuarial Services Team in order to standardise calculations and improve efficiency. Management believes that this will improve the flexibility of the firm and lead to lower fees for clients.

(i) Outline the benefits and drawbacks of standardising calculations within the Actuarial Services Team. [6]

(ii) Describe the key factors which the consultancy needs to consider when establishing this team. [6]

(iii) Describe the specific professionalism challenges the consultancy and its actuaries may face if the new structure is implemented. [4]

The first major piece of work undertaken under the new structure will be a triennial funding valuation for a closed defined benefit scheme. The Actuarial Services Team has passed the scheme's actuary the following information. The numerical accuracy of the work has been checked within the team but there has been no high level review of the work.

Member Data:
Deferred members: 2,544
Average pension revalued to date: £3,944 p.a.
Average age: 53
Pensioner members 5,438
Current average pension: £6,544 p.a.
Average age: 71

Financial Assumptions:
Discount rate: 3% p.a. (pre and post-retirement)
Pension increases in deferment and payment: 1.8% p.a.

Benefit Structure:
Retirement age: 65
Spouse's pension: 50% of member's pension
Commutation: on an actuarially neutral basis

Past Service Liability: £624.3m

(iv) List any further information the Actuarial Services Team should provide with their results. [3]

(v) Set out, with reasons, the checks the actuary should perform on this work before the results are issued. [8]

(vi) Determine whether the results provided by the Actuarial Services Team are reasonable by calculating an approximate Past Service Liability based on the summary data and assumptions provided. You should state any further assumptions you make. [5]

The Actuarial Service Team has now been in place for one year. The initial work undertaken by the Actuarial Services Team has generally been of high quality but the cost savings have been lower than expected.

(vii) Suggest possible reasons why the expected cost savings have not been realised and how each might be addressed. [3]

[Total 35]

2 A medium sized defined benefit pension scheme is open to new members. The scheme has historically been very well funded with a large surplus but the recent actuarial valuation shows a funding level of only 82%. The trustees have expressed concern and will be discussing the matter at the next trustee meeting.

The detailed results of the most recent actuarial valuation, together with the previous valuation, are shown in the table below.

Ahead of their next meeting, the trustees have asked their actuary to prepare a report covering the following:

- the reasons for the change in the funding level between the two valuations;
- a discussion of the actions which could be taken together with the advantages and disadvantages of each.

(i) Set out, with reasons, the points the scheme's actuary should include in their report. [30]

Valuation date	31 March 2019	31 March 2016
Assets	£1,400m	£1,200m
Past service liability	£1,700m	£1,100m
Funding level	82%	109%
Future service contribution rate	17%	14.5%
Discount rate	3.4% p.a.	4.8% p.a.
Salary increase assumption	2.5% p.a.	2.5% p.a.
Pension increase assumption (in deferment)	1.8% p.a.	1.8%
Pension increase assumption (in payment)	2.0% p.a.	2.0%
Active membership	1,500	1,300
Total payroll	£36.75m	£28.6m
Pensioner payroll	£10m p.a.	£9.5m p.a.
Contributions to the scheme	£4.5m p.a.	£3.9m p.a.

The sponsoring employer has recently seen the valuation results in advance of the valuation report being finalised. The employer has contacted their own company actuary in the light of this, requesting an urgent meeting to discuss how they might respond.

(ii) Discuss the points the employer's actuary should cover. [15]

[Total 45]

3 A large employer proposes to introduce a pension scheme for its employees and is in discussion with an employee representative.

(i) Set out, with reasons, the main priorities for the employee representative in respect of the benefit design of the proposed scheme. [6]

The employer has introduced a new defined benefit pension scheme but is concerned when, five years later, the second valuation shows a higher than expected cost and a funding level of 90%. The employer wishes to invest the scheme's assets wholly in global equities in order to reduce the cost of providing benefits.

(ii) Outline the points the employee representative should raise with the employer regarding this proposed investment strategy. [7]

The employer goes ahead with the investment in global equities but there is a significant stock market crash a few months later. A special valuation is commissioned which shows a funding level of 65%. The employer tells the employee representative that he has either to cut back on benefits or make large scale redundancies.

(iii) Outline the points the employee representative should make to the employer in response. [7]

[Total 20]

END OF PAPER