

*Six Sigma Black/**Green** Belt Workshop*

Batch Starting from Saturday 4 May 2019

Workshop designed by Hemant Urdhwareshe

The First

ASQ Certified Six Sigma Master Black Belt in India

and

Author of the book 'Six Sigma for Business Excellence' published by Pearson Education

Faculty Members:

Learn from the
most qualified
and experienced
faculty members



Hemant Urdhwareshe
Fellow of ASQ
ASQ CMBB, CSSBB,
CQE, CMQ/OE, CRE



Yaashwant Mahakal
ASQ CSSBB, CQE,
CMQ/OE, CRE

Course includes
one mock tests
for practice and
one for our
certification

Institute of Quality and Reliability has conducted Six Sigma Black Belt/Green Belt training for companies like Ashok Leyland, General Motors, Tata Motors, Suzlon Energy, Fleetguard Filters, Menon Pistons, Alfa Laval, TACO, Mahindra Hinoday, Satyam Computers, Eaton Technologies, Mirc Electronics, Tata Motors, Madura Fashions and Lifestyle, ASQ India etc. with total more than 2000 belts trained till date

Visit our website: <http://world-class-quality.com/> Contact us: email: ioqr@world-class-quality.com

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Institute of Quality and Reliability (IQR)

Announces

Six Sigma Black/Green Belt Workshop

(Focused on preparation for ASQ Certification)

Duration: 16 days for Black Belt and 9 days for Green Belt (on week-ends)

Course Schedule: Starting from 4th May 2019 onwards

Timing : 10:00 am – 5.30 pm

Venue : IQR Learning Center at Paud Road, Pune.

Who are a Six Sigma Black and Green Belts?

Black Belts play a critical role within a Six Sigma infrastructure and culture. Their primary roles are important in many ways. Black Belts provide value within the organization's Six Sigma initiative in a variety of ways.

- **Leading Six Sigma Black Belt Projects** and making process improvements
- **Deploying** their organization's Six Sigma program
- **Working with process owners** to ensure project gains are sustained
- **Spreading Six Sigma culture** within the company
- **Sharing of best practices** throughout the organization

Green belts also play important role and can lead less complex projects in their own functions or can support Black belts in their projects.

Who should attend the training?

This training workshop is designed for professionals, engineers and managers and others ***who aspire to get certified by American Society for Quality (ASQ) as Six Sigma Black or Green Belts (CSSBB or CSSGB)***. The course is ***designed based on the latest Body of Knowledge by ASQ***. Others who wish to learn fundamentals of Six Sigma Approach, Tools and Applications will also be immensely benefited.

Benefits and Structure of the workshop:

After attending the workshop, the participants will be able to:

- Understand Six Sigma approach and tools
- Apply Six Sigma tools using many exercises to make process improvements using SigmaXL and/or Minitab software
- Prepare for taking Certified Six Sigma Black or Green Belt examination offered by ASQ
- Test the comprehension and knowledge level with reference to ASQ body of knowledge with two mock tests (One practice exam and one final exam)
- Get certified by IQR as Six Sigma Black or Green Belt (subject to passing the final examination and project completion for black belts).
- Use library facility of IQR with many reference books and past issues of Quality Progress and Six Sigma Forum Journal published by ASQ

This workshop focusses on learning the concepts and applying these to the projects selected by the participants. Each Black Belt participant is expected to identify a Six Sigma Belt project before or during the course. This is not mandatory for Green Belt participants but desirable. Guidelines and counseling for project selection will be provided to registered participants. This workshop includes sufficient hands on exercises using Minitab software and significant time in the workshop would be dedicated to the application exercises. After each session of training, participants are expected to apply the tools to their projects. Participants will also be given set of practice questions in line with ASQ examination. Each participant is expected and encouraged to apply the concepts using Six Sigma tools and Minitab software. These softwares facilitate effective use/application of Six Sigma statistical tools enabling the belts spend more time focusing on implementing process improvements. For some sessions, participants need to bring laptop computers with Microsoft Windows XP and MS Office.

A simulated practice test will be conducted at the end of training to assess effectiveness of training. The structure of these tests will be similar to ASQ exams.

Certification: In addition, a final test will also be conducted. Those completing the tests successfully will be **certified as Six Sigma Black or Green Belt**. Project completion affidavit is essential for getting certified as Black Belt. Participants need to apply separately for Certification from ASQ. See more details below.

About ASQ Certification:

ASQ conducts Certified Six Sigma Black Belt (CSSBB) Examination on-line every quarter. ASQ CSSBB enjoys excellent international reputation. SSBB Participants can appear for the ASQ exam scheduled during 6-12 **September 2019 or paper/pencil exam on 5-October 2019**. More details about ASQ certification are available on web site of ASQ <https://asq.org/cert/catalog>. In addition to attending the workshop, participants are expected to prepare for the examination using the course material and other recommended reference books. Depending on the prior experience, study time for preparation may vary between 50 to 100 hours. ASQ CSSBB examination is an on-line 4-hour examination of 165 multiple-choice questions. ASQ certification fees (US\$438 or approx. Rs.31540 for CSSBB and 24,340 for CSSGB for ASQ members + ASQ Associate membership fees about Rs.7000) are not included in the course fees. Participants need to take up and complete their projects so that they can apply for ASQ certification examination. For detailed information visit www.asq.org.in .

