Actuarial Society of South Africa

EXAMINATION

1 November 2011 (am)

Subject F205 – Investment 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 at the start of the examination in which to read the questions. 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 answers 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 separate sheet.

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.

Question 1

You are a licensed South African financial advisor advising private clients. You are approached by a 40 year old, working, single mother of two children, aged 15 and 10.

She has requested that you advise her on an investment strategy that will enable her to meet her goals of:

- Paying for her children's education (including tertiary education) and
- Retiring while maintaining an adequate standard of living

a) Outline the minimum requirements for an advisor to be accredited under FAIS. [2]

b) List the information you will need from your client in order to advise her. [10]

c) Describe the different types of investment vehicles available in the South African market which offer tax concessions to long-term savers and which would be relevant to your client's objectives. [6]

Your client has been approached recently with an opportunity to invest in a private scheme that yields a guaranteed 12% per annum by providing finance to property developers. She is very attracted by the yield promised and feels reassured by the fact that a friend has already earned excellent returns from investment in this scheme.

d) i. Explain the investment risks involved in this scheme.

ii. Outline the advice you would give your client on how to evaluate and mitigate them. [10]

[TOTAL 28]

PLEASE TURN OVER

Question 2

The trustees of a large South African defined benefit pension plan are considering the options available for investing the assets in respect of the liability for pensions in payment. You have been appointed by the trustees as a consulting actuary to advise on this matter.

You have been asked to comment on whether the pension plan should continue to keep these liabilities on the employer's balance sheet or should transfer them to a life office.

a) Discuss the factors that need to be considered and make a recommendation.

[15]

It has been decided to keep the pensioner liability on the balance sheet of the employer and not to transfer it to a life office. The trustees now wish to evaluate various investment strategies to manage the assets backing these liabilities. The pension plan aims to grant increases to pensioners equal to consumer price inflation over rolling 3 year periods.

b) As part of the trustees' continuing education, they would like to gain a better understanding of cash flow matching in the context of the liability for pensions in payment.

   i. Draft a report that explains the concept and considers the practical implementation mechanisms of cash flow matching using either bonds or swaps.

   ii. Comment on the implications of current market yields on the choice of bonds or swaps.

[12]

c) Assess the suitability of each of the following investment strategies:

   i. A balanced fund with 60% equity exposure
   ii. An absolute return style portfolio
   iii. A strategy where all the guaranteed cash flows are matched
   iv. A strategy where all the guaranteed cash flows and future inflation-linked increases is matched
   v. A strategy where the guaranteed cash flows are only matched partially

[18]

[TOTAL 45]

PLEASE TURN OVER

Question 3

You are the product development actuary at a life office that sells guaranteed investment policies with a five year term. At the date of purchase of a policy the insurer guarantees the nominal rand amount to be paid at maturity. Surrender values are not guaranteed.

The market for this product is large, but very competitive, and sales are very sensitive to the quantum of the guaranteed maturity value in relation to the premiums paid. You are investigating the use of credit instruments to enhance the attractiveness of your company's product.

a) Comment on the problems that can arise when using South African credit instruments to provide enhanced returns for this type of product.

[7]

b) Explain how the additional return attaching to credit instruments might be used to enhance the return to policyholders without compromising shareholders' interests.

[6]

You have extended your investigation to include the possible use of foreign credit instruments. A bank proposes the following structure:

- Offshore credit instruments purchased directly in the offshore markets in US dollars
- A cross currency swap from US dollars to South African rands
- A series of fixed income forwards to re-invest all the coupon flows to a five year capitalised future rand value

This structure ensures that, provided there are no defaults, the future nominal rand value of the investment is locked in from the start. However there can be fluctuations in the mark to market valuation of the structure before maturity.

c) Describe how the value of each element of the structure can alter with market movements during its term.

[6]

d) Explain how you would determine the value of this structure in the event of a default, what factors will influence that value and what the maximum loss might be.

[8]

[TOTAL 27]

