INSTITUTE AND FACULTY OF ACTUARIES

EXAMINATION

26 September 2016 (pm)

Subject SA2 – Life Insurance
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 For several years until 2015, a UK life insurance company had been selling only unit-linked pensions business and conventional without profits immediate annuities.

In 2014, the UK government announced its intention to change pensions legislation significantly from April 2015, to make the benefits taken at retirement more flexible.

Consequently, the company decided to change its strategy as follows:

- Stop selling new conventional without profits immediate annuity business.
- Start selling a lifetime mortgage equity release product (Product A).
- Start selling conventional without profits single premium endowment assurances aimed at customers looking to invest their pension funds into tranches of endowment assurances with maturity dates set at outset (Product B).

The company expected to be able to offer competitive guaranteed rates of returns on Product B.

(i) Justify the company's decision to change its strategy. [8]

The new products being considered have the following features:

Product A

- The product will be offered on a single or joint life basis for ages over 65.
- The product provides cash in terms of a loan amount up to between 30% and 50% of house value (depending on age).
- The loan increases with compound interest at a fixed rate of interest set at outset.
- The loan is repayable when the house is sold as a result of death or a move into long term care of the customer(s). The repayment is capped at the value of the house on sale (after deduction of sale expenses).
- Early repayment for any other reason is not subject to the cap and is subject to an early exit penalty.

Product B

- Not all terms to maturity will be available at all times, but will be subject to availability.
- The death benefit is the same as the maturity benefit.
- For other exits, the benefit payable is the value of the maturity benefit discounted at the guaranteed rate of return, less an early exit penalty.

(ii) Assess the extent to which longevity or mortality is a key risk for each of Products A and B. [5]

(iii) Describe the considerations for the company in relation to setting the early exit penalties for the two products. [6]

(iv) Suggest, for each of Product A and Product B, two key variables on which the early exit penalty formula could depend. [2]

(v) Describe the other factors the company would take into consideration in the development of the two new products. [30]

The company has identified that the new strategy introduces significant liquidity risk.

(vi) Describe how the company should manage this liquidity risk. [4]

The company is considering using a trust for Product B to ensure that any benefits paid on death are held under the trust and as such are not considered part of the customer's estate for tax purposes.

(vii) Explain whether each of the five main types of trust would be appropriate for this purpose. [5]

[Total 60]

2 (i) State the key objectives of Solvency II. [2]

(ii) Describe the Solvency II Pillar 3 reporting requirements. [6]

A life insurance company operating under the Solvency II regulations sells only unit-linked savings and immediate annuity business.

The unit-linked regular premium savings product is designed to fund for a pension in retirement, and so its maturity date is the retirement date selected by each policyholder.

It has the following features:

- On maturity (i.e. retirement), death or withdrawal prior to retirement, the benefit payable is the unit fund value.
- The charges under the policy are fixed at outset, i.e. not variable or reviewable.
- Some of the policies have a guaranteed annuity option whereby the policyholder will receive a fixed amount of annuity per 1,000 of fund value at the selected retirement date if they take the option at that date. Otherwise, they are free to purchase an immediate annuity either with the same company or in the open market, using the unit fund value. The guaranteed annuity rates are set when the product is sold.

(iii) Describe how the company would determine the Solvency II technical provisions for the unit-linked savings product. [21]

Following a recent government legislation change, at retirement the company's policyholders can take 25% of the fund value as a tax-free lump sum. The remainder of the fund value can either be taken as a taxable cash amount or it can be used to buy an immediate annuity.

Under the previous legislation, policyholders similarly had the option of taking 25% of their fund value as a tax-free lump sum, but the remaining fund value had to be used to purchase an immediate annuity.

The proportion of policies purchasing an immediate annuity is known as the 'annuity take-up rate'. Taking the guaranteed annuity option is equivalent to purchasing an immediate annuity.

(iv) Assess the potential impact of this change in legislation for the annuity take-up rate for policies that do not have a guaranteed annuity option. Your answer should include consideration of factors on which the impact will depend. [7]

(v) Assess how the impact on the annuity take-up rate would be different for policies that do have a guaranteed annuity option. [4]

[Total 40]

END OF PAPER