INSTITUTE OF ACTUARIES OF INDIA

EXAMINATIONS

03rd May 2016

Subject SA5 – Finance

Time allowed: Three hours (14.45* - 18.00 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 you are required 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 is 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 candidate 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) A large multinational financial services company 'Googly' headquartered in New York operates multiple lines of business - Life Insurance, General Insurance, Retail Banking and Commercial Banking-in 50 countries including U.S.A., Japan and France which are its three major markets. Googly has identified India as the largest emerging market for expanding its business. Googly intends to invest five billion US dollars to gain a foothold and expand its operations in India over the next 3 years.

i) Give brief descriptions of the economies of the following countries:

a) The United States of America (3)

b) Japan (3)

c) Also, contrast the above economies with the Indian economy; and discuss the drivers that makes India an important market for Insurance and Banking. (6)

ii) What are the different methods available for Googly to invest in the Banking and Insurance sectors in India? (5)

The group CFO [Chief Financial Officer] is currently involved in the process of implementing Solvency II and BASEL II frame-works in countries where these frameworks are applicable. In this context, he wants to understand the key proposals under BASEL III and have a road map in place for implementing BASEL III.

iii) Briefly describe the key proposals under BASEL III. (6)

iv) Discuss the changes that a bank may have to make to its business profile, risk management processes and information systems, as a consequence of implementing BASEL III proposals. (7)

Having taken the decision to invest in the Indian insurance sector, the CFO wants to understand the current solvency margin requirements and the risk based capital requirements applicable to insurance companies in India.

v) Outline the current solvency margin requirements applicable to Indian Insurance Companies. (3)

vi) Briefly discuss the economic capital requirements mandated by the IRDA (Insurance Regulatory and Development Authority) for Indian insurance companies with particular reference to the risks covered and the approach to be used for estimating the economic capital for these risks. (5)

Note:

1. Your answers to (v) and (vi) can be with reference to either life insurance companies or general insurance companies.

2. You are not required to provide a detailed explanation of the methods/formulae for calculating the economic capital for each source of risk.

vii) Outline the important differences between the economic capital framework proposed by IRDA and the Solvency II framework. (4)

Googly has acquired a 25% equity stake in a leading Indian life insurance company and a 30% equity stake in a large listed public sector bank in India. Googly has acquired the equity stake in the life insurance company by paying three times the embedded value per share. It has acquired the equity stake in the bank by paying four times the book value of its "banking book" per share. Equity analysts and financial market commentators have commented that Googly has acquired these stakes by paying a price which is significantly higher than the intrinsic worth of the shares of these entities.

viii) Discuss the limitations of the valuation approaches used by Googly for valuing the shares of the insurance company and the bank. (6)

ix) Outline the possible reasons [other than the limitations of the valuation approaches] for the views expressed by the equity analysts and the financial market commentators. (3)

The Group CFO is also concerned about the impact of negative interest rate phenomenon observed in some of the European countries like Switzerland where Googly has retail banking subsidiaries.

x) Define the term "Negative Interest Rate Policy"; and explain why the central bank of a country may want to pursue a negative interest rate policy. (5)

xi) Discuss the impact of a negative interest rate policy on the profitability of a retail bank. (4)

[60]

Q. 2) A large infrastructure company XYZ Ltd., has been operating in the country for a long period of time having interests in road, railways & airport sectors. The company has currently 3:1 debt equity ratio with a paid-up capital of Rs. 5000 Cr. The Company has recently bid for a major project of expanding a 4- lane highway into a 6-lane highway on a Build, Operate & Transfer (BOT) basis under the Public Private Partnership (PPP) policy of the Government. The bid amount is estimated to be about Rs. 5000 Cr. The company will have rights to collect toll for 30 years after which it has to transfer the assets to the Government at a residual value of 10% of the bid amount. The project is to be executed over a 2 year period of time. The Company is considering various funding options. One of the management team members commented that he heard that the source of capital had no impact on the market value of a company.

i) In this context explain the Modigliani & Miller {MM} proposition stating clearly the assumptions under which the proposition is valid? (5)

ii) Why in practice the MM proposition may not hold good? (3)

iii) Describe briefly the key features of PPP. (4)

iv) List the information you would require to assess the viability of the project. (6)

v) Describe the key risks to the project. Using the RAMP framework, explain how you will assess and manage the risks associated with the project? (10)

The CFO is required to recommend to the board the alternative financing options for financing the project. He has asked you to prepare a brief report on funding options. The CFO has indicated the hurdle rate as 16%.

vi) Evaluate the financing options for the project and recommend a funding plan which can be appropriate for this project. (12)

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