**INDIAN STATISTICAL INSTITUTE**
**SQC & OR Unit**
**Bangalore**

*Announces*

### Certification Program
### for

# Lean Six Sigma Green Belt

*with*

# Python

*(GB - 64 Batch : Online)*

## 10 – 15 June, 2024



## Indian Statistical Institute,
### 8th Mile, Mysore Road,
### Bangalore - 560 059, INDIA

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## INTRODUCTION

- Lean Six Sigma is a data driven process improvement methodology.
- The aim of the program is to provide an overview and understanding of this methodology to the participants, and to equip them with how to deal with problems, so that these people can work as internal resource personnel and assist the Black Belts / Master Black Belt effectively in the organization.
- If Lean Six Sigma has to be natural way we do business, then we must have internal change agents who will take the mantle of creating more change agents inside the organization.
- To seek answers to some of the questions faced by the implementing entities, the Indian Statistical Institute is organizing this program of developing internal change agents by equipping them with necessary skill  of advanced Lean Six Sigma methodology so that these people in turn can execute Lean Six Sigma projects

## PROGRAM HIGHLIGHTS

- This program aims to discuss various phases of Lean Six Sigma (DMAIC) and usage of the same in working on projects.
- Usage of various statistical tools and techniques required for analysis of the potential causes.
- Understanding the need for data based decision making
- Usage of softwares like **Minitab** and **Python** for data analysis
- Discussion of real life case studies

## VENUE AND TIMINGS:

- The Sessions shall be held **ONLINE**
  **10 – 15 June, 2024** *(6 days)*
  **09:30 hrs to 17:30 hrs** *(Extendable),*
  through **Microsoft Teams** **(or any other similar selected platform)**

## FACULTY:

**Specialists from Indian Statistical Institute**

## WHO CAN ATTEND:

- Diploma/Degree holder in any discipline

## CERTIFICATION CRITERIA:

**Qualifying certificate** by
   a) **100% Attendance** in the sessions, **&**
   b) **Securing 70% marks in the test** conducted on the last day of the course.

## The Training Sessions shall include Topics like:

Introduction to Lean Six Sigma Methodology; Identification, Prioritization and Selection of Improvement opportunities, Roles & Responsibilities in Lean Six Sigma implementation, Over view of Lean Six Sigma Project execution - DMAIC (Define- Measure- Analyze- Improve & Control).

Development of Business Cases. Translating the needs of the customer into the specific requirements - Development of Project Team and Charter, Define and Map Processes to be improved (SIPOC); Identification of Critical to Customer (CTC) / Critical to Business (CTB) characteristics.

Data Collection planning, Understanding of Type of Data, Introduction to statistical software packages for data display and analysis, Measurement System Evaluation (Gauge R&R) for variables as well as attribute data, understanding variation - special causes vs. common causes through dot plots, box plots, histogram, Run chart and control charts (Individual, Xbar–R, p, np, c & u), Stratification methods through Pareto, Bar Diagrams, stratified dot plot, etc; Evaluation of Sigma level.

Process Mapping essentials - Activity flow chart, Deployment Flow chart, identification of Value-added and Non-value-added activities, Waste Elimination, Value Stream Mapping (VSM), Organizing for potential causes using Cause and effect diagram, Verification/validation of causes, using work place investigation (GEMBA), Concept of scatter plot, correlation and Regression, and use of the same in validating causes.

Concepts of Test of Hypothesis like 2 Sample t, Chi-Square, ANOVA etc., and use of the same in validating the causes, Concepts of industrial experimentation.

Selection and prioritization of solutions for the validated causes including concept of risk analysis, Developing plan for pilot and full-scale implementation.

Development of the process control plans (PDCA Cycle), Standardization, Poka-Yoke, 5S, Standard Work, Evaluation and monitoring mechanism (Control charts – Individual, Xbar-R, p, np, c, u), comparison of results before after implementation of the solutions, Standard work, institutionalization and integration of the solutions, closing of the project.

## Usage of Python in data analysis

**PARTICIPATION FEE** : **INR 20,000/- per head** (+ 18% Tax)

*(Note: This comes to a **Total of INR 23,600/- with tax**)*

**NOTE:** 1. **Total fees (+ Taxes) to be paid in full along with the application**
*(Refer to Page 2 of Registration Form for details)*.
2. **If there is any change in the Govt. taxes, the balance amount to be adjusted.**
3. **For information on Registration,** refer to Page 2 of the Registration Form.

**Seats are limited. Enrolment on First-Come-First-Served basis.**

**Submission of nomination:  NOT LATER THAN  6th June, 2024**

**Program Director :**

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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 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 up to D.Sc..; 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** of Scientists, Economists and Literary figures from all parts of the world.

❖ For further details, please visit website  **www.isibang.ac.in / www.isical.ac.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 strengthen **national economy** through continual search for excellence in Quality.

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

❖ To develop **highly skilled professionals** capable of self actualization.

❖ To help industries in their efforts to cope up with the growing challenge of global competition through Implementation of quality system based on **ISO-9000 series, ISO-14000, TS-16949-2002 standards, Lean Six Sigma & World Class Manufacturing**.

❖ 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**.