Online Certification Program
On
Prediction Modelling for Business Analytics Using Python

Program Dates: 21-23 and 28-30 November 2025 (Total 6 days)

Class Timing: **9:30 hrs - 17:30 hrs**

MCQ Test: 7th December 2025 (Sunday) from 2:00 p.m. to 4:00 p.m.

Last date of Registration: 10th November 2025

Conducted by:
SQC & OR Unit, Mumbai
Indian Statistical Institute,
Room No 320, 3rd Floor Old C G O Building
101 Maharshi Karve Road, Mumbai 400 020:
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Introduction:

Predictive modelling focuses on establishing mathematical or logical relationships between a response variable and various explanatory variables. These models are essential for understanding data, making informed predictions with a defined level of confidence, and supporting effective business decision-making. As a cornerstone of the rapidly growing field of data analytics, predictive modelling offers exciting opportunities for insight and innovation. Success in this area requires the ability to select appropriate datasets, algorithms, techniques, and formats tailored to specific business problems. This program is designed to equip participants with foundational skills in predictive modelling using relevant statistical and machine learning techniques.

About Indian Statistical Institute (ISI):

The Indian Statistical Institute is a quasi-central organization under the Ministry of Statistics & Program Implementation (MOSPI). It is declared by an Act of Parliament as an Institute of National Importance. Over the years the Institute has grown as a multi-disciplinary organization. It functions as a university empowered to award degrees upto Ph.D.; as a corporation in undertaking large scale projects; as a Firm of Consultants to industries to improve Quality, Reliability and Efficiency and as a Meeting place

Programme Objectives:

This program is designed to:
- **Introduce participants to key statistical and machine learning techniques** used in predictive modelling.
- **Provide hands-on experience** through practical sessions using open-source software, specifically **Python**.
- **Equip professionals with the ability to extract hidden, valuable insights** from large and complex datasets.
- **Enable participants to apply predictive analytics** to real-world problems with confidence and clarity.
- **Build foundational skills for data-driven decision-making** across various industry domains.

Program Benefits:

On completion of the course, the participants will be able to
- Develop predictive models using various statistical and machine learning techniques
- Interpret and evaluate various models and its generalization
- Hands on experience on the usage of open-source packages like R Studio and Python

Course Contents:

- Introduction to Business Analytics and Model Based Learning
- Understanding Variables, Summary Measures, Exploring Relationships between Variables using Summary Measures and Visualization Techniques
- Estimation of parameters and hypothesis testing (t-test/chi-square/proportion).
- Introduction to Python
- Basics of Data Collection and Cleaning including Missing Data Handling.
- Prediction model using statistical techniques and Machine Learning Algorithm
- Type of model i.e., value estimation, classification & risk analysis and association.

- Unsupervised Learning – Clustering; Market Basket Analysis
- Supervised Learning – ANOVA, ANCOVA, Multiple Linear Regression, Logistic Regression, Discriminant Analysis, Naive Bayes' Classifier, Tree Based Methods, Bagging, Boosting, Random Forest, Support Vector Machines (SVM) and Neural Networks (ANN)
- Concepts of overfitting, model tuning, regularization, resampling and cross validation and their usage in the context of prediction model.
- Forecasting Models including ARIMA.

Assessment and Certification:
- At the end of the training, a **Multiple Choice Question (MCQ)-based assessment** will be conducted on **Sunday, 7th December 2025**, from **2:00 p.m. to 4:00 p.m.**

- Participants must secure a **minimum of 60%** to pass the examination.

- Candidates who do not pass will be allowed to **reappear for the test at no additional cost**.
- **Certificates** will be awarded to participants who qualify, based on their performance in the assessment.

Target Participants:
- **Professionals working in analytics** or those with an interest in applying statistical and machine learning methods for **process modelling and data-driven decision-making**.
- Participants with **basic knowledge of statistical techniques** will benefit the most, although it is not a strict prerequisite.

Faculty:
The program will be conducted by **experienced faculty members from the SQC & OR Division**, who possess **deep expertise in data analysis** and its **practical application across a wide range of industries**.

Course Fee:
- INR 12,000 per participant + 18% GST (INR 14160/-)
- Rs. 12000 + 18 % Tax as per Govt. Rules. Total fees: Rs.14160/- per participant. Fees to be paid through internet banking. The bank details for on-line payment are given below:

–	Bank Name:	STATE BANK OF INDIA
–	Account Name:	Indian Statistical Institute,
–	Account Type:	**Current**
–	Bank Account No:	10996682279
–	Branch:	MUMBAI MAIN BRANCH
–	Bank Address:	Mumbai Samachar Marg, Horniman Circle, Fort. Mumbai 400023
–	IFSC code:	SBIN0000300

Note: Fees Will be fully refunded if ISI cancels the program only.

Registration:

Registrations are purely on a '**first come, first-allotted**' basis. Participants must enquire (mobile no. 9869242240 / 9969928144) for the seat availability before the registration. Registration should be done **online** through the "**Register Now**" option available on the home page of our site www.isimum.ac.in . A confirmation mail will be sent after receiving the **filled-in online registration form** and **course fees**.

Important Dates:

Last date of submission of nominations: **10th November 2025**
Program dates: **21-23 and 28-30 November 2025**
Timing: **9:30 hrs - 17:30 hrs**
Venue: Online
MCQ Test: Sunday, 7th December 2025 from 2:00 p.m. to 4:00 p.m.

The sessions will be hosted on an online platform—either Microsoft Teams or Zoom—based on suitability and convenience.