INSTITUTE AND FACULTY OF ACTUARIES

EXAMINATION

23 April 2014 (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 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.

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 listed UK house building company owns a sizeable inventory of undeveloped land, which it expects to use to develop new houses according to perceived demand. The company is preparing its annual report to shareholders, and the CEO expects to receive questions from shareholders about the size of the land holding.

(i) State the factors that are usually applied when optimising the size of an inventory. [2]

(ii) Explain why shareholders may be concerned about the size of the land holding. [4]

(iii) Suggest how the company could place a value on the undeveloped land for the purposes of its accounts. [3]

Overall demand for new houses has been weaker than anticipated. The government is proposing to address this with a scheme that will guarantee the first 5% loss on any mortgage where a borrower defaults.

(iv) Discuss whether the scheme is likely to lead to increased demand for new homes. [5]

(v) Suggest how the scheme could be made more attractive to borrowers and lenders. [3]

In response to pressure from shareholders, the company is investigating the sale of some areas of its undeveloped land. Because the company has already carried out planning studies on these pieces of land, it is concerned that, in the event of a pickup in demand for new houses, it does not wish to lose the opportunity to develop these specific areas in future.

(vi) Discuss ways the company could achieve the simultaneous objectives of reducing its holdings of land but retaining the ability to develop them in future. [5]

(vii) Give reasons why the buyer of the land may be unwilling to enter into the transactions you propose in (vi). [3]

[Total 25]

2 Shadow banks are non-bank financial intermediaries which provide services similar to those provided by traditional commercial banks. They include entities such as hedge funds, money market funds, structured investment vehicles, credit investment funds, exchange-traded funds, private equity funds, credit insurance providers, securitization and finance companies.

Shadow banks are usually subject to much less regulation than commercial banks.

(i) Explain why shadow banks exist. [3]

(ii) Describe the range of services that shadow banks could offer. [4]

(iii) Outline the key functions that shadow banks perform for their customers. [2]

(iv) Describe, with examples, the main risks to all stakeholders arising in shadow banks. [8]

(v) State with reasons whether governments should allow lightly regulated shadow banks to operate in their countries. [4]

(vi) Outline ways in which a government could regulate shadow banks which should be acceptable to the shadow banks. [4]
[Total 25]

3 A UK Life Insurance Company (LIC) is a UK annuity provider. It invests the premiums it receives from writing the business in UK Government Bonds. LIC is open to new business.

(i) Explain how interest rate risk facing LIC can be measured. [5]

(ii) Describe the measurement and aggregation of the risks LIC is exposed to under the Solvency II Standard Formula. [10]

LIC decides to alter its investment strategy and invest future premiums in UK corporate bonds.

(iii) Explain how this change in investment strategy will affect the risks facing LIC. [9]

LIC is considering investing in stripped government bonds and collateralised mortgage obligations (CMOs) to better match its liabilities whilst providing higher returns.

(iv) (a) Describe the risks that using each of these instruments introduces.

(b) Comment on whether they will meet the aim of better matching LIC's liabilities whilst providing higher returns.

[5]

It has also been suggested that swaps might be used to match the liabilities.

(v) Explain how swaps could be used to better match the liabilities, describing any additional risks facing LIC if it were to enter into swaps. [5]

LIC decides that it wants to issue commercial mortgage loans directly to companies from its investment fund.

(vi) Explain how LIC will use credit ratings when issuing the mortgages. [4]

(vii) (a) Describe the additional risks that LIC is taking on by issuing the mortgages.

(b) Describe how LIC could mitigate these risks. [12]

[Total 50]

END OF PAPER