Actuarial Society of India

EXAMINATIONS

14th May 2007

Subject SA5 – Finance

Time allowed: Three Hours (09:45* – 13.00)

INSTRUCTIONS TO THE CANDIDATE

1. *Do not write your name anywhere on the answer scripts. You have to write only your Candidate Number on every answer script.*
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 have then three hours to complete the paper.*
3. *Mark allocations are shown in brackets.*
4. *You must not start writing your answers in the answer papers until instructed to do so by the Supervisor.*
5. *Attempt all questions, beginning your answer to each question on a separate sheet.*
6. *Fasten your answer sheets together in the numerical order of the questions.*
7. *The answers are expected to be India Specific application for the syllabus and corresponding core reading. However, substantially the core reading material is still taken from material supplied by Actuarial Education Company which are meant for UK Fellowship examination. The core reading also contains some material which is India Specific, mostly the IRDA regulation. In view of this, it should be noted that focal point of answers is expected to be India Specific application. However if application specific to any other country is quoted in the answer the same should answer the question with reference to Indian environment.*
8. *In addition to this paper you should have available Actuarial Tables and your own calculator.*

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
Hand in BOTH your answer script and this question paper to the supervisor Seperatly.

Q.1

(a) (i) Briefly explain the terms:
A. Horizontal Merger (1.5)
B. Conglomerate Merger (1.5)

(ii) Discuss the plausible reasons for two firms to undertake
A. Horizontal Merger (4)
B. Conglomerate Merger (4)

(b) (i) Outline the reasons why a large bank might seek to acquire a large life insurance company (4)

(ii) Suggest reasons why the Government might seek to prevent the acquisition, assuming that the main operations of both the bank and the life insurance company [referred to in (b) (i)] are in India (4)

(c) (i) As the CFO of (Chief Financial Officer) of Set Airlines Limited, you have suggested to your Board of Directors, that the return on equity (RoE) can be increased if your company were to acquire Queen Airlines – a competitor operating in the same industry and having a similar market capitalization. Based on your analysis, you strongly believe that the combined entity can operate on a much lower ratio of costs to revenues than is currently possible for either of the two companies. Your Board of Directors want you to prepare a brief report outlining the key issues they should consider before initiating any external action to acquire the target company. The Board also wants you to include in the report your opinion on the potential RoE for the combined entity.
Prepare the required report (8)

(c) (ii) You have estimated the expected real cash flows [i.e., before adjustment for inflation] from the acquisition referred to above to be as follows:

Year	End of Year Cash Flow in millions of Rupees (without Inflation)
1	7,200
2	10,800
3	10,800
4	14,400
5 to infinity (for each year)	18,000

The risk free real rate of return is 4% pa and the risk free nominal rate of return is 8.25% pa. The nominal rate of return on market is 12.5%. The published beta of the equity stock of Set Airlines is 0.8125.
A. Calculate the nominal and real cost of capital of Set Airlines
B. Calculate the net present value of the cash flows from the acquisition (6)

(c) (iii) Briefly discuss the reasons as to why the actual price paid for the acquisition may differ from the net present value of the cash flows calculated in (c) (ii) (2)

[35]

Q.2 Prime Properties Ltd., (PP) is a large multinational property company which owns and manages a portfolio comprising of all types of non- residential properties located in Europe and Japan. PP's current market capitalization is approximately USD 2,500 million. The outstanding debt is currently approximately USD 1,250 million made up of unsecured bank loans and USD denominated unsecured corporate bonds. These bonds are currently rated as BBB by S&P (Standard and Poor). The Company now wishes to raise USD 1,250 million by either raising new equity or by securitizing some of its existing prime property assets. These proceeds will be used primarily to purchase more industrial properties in Europe.

The following additional information is available

- The company's current equity and bond investor base is made up solely of US Institutional Investors
- The expected return on equity is 13% pa
- The average cost of existing debt is 10% pa and expected cost of new term debt is 7% pa
- The bonds issued from the securitization will be USD denominated fixed rate bonds rated AAA by S&P.

You have been appointed by the Board of Directors of PP as the Financial Advisor to advise them on raising the new capital

(a) Describe using appropriate calculations, the impact of each transaction on the capital structure of the company and suggest an appropriate dividend policy following each transaction (10)

(b) Discuss the impact of each transaction on the equity and debt holders of the company and suggest actions that the company may need to take as a consequence. (10)

(c) Discuss the market risks if any, that are embedded in these transactions and recommend hedging strategies that the company should consider in addressing these risks. Briefly comment on the likely effectiveness of these hedges. (10)

[30]

Q.3 Roadsal Limited is a public limited company engaged in the business of constructing roads. Currently this company is considering involvement in a motorway project. The company can either commit itself as the road builder for the entire length of the motorway or commit itself to build the first 40 kilometers only with further contracts being signed at a later date.

You are a consulting actuary specializing in wider fields; and you have been appointed as a financial consultant for this project. You find from the investment submission related to this project that the NPV of this project is alarmingly low and that the IRR of this project is below the normal hurdle rate used by the company – regardless of which route the company decides to adopt.

(a) Briefly discuss the four types of real options that can be embedded in such projects and identify two specific examples that can be embedded in this particular project. Also discuss the methods by which such options can be valued and how their value may enhance the NPV of a project and increase its IRR (10)

Roadsal has got involved in the project described above; and has joined the consortium of similar companies engaged in this project.

You observe that Roadsal has no clear project management process applied to such projects and most projects till date have been managed on an individual basis in a manner that the individual project manager deems fit. You strongly believe that Roadsal can manage such projects better by putting in place the RAMP process.

(b) Draft a report to the Chief Executive Officer of Roadsal explaining the stages of the RAMP process; and how it could be used to improve the project management process. (25)

[25 marks including 3 marks for drafting]

[35]

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