

## Online Training Program on Statistical Process Control (SPC) & Measurement System Analysis (MSA)

**Date : 5th & 6th May 2021; Time: 9:30 AM to 5:30 PM**

### Course Features

Based on AIAG – SPC Manual, Second Edition, 2005. Covers the fundamental of statistical process control, estimation of defect rate, control charts and out of control condition with example and exercises. MSA includes variable and attribute and analysis when MSA results are not achieved

### Course Objectives

Make the participants aware about the basics of statistical process control, with topics around standard deviation, normal distribution, Z-curve, control chart, as prescribed by AIAG, Second Edition 2005 and out of control condition. Understand the fundamentals of MSA and method for conducting variable and attribute MSA. Avoid common mistakes while conducting MSA and be competitive to analyse when GR&R is not achieved.

### Who should attend?

People from departments like design, production, quality, process engineering, supplier development etc.

### Course Contents

#### **SPC**

- ♣ Introduction to statistical Process Control
- ♣ Concept of sigma
- ♣ Six Sigma improvement process
- ♣ Precision and accuracy
- ♣ Concept of variation
- ♣ Mean Median and Mode
- ♣ Histogram
- ♣ Standard Deviation for population and sample
- ♣ Z – Curve and estimation of defect rate
- ♣ Calculation of Cp and Cpk
- ♣ X-bar, R Chart
- ♣ Evaluation of control limits
- ♣ Plotting control chart
- ♣ Out of control condition

#### **MSA**

- ♣ Introduction to measurement System Analysis
- ♣ Accuracy and Precision
- ♣ Sources of variability and uncertainty
- ♣ Concept of number of distinct data category (NDC)
- ♣ Bias, linearity, stability, repeatability, and reproducibility
- ♣ Sample collection for variable MSA
- ♣ Conducting MSA for variable
- ♣ GR&R and NDC
- ♣ X bar and R chart for variable MSA
- ♣ Analysis when %GR&R fails to meet target
- ♣ Analysing attribute MSA
- ♣ Sample Collection for attribute
- ♣ Evaluation of effectiveness, miss rate and false alarm
- ♣ Evaluation of kappa



### Issue of Certificate

Certificate of attendance shall be issued to all the delegates attending entire duration of the course.

**Duration** : 8 Hours including 1 hour break each day

**Registration Fee : Rs. 2,000 + 18 % GST Per Participant**

To know about all our Online Training Programs scan adjacent QR Code

**To Register and Pay : [Click Here](#)**

**Registered & Head Office-**

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**Our user friendly mobile application is developed to provide constant connect with our customers and participants along with hands-on information about the latest offerings of TUV India Training Academy. The app is also apprising the users on diverse service portfolio of TUV India along with latest developments related to our company.**

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- Available on Android- Google Play Store & iOS Apple Store
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