Institute of Actuaries of India

Subject
CA2 – Model Documentation Analysis and Reporting

For 2017 Examinations

Aim

The aim of this subject is to ensure that the successful candidate can model data, document the work (including maintaining an audit trail for a fellow student and senior actuary), analyse the methods used and outputs generated and communicate to a senior actuary the approach, results and conclusions.

Subject CA2 – Model Documentation, Analysis and Reporting requires the student to undertake two practical modelling assignments.

Objectives I and II will be examined mainly in paper one of the exam; objectives III, IV and V will be examined mainly in paper two of the exam.

Links to other subjects

The models can be based on any of the Core Technical subjects CT1–CT8 and this subject also uses the principles in Subject CA1 – Actuarial Risk Management and some features of the communications development in Subject CA3 – Communications.

Previous related study

There are no eligibility requirements for CA2. However, in view of the links above, a student may prefer to wait until he or she has studied for CT1–CT8, CA1 and CA3.

The student needs a working knowledge of spreadsheets and word processing packages.

Objectives

The successful candidate will be able to demonstrate:

I Analysis of data

- (a) Summarise data using appropriate analysis, descriptive statistics and graphical representation.
- (b) Select and carry out appropriate statistical tests of reasonableness.
- (c) Make appropriate assumptions about the data provided.
- (d) Repair corrupt or missing data.

II Development of a model with clear documentation (including an audit trail for a fellow student and senior actuary)

(a) Plan and produce a spreadsheet model to solve a specified problem.

(b) Document the results of the model including justification of key assumptions, detailing the methodology adopted, an appropriate level of reasonableness checks, sensitivities, and limitations.

(c) Produce an audit trail enabling detailed checking and high-level scrutiny of the model by both audiences.

III Ability to analyse the methods used and the model's outputs

(a) Perform checks on the results of a model, including applying sensitivity and/or scenario tests.

(b) Comment on the reasonableness of the results under different scenarios.

IV Ability to apply and interpret the results

(a) Apply the results to the problem set, suggesting solutions.
(b) Summarise the results using appropriate charts and tables.
(c) Consider possible next steps.

V Communication of the approach, results and conclusions to a senior actuary

(a) Plan and draft a summary document to cover the data, approach, assumptions, results, conclusions and suggested next steps.

END OF SYLLABUS