



# Six Sigma Black Belt Training

## Achieve Breakthrough Improvements!

### ***QC Services***

Shweta Terraces,  
Flat No. 5 & 6, 2<sup>nd</sup> floor,  
40 / 29 Erandavane,  
Bhonde Colony, Pune – 411004  
Tel: 020 25460598  
Cell : 094235-82408; 094220-80815  
Visit [www.qcserv.com](http://www.qcserv.com)  
Email to - [qcservices@vsnl.com](mailto:qcservices@vsnl.com)

## *Introduction*

---

### **Six Sigma**

Six Sigma is a Top Management driven formal process that uses a variety of business process improvement tools, including Statistical Tools. Variability and variations are a source of loss of productivity, customer dissatisfaction with the product / service, increased cost and delays in delivery. Six Sigma is a customer driven top management led battle against variability and variations of all types using the DMAIC (Define, Measure, Analyze, Improve, and Control) methodology. This standardized approach, if applied throughout the organization, can lead to substantial reduction of variability and variations by creating sensitivity for noticing, analyzing and reducing variability and variations to a predetermined standard for the organization (the Six Sigma scale). It inculcates the approach of economic and innovative solutions by involving all the concerned persons, with appropriate training and teamwork.

### *Six Sigma Black Belt Coaching Details*

---

➤ **Time :**

- This course will be conducted five days every month, for four months, during which period participants are expected to complete a project and pass a four hour 150 questions exam for certification.
- Timing will be from 9.30 a.m. to 5.00 p.m.
- Training will be based on Minitab software.

# Contents of Six Sigma Black Belt Program

---

**Note:** - These contents are based on Body of knowledge by American Society for Quality (ASQ). The same can be customized for any organization

## I. Enterprise-Wide Deployment

- A. Enterprise view
- B. Leadership
- C. Organizational goals and objectives
- D. History of organizational improvement/foundations of six sigma

## II. Business Process Management

- A. Process vs. functional view
- B. Voice of the customer
- C. Business results

## III. Project Management

- A. Project charter and plan
- B. Team leadership
- C. Team dynamics and performance
- D. Change agent
- E. Management and planning Tools

## IV. Six Sigma Improvement Methodology and Tools – *Define*

- A. Project scope
- B. Metrics
- C. Problem statement

## V. Six Sigma Improvement Methodology and Tools – *Measure*

- A. Process analysis and documentation
- B. Probability and statistics
- C. Collecting and summarizing data
- D. Properties and applications of probability distributions
- E. Measurement systems
- F. Analyzing process capability

## VI. Six Sigma Improvement Methodology and Tools – *Analyze*

- A. Exploratory data analysis
- B. Hypothesis testing

# Contents of Six Sigma Black Belt Body of Knowledge for ASQ Examination

---

## VII. Six Sigma Improvement Methodology and Tools – *Improve*

- A. Design of experiments (DOE)
- B. Response surface methodology
- C. Evolutionary operations (EVOP)

## VIII. Six Sigma Improvement Methodology and Tools – *Control*

- A. Statistical process control (SPC)
- B. Advanced statistical process control
- C. Lean tools for control
- D. Measurement system re-analysis

## IX. Lean Enterprise

- A. Lean concepts
- B. Lean tools
- C. Total productive maintenance (TPM)

## X. Design for Six Sigma (DFSS)

- A. Quality function deployment (QFD)
- B. Robust design and process
- C. Failure mode and effects analysis (FMEA)
- D. Design for X (DFX)
- E. Special design tools.