INSTITUTE AND FACULTY OF ACTUARIES

EXAMINATION

15 April 2024 (am)

Subject SP4 – Pensions and Other Benefits Specialist Principles

Time allowed: Three hours and twenty minutes

In addition to this paper you should have available the 2002 edition of the Formulae and Tables and your own electronic calculator.

If you encounter any issues during the examination please contact the Assessment Team on T. 0044 (0) 1865 268 873.

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1 A large manufacturing company sponsors a defined benefit pension scheme. As part of an annual funding exercise, the scheme's actuary has estimated the cost of securing liabilities with an insurance company at 31 December 2022 to be $750 million. The asset value at the time of the valuation was $730 million.

(i) Write down the estimated position as an absolute surplus/deficit. [1]

(ii) List the key assumptions the actuary would have used to determine the estimate. [4]

Following a full market review, the actual cost to secure all liabilities with the leading insurance company at 30 June 2023 is $775 million.

(iii) Suggest possible reasons why the cost of insurance is different to the actuary's estimate. [5]

The scheme's assets at 30 June 2023 are $800 million. The scheme's trustees and the sponsor both agree to wind up the scheme and transfer all liabilities to an insurance company.

(iv) Explain the potential implications to the sponsor of such a transaction. [3]

The sponsor's finance director has suggested that all scheme's assets in excess of the cost of securing the benefits and winding up the scheme should be refunded back to the sponsor.

(v) Discuss the advantages and disadvantages of this proposal. [6]

(vi) Suggest two distinct alternative uses for the excess funds. [1]

[Total 20]

2 A company is considering opening a new defined benefit pension scheme for its employees.

(i) Describe the key risks that the pension scheme exposes the company to. [3]

(ii) Explain, for each of the risks identified in part (i), how the scheme benefits could be designed to mitigate these risks. [9]

As an alternative, the company's employee benefits manager has proposed that a defined contribution scheme with a defined benefit underpin could be a more suitable arrangement for the company.

(iii) Discuss the advantages and disadvantages of this proposal, from the viewpoint of the company. [6]

[Total 18]

3 A company that specialises in baking and hand-decorating celebration cakes sponsors a defined benefit pension scheme that is open to future accrual.

The scheme's funding levels at the most recent valuation are set out below on a range of different valuation bases.

Best-estimate basis	100%
Funding basis	90%
Discontinuance basis	55%

(i) Describe the relative level of prudence in each of the valuation bases above. [2]

Since the previous valuation, the prices of electricity and flour have rapidly increased and are expected to remain volatile for a period of up to 5 years. The scheme's trustees wish to investigate the impact this will have on the sponsor's covenant ahead of their next meeting, which is in 1 week's time.

(ii) Describe how the trustees could undertake an assessment of the impact of the price increases on the sponsor's covenant ahead of their next meeting. [4]

The scheme's trustees have concluded that the covenant has deteriorated from 'tending to strong' to 'tending to weak' as their assessment shows the company is likely to have significant cashflow constraints because of the increased costs.

(iii) Set out the actions that the trustees may take in response.

Your answer should cover considerations on funding, contributions and investment strategy. [11]

The company's board has also considered closing the pension scheme to future accrual to manage its costs; however, the company actuary has calculated this would increase the scheme's liabilities by around 15%.

(iv) Suggest possible reasons why closing the scheme to accrual may increase the scheme's liabilities. [3]

[Total 20]

4 The Global Accounting Standard Panel (GASP) is meeting to agree an approach to valuing defined benefit pension schemes in company accounts prepared under their standard. One member of the panel has proposed using the Attained Age funding method. A second member of the panel prefers the Current Unit funding method.

(i) Describe in words the main similarities and differences between these two funding methods.

You do not need to provide formulae as part of your answer. [5]

(ii) Give examples, with reasons, of the information on defined benefit pension schemes that GASP may require to be disclosed in company accounts. [5]

[Total 10]

5 A defined benefit pension scheme gives members the option, at retirement, to convert up to a maximum of 20% of their pension, including any attaching contingent dependent's pension, into cash.

A member has received a retirement quotation that shows the following two options:

	Option A	*Option B*
Cash lump sum taken at retirement	\$0	\$36,000
Pension payable from retirement	\$10,000 p.a.	\$8,000 p.a.
Dependent's pension payable on death of the member	\$5,000 p.a.	\$4,000 p.a.

Both the member and contingent dependent's pensions increase in line with inflation annually on each 1 April.

(i) Describe the factors the member should consider when choosing between option A and option B. [5]

The scheme rules specify that the conversion terms used for exchanging pension into cash must be determined by the scheme's actuary.

(ii) Describe the factors the scheme's actuary should consider in setting appropriate conversion terms. [7]

Since the previous actuarial review of conversion terms, the market yield that the discount rate is based on has increased by 1% p.a. Inflation expectations are broadly unchanged. The next review of the conversion terms is scheduled for 1 year's time.

(iii) Discuss whether the scheme's actuary should amend the conversion terms in advance of the next scheduled review. [6]

[Total 18]

6 A defined contribution scheme has a default investment fund that includes lifestyling.

(i) Define in your own words what is meant by 'lifestyling'. [2]

(ii) Describe how a scheme member's approach to lifestyling may differ depending on how they plan to use their accumulated fund at retirement. [6]

The scheme's managers are undertaking a review of the default fund to determine whether it is appropriate or should be changed.

(iii) Describe the criteria that should be considered as part of this review. [6]

[Total 14]

END OF PAPER