INSTITUTE OF ACTUARIES OF INDIA

EXAMINATIONS

12th May, 2015

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 mid-sized life insurance company ABC Ltd is promoted by a bank in a developing country. The country has a reasonable regulatory framework that governs the financial services sector.

ABC Limited sells a wide range of products covering the unit-linked, traditional participating and non-participating segments. The Company has assets of more than Rs. 20,000 Cr comprising about Rs. 12,000 Cr under Unit Linked, Rs. 5,000 Cr under With Profits Participating segment, Rs. 2,000 Cr under Non-Participating segment and balance as free assets. The current solvency ratio is about 200%. The regulatory minimum solvency ratio requirement is to maintain a solvency ratio of at least 150%. The investment regulations broadly prescribe that the non-linked assets should be invested in the following manner:

Government & Government backed securities -50%, infrastructure bonds -15%, other approved investments including equities -35%.

The With Profits participating policyholders are entitled for 90% of the profits arising under their portfolio. The assets are segregated for Unit-linked, With Profits Participating and non-participating segments.

You may assume that the currently all equity investments are treated as approved investments.

The regulatory regime has prescribed that the life insurance companies should have strong governing mechanisms and has prescribed that the Board should have at least Committees for Asset Liability Management (ALM), Investments, With-Profits (WP) and Audit. The regulator has also prescribed that the WP and Audit Committees should be headed by Independent Directors of the Board. Further the WP Committee is mandated to have an independent actuary as one of the members.

i) Describe the key roles & responsibilities of ALM and WP Committees (12)

The Company currently invests all the non-linked assets in fixed income securities. One of the Directors on the Investment Committee has queried as to why the company had no investments from this business segment in equities given the fact that equities are expected to provide better returns than fixed income securities in the long term. She has suggested that at least 5-10% of assets should be invested in equities. The Chief Investment Officer has been asked to make a recommendation to the Investment Committee for considering the shift of investments into equities from this segment

ii) Describe the key points you would make in your report to the Investment committee (8)

A Board member of the parent company [the Bank] has enquired how the life insurance company's value needs to be assessed as he has been hearing that the valuation of Life Insurance Company is different from that of a typical manufacturing company.

iii) You are requested to provide a report on the methodology of valuing the life insurance company. Briefly mention the key points you would make in your report in a simple language covering the methodology and the key factors/inputs you would consider in such valuation. (15)

[35]

Q. 2) The financial sector regulator of a fast-growing economy, Atlantia, is revisiting its role in the regulation of the banking and insurance sector. To this end, the Central Bank of Atlantia has engaged you, a financial consultant, to provide a benchmarking of the regulatory environment across nations and recommend the best fit for Atlantia's economy.

i) Explain the terms "principles based regulation" and "prescriptive regulation", and discuss the advantages/disadvantages of each system. (7)

As part of your engagement, you are required to harmonize the risk capital regulations that govern Atlantia's banks and insurance firms. The key risk capital regulations that govern risk capital requirements for banks and insurance firms are modelled on the lines of Basel II and Solvency II respectively.

ii) Summarize Solvency II regulations from the perspectives of:

a) Risk assessment
b) Capital computation
c) Stress testing
d) Regulatory reporting
e) Market disclosures (15)

iii) Evaluate with reasoning the similarities and differences between Basel II and Solvency II regulations basis the summary you have provided above (4)

iv) Explain the drawbacks of the Basel II framework, which necessitated the Basel III regulatory framework. (4)

[30]

Q. 3) Visionary Limited is a large business conglomerate which holds a 20% equity investment in Taurus Banking Solutions Limited and also owns 100% of the unsecured 12% debentures issued by Taurus. Both the companies are listed on the National Stock Exchange of India [NSEI].

Taurus is involved in selling "off the shelf" banking software solutions to small and medium sized banks. Taurus also provides software maintenance and upgrading support to its customers. Recently Taurus has embarked on a software development project for developing an advanced banking software to meet the regulatory reporting requirements under Basel II and III. The capital and operating costs of this project has drained the company of cash. Although significant profits are likely to emerge from the sale of this new software in the coming years, Taurus is currently facing a situation where without recapitalisation and further infusion of funds, it cannot survive.

i) The Finance Director of Taurus has recommended that the company need not pay any dividends to the shareholders for the next three to five years and thereby conserve the limited cash resources. Explain the theoretical rationale underlying this suggestion and briefly discuss the factors that will influence the dividend policy of the company. (7)

Visionary Limited is contemplating to acquire 100% of the equity of Taurus and thereafter infuse necessary funds to revive Taurus.

ii) Discuss the possible reasons as to why Visionary Limited might be considering the acquisition of Taurus. (6)

iii) Briefly discuss the steps involved in this acquisition process including the legal, accounting and tax issues which may impact this acquisition. (12)

Visionary Limited also wants to determine the value of its unsecured debenture holding in Taurus.

iv) Explain how an option pricing model can be used for the purpose of this valuation and list all the underlying assumptions. (10)

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