

Actuarial Society of India

EXAMINATIONS

24th May 2007

Subject CA1 – Assets Paper I

Time allowed: Three Hours (09.45 - 13.00 Hrs)

Total Marks: 100

INSTRUCTIONS TO THE CANDIDATE

- 1. 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.*
- 2. You must not start writing your answers until instructed to do so by the supervisor.*
- 3. The answers are not expected to be any country or jurisdiction specific. However, if examples/illustrations are required for any answer, the country or jurisdiction from which they are drawn should be mentioned.*
- 4. Mark allocations are shown in brackets.*
- 5. Attempt all questions, beginning your answer to each question on a separate sheet.*
- 6. Fasten your answer sheets together in numerical order of questions. This, you may complete immediately after expiry of the examination time.*

Professional Conduct:

“It is brought to your notice that in accordance with provisions contained in the Professional Conduct Standards, If any candidate is found copying or involved in any other form of malpractice, during or in connection with the examination, Disciplinary action will be taken against the candidate which may include expulsion or suspension from the membership of ASI.”

Candidates are advised that a reasonable standard of handwriting legibility is expected by the examiners and that candidates may be penalized if undue effort is required by the examiners to interpret scripts.

AT THE END OF THE EXAMINATION

Please return your answer sheets and this question paper to the supervisor separately.

- Q. 1)** Describe the two types of dealing systems in use in stock exchanges. [5]
- Q. 2)** A newly started life insurance company sells its products through banks, agents and brokers. Briefly describe the various types of general insurance products that would be appropriate for managing this company's risks. [5]
- Q. 3)** In a particular country, motor insurance products have standardized design and fixed premium rate bands. All general insurance companies operating in this country are bound to offer these products as per laid down norms. The country is now considering leaving the design and pricing of these products to market forces. As a consequence, the country intends putting in place a regulatory regime.
- a. State why the country would want to regulate the market. (2)
 - b. Explain the areas that could be covered by regulation (6)
 - c. Describe the various forms of regulation (3)
 - d. State what is meant by a statutory regulatory regime and list its advantages and disadvantages. (3)
- [8]
- Q. 4)** You are about to build a model to conduct a discontinuance valuation of a defined benefits pension scheme.
- a. List the important characteristics that you expect to be captured in the model points (3)
 - b. List the main requirements that the model should satisfy (5)
- [8]
- Q. 5)**
- a. Explain briefly the possible reasons for a country's central bank to alter short term interest rates. (5)
 - b. Discuss the possible effects of an increase in short term interest rates on long term bond yields. (2)
- [7]
- Q. 6)** An individual aged 30 years is considering investing about 15% of savings in investments that gives her overseas exposure.
- a. List reasons why she would be considering such overseas exposure (2)
 - b. Discuss the advantages and disadvantages of the following approaches:
 - i. Invest in mutual funds that specialize in overseas investments (3)
 - ii. Invest directly in equity shares of domestic software companies that have more than half their revenues from exports (3)
- [8]
- Q. 7)** You are an actuarial student in the finance department of a three year old small life insurance company that is growing rapidly. The company writes significant amounts of term insurance, critical illness and group life insurance products.
- a. Explain why the company would require capital. (6)

The newly appointed Chief Financial Officer, who knows little about life insurance, has looked at the company's financial statements and found that the reinsurance premiums paid by the company in the past have been more than the claims received from the reinsurer. She has asked you to prepare a report explaining the reasons for reinsuring the business.

b. Describe the main points you would cover in your report. (10)
She has heard that financial reinsurance can be used as a source of capital.

c. Discuss how this is possible. (6)
[22]

Q. 8) A charitable institution has been set-up to provide education to children from weaker sections of the society. The institution funds the entire education expenses of 50,000 students every year.

- a.** (i) Discuss the general points that should be considered in setting its investment strategy. (7)
(ii) Outline specific issues that might apply to this charitable institution. (2)

The trustees are evaluating investment in a corporate bond as part of its debt portfolio.

- b.** (i) List the types of credit risk to which the portfolio is exposed. (2)
(ii) Describe how the default risk associated with the corporate bond could be reduced. (4)

As per the latest investment report of the institution about 20% of the assets are held in cash (including money market instruments). One of the trustees thinks this is too high a percentage.

- c.** Explain why the institution could be holding cash. (4)
[19]

Q. 9) An investor is considering purchase of a leasehold interest in an office property. Rent reviews (upwards only) are every three years, the next review being due in one year's time, and outstanding duration of the lease is thirteen years. The current rent is Rs. 10 million per annum payable quarterly in advance. The rack rent is Rs. 9 million per annum which is expected to increase at 3% per annum.

- a.** State the formula that you would use to determine the discount rate for valuing the leasehold, explaining clearly all terms used. (3)
b. Value the leasehold assuming a discount rate of 10% per annum. State all assumptions. (6)
c. If the above property was on a freehold let on a commercial lease, outline the other factors that you would require to consider to value the freehold. (3)

[12]
