

EXAMINATION

24 September 2007 (am)

Subject CA1 — Core Applications Concepts

Paper 1

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 8 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.

- 1** (i) State the principles of investment. [2]
- (ii) Outline how the regulatory framework may limit investment freedom. [5]
[Total 7]
- 2** Evidence suggests that a significant proportion of the price movements of many shares traded in a domestic equity market can be attributed to overall market movements rather than features of the specific companies.
- (i) Explain why this may be the case. [4]
- (ii) Give four examples of types of companies whose share price movements may be significantly influenced by conditions in overseas economies. [2]
[Total 6]
- 3** A life insurance company is setting up a new line of business.
- (i) Describe the modelling necessary to assess the capital required. [5]
- (ii) List the principal experience assumptions that may be needed for the model in part (i). [3]
[Total 8]
- 4** Outline the reasons why the following companies hold capital:
- (i) A general insurance company. [5]
- (ii) An international pharmaceutical company. [5]
[Total 10]

5 A long-established company operates in a country with a developed economy. The country has no established standards on how companies account for employee benefit costs.

- (i) Explain how the four widely used accounting concepts can be applied when disclosing employee benefit costs in a company's accounts. [4]

The company's chief executive officer is currently aged 50 and has been promised a pension benefit on retirement at age 60. This benefit will be provided directly by the company, not through a separate pension scheme.

- (ii) Outline the main information about this benefit promise that could be disclosed in the company's accounts. [2]

A large overseas multinational corporation is considering acquiring the company and is carrying out the appropriate financial assessment.

- (iii) Describe how the multinational might use the information about the benefit promise to the chief executive in its assessment. [6]
[Total 12]

6 A local authority is considering supporting the reopening of a railway station on an existing commercial working line.

- (i) List the stakeholders in the project. [3]

- (ii) Outline the criteria that the local authority may wish to see satisfied before giving its support to the project. [6]

- (iii) State the potential risks associated with this project and consider how each could be mitigated. [9]
[Total 18]

7 A life insurance company launched a conventional without profits critical illness term assurance contract ten years ago. After low sales in the early years, the volume of new business sold has risen significantly in the last three years. Under the contract no benefit is payable on death or lapse. The company is about to review the profitability of the contract.

- (i) Explain how the company would analyse the critical illness claims experience since the product was launched. [9]

- (ii) Describe how the company would use the results of this analysis to set assumptions for assessing the profitability of the contract. [3]

- (iii) Explain why the results of this analysis may not be indicative of future experience. [7]
[Total 19]

- 8**
- (i) State the information an actuary would need when undertaking a professional task for a new client. [2]
- (ii) Describe what a written agreement between an actuary and a new client would cover. [3]

An actuary has recently been appointed as the adviser to an established final salary pension scheme. On reviewing the documentation, the actuary discovers the following:

- The scheme pays high investment expenses to a company controlled by the sponsoring employer.
 - The scheme pays a service charge for administration to the sponsoring employer.
 - The scheme owns a large number of unquoted shares in companies based in developing countries.
 - The scheme shows loans to companies linked to the sponsoring employer as assets of the scheme.
 - Over recent years, the scheme has reported lower than average investment returns.
 - The employer pays lower contributions than are paid by employers with similar schemes.
- (iii) Explain whether the above features give cause for concern. [4]
- (iv) Discuss the issues the actuary may wish to investigate for each feature. [8]
- (v) Outline the initial actions that the actuary could take in response to any concerns. [3]

[Total 20]

END OF PAPER