

# INSTITUTE AND FACULTY OF ACTUARIES



## EXAMINATION

13 October 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 all three 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.*

<p><i>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.</i></p>
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- 1** A multinational company has expanded its operation into the UK and is seeking actuarial advice on setting up a pension arrangement for its UK employees.
- (i) List four main types of pension benefit structures that could be introduced. [2]
  - (ii) Outline for each of the pension arrangements the key risks and uncertainties that may be experienced by the Company. [7]
  - (iii) Suggest ways the risks could be mitigated. [3]
- It has been decided that a defined contribution pension scheme will be set up.
- (iv) Set out the key aspects of scheme design that needs to be considered by the Company to establish the new scheme. [8]
- The Company is considering the information that it will issue to scheme members; both mandatory and that considered as best practice.
- (v) Outline the information that would be issued to members:
    - at inception of the scheme; and
    - annually thereafter. [5]
- The defined contribution pension scheme will have its own interactive online tool to support the introduction and the ongoing running of the pension scheme.
- (vi) Outline the possible additional content that members' could have access to including how the interactive tool could be utilised. [10]
- [Total 35]

- 2** The government of a developed country is conducting a strategic review of the pension arrangements for a large cross section of the workforce employed by its universities. Each university is responsible for the cost and administration of its own individual pension scheme and each currently has differing employee benefit packages for its employees.
- It has been suggested that a centralised defined benefit pension scheme should be established and run on behalf of a number of different university employers. A standard level of pension benefits would apply to all scheme members. The centralised defined benefit pension scheme would provide benefits on retirement, death or leaving service. Each employer would pay the same contribution rate as a percentage of salary.
- (i) Set out the advantages and disadvantages for the participating employers of a centralised defined benefit scheme. [8]
- It is envisaged that the pension scheme will allow the individual participating employers to provide more generous pension benefit structures than the standard level to selected employees.

- (ii) Suggest restrictions in the granting of benefits that could be applied to prevent a deterioration in the future funding position of the centralised scheme. [4]

The government's strategic review has proposed that, as an alternative to a centralised defined benefit pension scheme, a collective defined contribution pension scheme operated on behalf of all the university employers is to be set up. Both employers and employees would make fixed contributions into a pooled fund. It is intended to provide employees with a "target income" at retirement based on the expected pension from the combined employer and employee contributions.

- (iii) Suggest why the collective defined contribution pension scheme is being proposed. [4]

- (iv) Discuss the key features of the proposed collective defined contribution pension scheme under the following headings:

- employee benefits at retirement
- governance
- employer and employee risk
- investment of assets

[20]

[Total 36]

- 3** An employer operates a large defined benefit pension scheme with a normal retirement age of 65. The defined benefit pension scheme has recently closed to future benefit accrual and a defined contribution scheme is in place for future benefits.

The scheme is considering the purchase of immediate and deferred annuity policies, which will be held as an asset of the scheme, to match the pension scheme liabilities.

- (i) Outline the advantages and disadvantages of this option. [8]

The Trustees of the pension scheme are about to review the operation of the pension scheme to improve efficiency, security and enhance the members' benefit options.

As part of the review, the managers of the pension scheme are also considering offering its scheme members the choice of taking a transfer value at their retirement age. One option available to scheme members would be to use the transfer value to purchase an annuity from an insurance company to provide pension benefits which best suit their needs.

- (ii) Discuss the advantages and disadvantages of this option for:

- the members.
- the employer.

[6]

Another option available to scheme members would be to invest their transfer value in another pension arrangement which allows a member to draw benefits directly from their invested assets at whatever rate they choose without buying an annuity.

- (iii) Discuss the implications of this option for the member. [5]

The actuarial factors currently in place for the pension scheme have not been reviewed since future benefit accrual ceased. The actuarial factors to be reviewed are those in use for:

- early receipt of benefits.
- late receipt of benefits.
- conversion of benefits from pension to cash at retirement.

- (iv) Outline the key principles that need to be considered as part of the actuarial factor review. [4]

- (v) Discuss for each of the above actuarial factors, the implications for the scheme. [6]

[Total 29]

**END OF PAPER**