INSTITUTE AND FACULTY OF ACTUARIES

EXAMINATION

23 April 2012 (pm)

Subject SA5 – Finance
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 BOTH 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.

1 A small UK based construction company has developed a product called InstaHome, a new type of prefabricated rapid-assembly housing unit which it hopes to market to temporary construction workers in advance of a major sporting event to be held in the UK in 2015. The company intends to manufacture the InstaHomes at its subsidiary company in Europe and then ship them to the UK where they will be assembled at the construction site for the sporting event.

(i) Suggest reasons why the company may choose to manufacture the InstaHomes outside the UK. [4]

(ii) Outline the basis of taxation that the company will face. [3]

(iii) Set out the principal business risks which arise from manufacturing the InstaHomes outside the UK. [4]

The company expects that many of its potential customers will have difficulties borrowing money to purchase an InstaHome. The company proposes to assist these customers by offering them 3 year loans for purchasing an InstaHome through a new subsidiary created solely for the purpose of lending money to customers. The subsidiary intends to issue a debt security to raise the necessary funds.

(iv) Explain the additional financial risks taken on by the company through this venture. [2]

(v) Suggest how the risks identified in (iv) could be mitigated. [4]

(vi) (a) Describe the factors that will affect whether the loans are likely to be attractive to customers.

(b) Describe the principal determinants of these factors.

[8]

(vii) (a) Suggest two alternative funding sources for the subsidiary, other than issuing debt security.

(b) State with reasons whether you believe each source given in (vii)(a) would lead to more attractive terms being offered to customers.

[4]

The company successfully sells 10 InstaHomes at the start of the first month and 10 additional InstaHomes at the start of the third month at a price of £20,000 each. All 20 customers accept loans from the subsidiary. The loan interest rate is fixed at 15% per annum convertible monthly. The subsidiary raises £500,000 at the outset through the issue of a 5 year 10% note, with coupons payable monthly in arrears. You should assume that loan repayments include both principal and interest and are made in equal instalments monthly in arrears.

(viii) Derive an approximate cash flow statement for the subsidiary from its establishment until the end of the sixth month stating any assumptions that you make. [8]

(ix) Estimate the maturity gap in the subsidiary's portfolio at the end of the sixth month for its fixed term and immediate maturity categories. [2]

(x) Outline the limitations of a maturity gap analysis for asset-liability management. [2]

As an alternative to selling the InstaHomes to customers, a director has suggested allowing customers to lease them for a fixed term.

(xi) Explain the advantages and disadvantages to the company of this approach. [5]

The company believes that some of the InstaHomes delivered to customers may be faulty.

(xii) Identify the risks which may crystallise should the InstaHomes be found to be faulty. [2]

(xiii) State the types of insurance which could be purchased to reduce the financial impact of these risks. [2]

[Total 50]

2 A life insurance company, Life Co plc, is considering buying MegaBrokers plc, a network of life insurance and general insurance brokers. Life Co will be paying for MegaBrokers with retained cash.

MegaBrokers earns income through commission on the products it sells. MegaBrokers has a policy of seeking to take regular rather than upfront commission wherever possible. MegaBrokers has a significant amount of debt on its balance sheet and it has recently made a loss.

MegaBrokers' board of directors rejected Life Co's initial offer and Life Co has announced publicly that it is considering whether to make a public offer for the shares of MegaBrokers, that is a hostile bid for the company.

(i) (a) Suggest reasons for the acquisition.

(b) Comment on whether these reasons are likely to be borne out in practice. [12]

(ii) (a) Describe defensive strategies that MegaBrokers could employ to prevent the acquisition.

(b) Explain how these actions will affect the current shareholders of MegaBrokers.

[12]

(iii) Describe the factors that will affect the share prices of both Life Co and MegaBrokers during the bid period. [4]

Life Co is estimating the risk-based capital of the combined enterprise. As part of the calculation it wants to allocate capital to the MegaBrokers business as well as determine the impact on the overall risk-based capital.

(iv) Describe two methods for allocating the capital. Your answer should include the changes to the calculations that Life Co will need to make to incorporate the MegaBrokers' business and allocate risk capital to it. [10]

Life Co plans to securitise MegaBrokers' commission income once the purchase is completed.

(v) (a) Describe how the securitisation could be structured.

(b) Comment on how the securitisation could be made to be more attractive to the buyers of the security.

[7]

In time MegaBrokers successfully defended the bid but the costs and management distraction of doing so have resulted in considerable financial strain.

(vi) (a) List possible management actions that may be taken as a result of MegaBrokers being in financial distress.

(b) Outline the possible consequences of these actions.

[5]

[Total 50]

END OF PAPER