INSTITUTE AND FACULTY OF ACTUARIES

EXAMINATION

30 September 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 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 all six 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 national employer currently provides a defined benefit pension scheme for its workforce. It has been decided that a new defined contribution scheme will be set up for new employees. The new scheme will aim to provide a significant degree of flexibility for its members. For example at retirement members will not be required to purchase an annuity.

(i) Set out the advantages for the employer of setting up a defined contribution scheme for new employees rather than continuing to use the existing defined benefit scheme. [4]

(ii) Set out the key aspects of scheme design that could be considered by the employer to incorporate the desired flexibility in the new scheme. [6]

(iii) Outline the issues that individual members in the new defined contribution scheme need to consider as they are approaching retirement. [5]

(iv) Discuss the advantages and risks to the member of taking income drawdown rather than purchasing an annuity at retirement. [8]
[Total 23]

2 A mature defined benefit pension scheme currently has an investment allocation strategy of:

- 60% invested in global equities and
- 40% invested corporate bonds.

The scheme is closed to new entrants but is open to future benefit accrual.

The funding valuation discount rate is set with regards to the expected return of the Scheme's assets and there is currently a small deficit on the funding basis.

(i) Outline the advantages and risks of the current investment strategy. [7]

It has been suggested that the scheme's investment strategy should move to 100% invested in domestic Government bonds.

(ii) Discuss the impact of moving to the proposed investment strategy. [8]

The 100% Government bonds investment strategy has now been adopted.

(iii) Set out the principles that will apply to calculating transfer values. [5]

On retirement, the members of the scheme have the option to take a transfer value and use it to purchase an annuity from an insurance company to provide their pension.

(iv) Set out the advantages of this option for members and the employer. [5]
[Total 25]

3 (i) Define what is meant by sponsor covenant. [2]

(ii) Outline the methods by which the sponsor covenant can be measured. [5]

A large manufacturer sponsors a defined benefit pension scheme. The pension scheme has a small funding deficit.

Recent trading results have been disappointing and the sponsor's Finance Director has suggested that the future deficit contributions should be reduced and spread over a longer period.

(iii) Outline:

(a) the investigations; and
(b) the actions

that the managers of the scheme should consider taking regarding the possible deterioration of the sponsor covenant and the Finance Director's suggestion. [5]
[Total 12]

4 (i) List six options for the provision of the outstanding benefit payments that may exist if a defined benefit pension scheme is being discontinued. [3]

(ii) Discuss the key features of each option in part (i). [6]

(iii) Comment on the circumstances in which each of the options in part (i) might be most appropriate. [3]
[Total 12]

5 The actuary to a large defined benefit pension scheme is about to start the regular funding valuation. The scheme is still open to future benefit accrual.

(i) List the key assumptions that will be made as part of the funding valuation. [4]

(ii) Outline the types of information that might be used to determine each of the key valuation assumptions. [6]

In addition to the current funding valuation, the actuary has carried out discontinuance valuations and accounting valuations over the last few years.

(iii) Discuss the reasons why the key valuation assumptions used in these actuarial valuations may have differed from those to be used in the current funding valuation. [6]
[Total 16]

6 The actuary to a very large defined benefit pension scheme is about to analyse the scheme's post retirement mortality experience.

(i) Describe, with reference to the Actuarial Control Cycle, how this analysis would be performed. [7]

(ii) Discuss the limitations and any adjustments that should be considered when using the results of the analysis. [5]
[Total 12]

END OF PAPER