

**QGS Training Institute**  
**Two Days Training Programme on**  
**PRODUCT and PROCESS IMPROVEMENT**  
**Through**  
**DESIGN OF EXPERIMENTS**

**Course outline and objective:**

Customers are placing increased demands on companies for high quality, reliable products in right quantities, at the right time, at the right place, and providing the right functions for the right period of time. The increasing capabilities and functionality of many products are making it more difficult for manufacturers to maintain the quality and reliability.

Traditionally, the organizations try to achieve these by designing the product / process through a **goal post mentality** with focus on permitted **Tolerance and extensive testing**. There is very limited or lack of efforts on optimization and total focus on **exactly on target**. All these result in to less than the desired quality level, high cost of quality, low profitability or a compromise with one or more of the requirements.

**Design of Experiments** are efficient strategies for optimizing a product/ process quality through identification of key variables and studying their effect on output quality using a minimum number of runs.

By understanding and using **DOE**, industrial practitioners (managers, engineers, scientists) will be able to optimize and bring consistency in product/ process quality.

QGS Training Institute Private Limited (**QGS**), an education wing of **Quality Growth Services Pvt Ltd.**, has always been pioneer in assisting industries in elevating the competence of the personnel and promoting Quality Culture among the industries in India and abroad over the decade.

We, pleasantly, take the opportunity to announce an two days training cum workshop on '**DESIGN OF EXPERIMENTS** '

The objective of the course is to equip the participants with the in-sight and total exposure to the concept, requirements and practices of **Design of Experiments**.

**Who should participate?**

- Technical Managers
- Quality Managers
- Production Managers
- S.Q.C/ SPC Team
- Supplier System Development Team
- Quality Engineering ( e.g APQP) Team
- Laboratory Personnel
- Engineers/ Quality Control Executives

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**COURSE CONTENT**

- Quality: Goalpost Mentality
- Introduction to DOE process, Control & Noise factors
- DOE terminologies
- DOE process steps
- Completely Randomized Design- One way ANOVA
- AxB Factorial Design – Two way ANOVA
- $2^k$  Full Factorial Design
- Orthogonal Array Selection and Utilization
- Conducting tests
  - Testing logistics
  - Statistical aspects
  - Attribute vs variable data considerations
- Analysis and Interpretation Methods
  - Main Effect
  - Interaction Effect
  - $Y=f(x)$
- Center point and Blocking
- Fractional Factorial Design