

## INTRODUCTION

Design of Experiments (DOE) is a mathematical approach to find the importance of the input (x) factor on some output (y) factor and Optimize the setting of x factors. Typically involved in the Lean, TQM and at the Improve stage in Six Sigma approach.

DOE is useful in Design, Sales, Production, Logistics, Human Resource and Finance departments. It will identify the most important input factor for Sales volume, Production, Recruitment, Budgeting, Revenues etc. Thus to decide the focus for the relevant input factor like advertisement, Training, Technical parameters in the machine etc.

This workshop is designed in such a way that a person without having any statistical or core mathematical background can also use DOE in the work.

## FOCUS AREAS

### Day 1

- Basic mathematics and statistics relevant to DOE
- Concepts of Factors, Responses & Levels.
- 2-Factor 2-Level (22) and 2k experiments
- Problem Solving with Factorial Experiments - multiple factors at two levels.
- Fractional Factorial Experiments
- Analysis of Data. Establishing Cause & Effect relationships.
- Design of Experimental runs and Measuring Results.
- Affect Plots and their interpretation.
- Concepts of Confounding & Blocking.

### Day 2

- Lurking Variables, their effects and their identification.
- Introduction to Taguchi's implementation of DOE, Loss Function.
- Evaluation of Signal-to-Noise Ratios.
- Concept of Robust Design.
- Implementation of Design & noise arrays for robust design.
- Applications of DOE for Quality, Cost and Business Process Improvement. DOE in Six Sigma Projects.

## KEY TAKE AWAYS

- Accumulate, organize the data and analyze for identifying the key factors and take the relevant decision for better productivity
- Improve productivity and efficiency with the use of Factorial DOE
- Know the Minitab Software for working in DOE

## FEE PER PARTICIPANT (PER LOGIN)

**Rs. 4000/-**

+18% GST

**IMTMA Members/ Micro Companies/ Individuals/  
Educational Institutions / Students/ IMTMA Non  
Members/ Others**

**USD 120/-**

**Overseas Participants**

## FACULTY

Er. Dhananjay M. Apte, Master in Engineering (Mechanical) has 26 years of experience. Presently working as Management & Engineering Consultant, Faculty and the Industry Trainer in Six Sigma, DOE and QC Tools along with Managerial/ Supervisory Effectiveness, Project & Productivity Enhancement skills, Statistical Quality & Process Control (SQC, SPC) and Operations Research. He has conducted more than 100 Training programs and consultancy assignments in the said area.

### For Registration Contact

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