



**INDIAN STATISTICAL INSTITUTE
SQC & OR UNIT
CHENNAI**

Announces

**TRAINING PROGRAM ON
STATISTICAL TECHNIQUES FOR
SIX SIGMA BLACK BELT AND DATA ANALYTICS**

25 OCTOBER 2025 ONWARDS

Indian Statistical Institute,

**110 (New No. 37), Nelson Manickam Road,
Aminjikarai, Chennai – 600 029.**

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surajit@isichennai.res.in,

sampangi@isichennai.res.in

VENUE AND TIMINGS:

The Sessions shall be held from 25th October 2025 onwards on week-ends during 10:00 hrs to 05:30 hrs, at the Indian Statistical Institute, 37, Nelson Manickam Road, Aminjikarai, Chennai – 600 029. Classes will be held in **off-line mode** only.

PROGRAM DURATION : 20 Days (25 October 2025 – February 2026)

FACULTY:

Dr. D. Sampangi Raman, Dr. Surajit Pal, Dr. K. Sudeesh

WHO CAN ATTEND:

Degree holder in Science/Engineering/Technology with basic knowledge of Mathematics, Statistics, and preferably with work experience.

CERTIFICATION CRITERIA:

Qualifying certificate would be obtained by securing 60% marks in the periodic tests conducted during the training program. The Phase I certificate is for successful completion of training requirements. Phase II certificate will be issued only after successful completion of a project carried out in his/her own organization.

THE TRAINING SESSION TOPICS:

Overview of Six Sigma Methodology, Identification, Prioritization and selection of Improvement opportunities, Roles and responsibilities in Six Sigma implementation. Overview of Six Sigma Project execution (DMAIC or DFSS/DMADV) (Define- Measure- Analyze- Improve- Control or Design for Six Sigma/Define- Measure- Analyze- Design and Validate, Development of Project Team and Charter, Define and Map Processes to be improved (SIPOC - Supplier, Input, Process, Output, Customer), Identification of Critical To Quality / Critical To Business (CTQ/CTB) characteristics.

Types of data, understanding variation - special causes vs. common causes through dot plots, box plots, histogram and control charts, Stratification methods, Pareto, Bar Diagrams, etc. FMEA, Measurement System Evaluation (Gauge R&R) for variables as well as attribute data, Evaluation of Process Capability Indices and Sigma level. Introduction to statistical software packages for data display and analysis,

Activity flow chart, identification of Value-added and Non-value-added activities (Lean Sigma), Organizing for potential causes using Cause and effect diagram. Solutions for process improvement. Process monitoring using Control Charts, comparison of results after implementation of the solutions, institutionalization and integration of the solutions, closing of the project.

Statistical Tools : Basic Concepts of Probability, Continuous and Discrete Distributions, Sampling Distributions, Hypothesis Testing, ANOVA. Model building using Multiple Linear Regression, Polynomial Regression, Logistic and Poisson Regression. Experimentation including Orthogonal Arrays, Control Charts, Contingency Tables.

Machine Learning Tools: Supervised and Unsupervised Learning, KNN, Decision Trees, Random Forest, Boosting, Clustering, PCA, Neural Networks.

PARTICIPATION FEE:

INR 60,000/- per participant plus GST 18%, as applicable.

- NOTE:**
1. Participation Fee includes Course Manual, Lunch & Refreshments, and Course Kit.
 2. Total fees to be paid in full along with the application by demand draft favoring INDIAN STATISTICAL INSTITUTE payable at Chennai or by fund transfer. The details are

Name: Indian Statistical Institute

Account No.: 0972201011759

Bank: Canara Bank

Branch: Shenoy Nagar, Chennai 600030

IFS Code: CNRB0000972

3. For two or more participants from the same organization, the participation fee will be Rs. 55,000/- per participant plus GST, as applicable.

Seats are limited, enrolment on First-Come-First-Served basis

CONTACT:

Program Directors

Dr. Surajit Pal

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INDIAN STATISTICAL INSTITUTE

- The **Indian Statistical Institute** is a quasi central organization under the Ministry of Statistics and Program Implementation. It is declared as an **Institute of National Importance** by an **Act of Parliament**.

For further details, please visit website www.isical.ac.in

About ISI Chennai Centre, please visit website www.isichennai.res.in

Role & Function of SQC & OR DIVISION, ISI

-The **pioneer and leader** in blending **statistical theory with practice** and institutionalizing the **continuous improvement process** into a sustaining system.

-To disseminate the basic concepts and **techniques for Quality Improvement** by organizing Training programs, Workshops and In-house programs.

-To continually develop and improve methodologies through **applied research** efforts to attain International Standards in services provided.

-To provide **solutions to the problems** pertaining to the entire gamut of complex Business Decision Processes with the aid of **Statistics and Operations Research**.
