



**Indian<sup>TM</sup>**  
**School of**  
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**Excellence**

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## **SIX SIGMA GREEN BELT COURSE CONTENTS**

### **IMPORTANCE OF SIX SIGMA & RELATED CONCEPTS**

Introduction to Six Sigma & Overview of DMAIC, DMADV  
Basic Quality Concepts  
Seven Basic Quality Control (QC) tools  
Seven New Management & Planning Tools  
Lean Management Overview  
Eight Discipline (8D) Problem Solving

### **CHANGE MANAGEMENT**

Identify resistance to change Implement plan to counter resistance  
Team formation (Team Stages)  
Team Tools  
Stakeholder Management

### **DMAIC**

#### **DEFINE PHASE**

Sources of project ideas (VOC, VOB, VOP)  
Project selection Finalising the CTQ  
Project Charter  
Team Roles and Responsibilities  
Project scoping with SIPOC

#### **MEASURE PHASE**

CTQ Performance characteristics  
Measurement System Analysis (MSA) – Gage R&R  
Process Mapping (with VA/NVA Analysis)

Concept of Yield  
Sampling  
Data types (Continuous & Discrete) & Data collection plan  
Basic Statistics (Measures of Central Tendency, Dispersion & Central Limit Theorem)  
Process Capability Analysis (DPU, DPMO/PPM, Sigma level,  $C_p/C_{pk}$ )  
Concept of Normality

### **ANALYZE PHASE**

Identifying X's using Cause & Effect analysis (Ishikawa diagram)  
Identifying critical X's using Cause & Effect matrix (FDM)  
Hypothesis testing (Null & Alternate, Types of Errors, p value) Relationship between variables (Correlation, Regression, Scatter diagram)  
Test of means, variances, & proportions (t-test, z-test, f-test, Anova test & Chi-square test)  
Finding critical X's using graphical techniques like Pareto analysis, Box plots  
Failure Modes & Effects Analysis – FMEA

### **IMPROVE PHASE**

Idea generation (Brainstorming, Creative Thinking, Benchmarking)  
Comparing Alternative Solutions  
Solution selection tools (Solution Prioritization matrix)  
Introduction to Design of Experiments (DoE) Validation & Implementation of improved process

### **CONTROL PHASE**

Elements in a Process Control Plan  
Statistical process control (variable data charts IMR, Xbar-R & Xbar-S Charts)  
Introduction to Attribute data charts (p, np, c & u charts)  
Mistake Proofing  
Sustaining improvements (creating Control Plan, Documentation)  
RACI matrix  
Project closure

*“ISPE’s Six Sigma Green belt program course contents focus & emphasize on the practical aspects of subject matter (Six Sigma), being directly applicable to real-time situations”.*