Institute of Actuaries of India

R Programming for Actuarial Science

A practical 40-hour online programme that builds statistical programming skills in R, progressing from the fundamentals of the language to simulation and actuarial applications.

Online, interactive | **40 hours** | **9 January to 20 March 2027** | **Open to all who have completed Class XII**

Why this programme matters

Analysing and interpreting data is now an essential professional competency. R is an open-source language designed for statistical computing, modelling and visualisation. This programme focuses on understanding concepts and applying them, rather than memorising commands, and shows how R addresses practical actuarial problems such as claim modelling and risk analysis.

What participants will be able to do

Work with data
Import, clean, filter and summarise data using vectors, data frames and lists.

Perform statistical analysis
Apply probability, distributions, inference, regression and generalised linear models.

Create visualisations
Build histograms, box plots and scatter plots, including with ggplot2.

Develop analytical solutions
Write functions and simulations and apply them to risk measures.

Curriculum highlights

Foundations of R	R and RStudio, data structures, control logic, user-defined functions and the apply family.
Data management and visualisation	Data cleaning, descriptive statistics, ggplot2, correlation analysis.
Probability and statistical modelling	Random variables, 15 probability distributions in R, hypothesis testing, Bayesian inference, regression and GLMs.
Simulation and actuarial applications	Monte Carlo methods, frequency and severity simulation, aggregate claims, Value at Risk and an actuarial case study.



Dr Raju Narayanan
Professor of Statistics (retired), University of Calicut

Ph.D. (Statistics), University of Calicut

Resource person for over 100 workshops and training programmes, including R programming

Independent Examiner, Institute of Actuaries of India

Programme details

Mode
Online, interactive

Duration
40 hours: 20 two-hour sessions, plus a final assessment

Schedule
Saturdays and Sundays, 11:00 am to 1:00 pm IST

Eligibility
Completed Grade 12 (Class XII)

Certification
Certificate of Completion on meeting the final assessment requirement

Fee

Individual participants		**₹4,500** + 18% GST
Group registration	Groups of five or more, per participant	**₹3,000** + 18% GST

How to register

Registration opens 25 November 2026 and closes 5 January 2027.

For IAI members

1. Log in to the IAI portal.
2. Click the **Learning** tab at the top.
3. Click the **Learning** tab in the left-hand bar.
4. Click the **Training** tab.

For non-members

Register using the online registration form. **Online registration**

Online registration link (to copy and paste, if required):
https://member.actuariesindia.org/learning/Non_member/Register

Contact communications@actuariesindia.org +91 22 6243 3333 **www.actuariesindia.org**

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