

INSTITUTE OF ACTUARIES OF INDIA

EXAMINATIONS

16th November 2011

Subject SA5 – Finance

Time allowed: Three hours (9.45* - 13.00 Hrs)

Total Marks: 100

INSTRUCTIONS TO THE CANDIDATES

1. *Please read the instructions on the front page of answer booklet and instructions to examinees sent along with hall ticket carefully and follow without exception*
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 answer sheet until instructed to do so by the supervisor*
4. *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.*
5. *Attempt all questions, beginning your answer to each question on a separate sheet.*
6. *Mark allocations are shown in brackets.*
7. *Please check if you have received complete Question Paper and no page is missing. If so, kindly get new set of Question Paper from the Invigilator.*

AT THE END OF THE EXAMINATION

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

Q. 1) The world economy has been continuously experiencing an ongoing recession since 2008. The Federal Reserve of USA has been maintaining very low interest rates in order to stimulate the US as well as world economies considering the fact that the US economy continues to have a significant influence on world economy.

The Indian Economy has been experiencing fair amount of GDP growth in the recent years and has been concomitantly experiencing high level of inflation. The Reserve Bank of India (RBI) has been increasing the short term interest rates in order to tame the inflation and thereby mitigate the short-term and long term adverse implications associated with high inflation rates.

- a) In view of the continuing global recession and low interest rates across the globe, describe two alternative policy responses which RBI could formulate with appropriate rationale for each of the two responses. (4)
- b) Outline the key advantages and disadvantages for each of the policy responses described above. (6)
- c) State with reasons which policy response will you recommend. (2)

XYZ Bank is a leading commercial bank in the country with significant exposures to the domestic commercial and individual mortgage markets.

The following table contains selected items from the balance sheet of this bank as on 31st March, 2011:

Description	Amount [In crores of Indian Rupees]
Equity	1,500
Preferred Equity	50
Cash Balances	800
T-Bills	150
Individual Mortgage Loans with a residual maturity exceeding 10 years	5,000
Commercial Loans with an investment grade rating	15,000
Credit Derivatives	250
Interest Rate Futures Contracts	300
Letters of Credit and Letters of Guaranty	2,700

The risk weights for the different asset categories are provided in the following table:

Description	Risk Weight age (%)
Default Risk – Free Assets with a residual maturity of one year	0%
Mortgage Loans	50%
Commercial Loans with a minimum investment grade rating	50%
Other Commercial Loans	100%
Credit Derivatives	100%
All types of Interest Rate Derivatives	100%
Letters of Credit and Guaranty	100%

In view of the continuing recession and growing defaults worldwide, one of the Board members wants to know how the Bank manages credit risk, Off-balance sheet items and the level of compliance with the Basel II capital requirements. You are the Chief Risk Officer of the Bank and you have been asked to write a detailed report covering the above aspects. As part of the report

- d) Briefly describe the key factors the bank would consider before granting a loan. (6)
- e) What is meant by “Off-balance sheet items” and why bank do have them? (3)
- f) Given the balance sheet items and the risk weight ages listed in the above tables, compute the risk weighted assets and the Capital Adequacy Ratio of the Bank. State assumptions, if any. (3)

The Bank has decided to increase its exposure to the individual mortgage portfolio. In order to generate the funds necessary for this purpose the bank is contemplating to securitize part of the existing mortgage loans portfolio. It has approached the life insurance companies to elicit their interest in these securities.

- g) As the Chief Investment Officer [CIO] of a life insurance company with a large traditional [non-linked] product portfolio, explain the factors you would consider before investing in these securities? (5)
- h) As the CIO, what suggestions will you make to the bank for structuring these securities? (4)
- i) As the CIO, you are concerned with the pre-payment risk of the mortgages when the interest rates fall and you have asked the Bank to share a note on how they model the pre-payment risk. Describe the modeling process which the bank can use to value the pre-payment risks? (7)

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Q. 2) You are hired as a consultant to the board of directors of Info Technologies Ltd. (ITL). The new Chairman of the board of ITL is an experienced banker and he has sought your advice on several aspects of the financial management practices currently adopted by this company.

Traditionally the company has been managing its foreign currency exposures by engaging in foreign currency forward contracts in Indian Rupee (INR). However over the past 6 months ITL has been losing money on these positions as the INR has continued to depreciate against the dollar. While this was happening, the finance department has also increased the number of forward contracts they have engaged in each month by 30%.

- a) For the purpose of evaluating the effectiveness of the current hedging policy, list the questions will you ask - both of the sales division and of the finance division- to evaluate and recommend any changes? (5)
- b) Critically evaluate the current hedging policy of the company. (5)

The Chairman of the Board also wants you to evaluate the current capital structure of ITL. The company has never used financial leverage in its capital structure to lower the WACC. The Chairman believes that by borrowing and by making a buy-back or paying higher dividends, he can enhance value for the share holders and reduce the cost of capital.

- c) Comment on the existing capital structure policy adopted by the company. (5)
- d) Discuss the implications of buy-back against dividend payout approach. (5)
- e) Comment on the value creation possibility under the Modigliani and Miller [MM] framework. (5)
- f) Comment on value creation possibility if we dilute the assumptions underlying MM framework. (5)
- g) Assume that the Chairman's line of thinking is adopted by the company. Discuss the implications for appraising new projects. (5)
- h) Prepare a short memo for the new CEO giving your recommendations regarding changes in the current capital structure. (5)

ITL has been holding large cash reserves so that it can acquire either new technologies or companies when any opportunity arises. Recently shareholders suggested that this amount should be distributed.

- i) Discuss the implications of such a proposal. (5)

ITL is well known among the investment analysts for corporate governance and shareholder value creation. The board is now wants to transform ITL from software major to be a professional services firm providing a wide range of services.

- j) Outline the challenges that would be faced in the process of such transformation and design a framework which can be followed by the board for implementing the proposed transformation. (15)

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