

# INSTITUTE OF ACTUARIES OF INDIA

## EXAMINATIONS

26<sup>th</sup> November 2019

**Subject SA7 – Investment and Finance**

**Time allowed: 3 Hours 15 Minutes (14.45 - 18.00 Hours)**

**Total Marks: 100**

### INSTRUCTIONS TO THE CANDIDATES

1. *Please read the instructions inside the cover page of answer booklet and instructions to examinees sent along with hall ticket carefully and follow without exception.*
2. *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.*
3. *Attempt all questions, beginning your answer to each question on a separate sheet.*
4. *Mark allocations are shown in brackets.*
5. *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. You are not allowed to carry the question paper in any form with you.

- Q. 1)** You are an investment consultant to a large university having a fund of close to USD 100 billion, has managed its investments using its internal resources thus far. The stated primary objective of the fund is to ensure that the university will have the financial resources to maintain its leading position in its market and contribute to society with first class teaching, research and innovation for future generations.

The university is a strong believer in the ability to increase investment returns through active management, promotion of good corporate governance and high social and environmental standards. The fund at present uses a hybrid model of in-house and external fund managers.

The primary source of income for the fund is donations. The fund is growing due to donations and investment income being in excess of current expenditure.

- i)** Describe the influence of the cash flow position of the fund on the investment strategy. (6)
- ii)** Discuss the characteristics of a benchmark which may be suitable for the fund, given its primary objective. (8)
- iii)** Describe the active management styles “value” and “momentum”. (4)

The fund is considering an investment in infrastructure equity. You are asked to comment on the advantages and disadvantages of managing this in-house compared to using an external fund manager.

- iv)** Outline pros and cons of managing the infrastructure investments in-house. (10)

The Board of the university is considering potential agency issues between the University and the internal investment team.

- v)** Describe the agency issues between the university and the internal investment team. (8)
- vi)** Suggest how these agency issues could be mitigated. (6)

**[42]**

- Q. 2)** You are an investment advisor. You get a new client who is 43 years old, Mumbai based HR professional. He has steered clear of equity investment for the first decade after he started earning. Instead he invested in what he considers tried and tested “fixed deposit” and “Public Provident Fund”. He says “I have seen my parents rely on this, so I followed same. Also, I don’t understand how the stock market works. It seems to me that it just keeps going up and coming down”.

- i)** Describe 6 behavioural bias that has influenced his choices. (9)
- ii)** You have suggested the following product to him.

It’s a retail investment product issued by a well-known institution which guarantees a fixed 2% over a 5-year period provided NIFTY is at or above its current level at the end of the period. If the index falls below the current level, the investor will receive the return on the index over the 5-yr period.

Analyze this product from the investor perspective and include the likely underlying debt, equity or derivative positions that the institution will be combined to achieve the guaranteed return.

(4)

**[13]**

**Q. 3)** You are the CIO of a large Pension fund. The trustees have asked you to revisit the investment policy specifically to include an objective towards Environmental, Social and Governance (ESG).

**i)** Explain in simple words what does it mean to include an objective towards ESG? Include in your explanation the impact it may have on portfolio return. (4)

**ii)** List the 4 critical questions to the trustees before putting together the policy? (2)

**iii)** In your report to them you have included example approaches to ESG like positive screening and negative screening. Explain what do these terms mean? (4)

The trustees are interested in gaining an exposure to private equity, but have read about the significant risk that is associated with such investment.

**iv)** Suggest an option strategy that would reduce the riskiness of the equity-based investments and discuss the problems you may encounter in trying to apply it to the fund's equity exposure. (8)

The fund has a target investment in alternate investments of 15%.

You have received 2 proposals

**v)** First proposal has come to the fund to invest in a solar farm as a 30% partner, alongside their 30% shareholding. The other 40% will be from a manufacturing company who will supply the components of the solar panels. Shareholders will have to upfront 50% development capital and rest will be bank loan amortized for 15 years. This proposal will match exactly 15% of the fund's alternate investment target.

Outline the process that should be followed to establish whether the investment is appropriate for the fund. (12)

**vi)** There is online classified portal Faster.com which was incepted 3 years back. This portal has classified ads cutting across real estate to automobiles. It's a platform for buyers and sellers to meet. They have been invested into by HNI's and one PE firm. Their business plan outlays an ambitious plan to have several other verticals like housing, life insurance, matrimonial and expansion pan-India. They have approached the fund for a 25% dilution.

Evaluate the merits and challenges of this second proposal? This would amount to 1% of the fund's alternate investment exposure. (5)

**vii)** The pension scheme is exposed to duration risk in that the duration of its asset portfolio is shorter than the duration of its liabilities. It is trying to increase its interest rate exposure for LDI / matching purposes and is considering three ways of achieving this:

- 1) To add a portfolio of pay floating / receive fixed swaps to the existing portfolio.
- 2) Investing more heavily in longer-dated gilts.
- 3) Buying a large futures position in the long gilt future.

Discuss the main advantages and disadvantages of the three options. (10)

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