Course Kit:

1. *Comprehensive workshop material (based on latest ASQ body of knowledge) with index of key words.*
2. *Soft files containing many useful templates for implementing Six Sigma and data files for exercises (or access to on-line simulated exams) for those who register for SSBB*
3. *30-day evaluation copy of Minitab Software will be provided.*
4. *Six Sigma Black Belt or Green Handbook published by ASQ depending upon availability at the time of course [subject to availability].*

Indicative Course Schedule:

Day	Topic
1	Introduction to Six Sigma
1	Organizing for Six Sigma, Voice of Customer and project Selection
1	Define Phase: Charter, Problem statement, scope
1	Teams and Team Roles
2	Project Management: CPM, PERT
2	Basic Statistics and Data Collection
2	Measure Phase: Process Mapping
3	Basic Quality Tools and Data Analysis: Histograms, Box Plots, Scatter Plots, MV charts etc. (Use of XL, MV charts on Minitab)
3	New Management and Team Tools
3	Measure Phase: Measurement Systems Analysis (with exercise)
4	Measure Phase: Process Capability
4	Six Sigma Metrics
4	Cause and Effects Matrix
5	Value Stream Mapping and Lean Tools
5	Analyze Phase
5	Process FMEA
5	Correlation & Regression
6	Mock project data analysis discussion
6	Confidence Intervals
6	Hypothesis Tests
7	Hypothesis Tests (continued)
7	ANOVA
7	Improve Phase Overview
8	Introduction to Design of Experiments
8	The Control Phase: Statistical Process Control
9	Control Plans
9	Introduction to DFSS
	These topics are only for SSBB participants
10	Recap of 'M' & 'A' Phases
10	Multivariate Analysis
10	Two-way and multiway ANOVA (on Minitab)
10	Process Capability- Non-normal (on Minitab)
11	Process Capability- Attribute Data (On Minitab)
11	Miscellaneous Topics not covered earlier: Financial Measures, TOC, Hoshin kanri, Customer loyalty metrics, Training plan, Project Management Tools, Kaizen/Kaizen Blitz etc.
11	Power and Sample Size, Goodness of Fit
12	Non Parametric Statistics
12	Multiple Regression-Exercises
12	Binary Logistics Regression
13	DOE Basics Recap
13	Randomized Blocks
13	Fractional Factorial Experiments
13	Catapult Exercise for DOE
14	Control charts exercises, use of Minitab, stage wise analysis, Average Run Length, Rational Subgrouping, short run control charts
14	DFSS, DMADOV, DFX, Robust Design
14	Six Sigma Scorecard
15	DFSS and Statistical Tolerancing
15	Minitab additional exercises, case studies and exam tips
16	Practice Mock Test and closing remarks

Note: For Green Belt, the duration is 9 days and the common portion for GB and BB will be covered during these 9 days. In the subsequent 7 days, advanced topics for BB will be covered. The course contents are indicative and will vary to some extent. It is expected that the participants complete the exercises in time and support classroom sessions with self-study and project work.

Course Fees:

Workshop	Fees (Rs)	GST	Total
Six Sigma Black Belt	48000	8640	56640
Six Sigma Green Belt	27000	4860	31860

5% Discount for registrations by 20-April-19
5% Discount for two or more registrations

- The above price **includes comprehensive training material, Six Sigma Black Belt or Green Belt Handbook, soft files with many useful templates/data files, 30-day trial version of Minitab-18 software.**
- The course is non-residential. Fees include Lunch and Tea at the venue.
- Participants can choose to pay in two equal installments: For details contact us.
- ASQ examination fees are not included.
- [Participants can use library facility](#) with many reference books and journals on six sigma (Note: participants may need to pay refundable library deposit).

Payment:

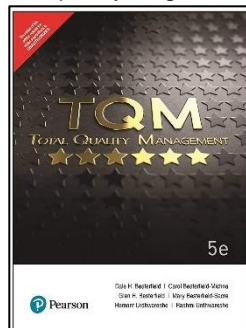
- Registration will be confirmed after payment by DD/Cheque payable at par in favor of "Institute of Quality and Reliability, Pune".
- In case of payment in 2 installments, cheque for the first installment and postdated cheque for the second installment should be given at the time of registration.

Cancellation Policy:

- Registration can be cancelled till **21 April 2019**. Fees paid will be refunded after deducting Rs.2000. Cancellation after this date is not possible. Registration can be transferred prior to start of the course at no extra cost.

Faculty:

Mr. Hemant Urdhwarsh, is the Director Institute of Quality and Reliability (IQR) with conduct the training/handholding. He has more than 28 years of experience in Manufacturing, Quality and Engineering at Cummins India Limited (CIL) with total experience of 42 years. As Head of Quality, Reliability and subsequently Engineering functions at CIL, Hemant was actively involved in driving Six Sigma and has led and sponsored many Six Sigma projects. He has applied various Six Sigma tools in improving processes and solving complex manufacturing and field problems. He has conducted many in-house training programmes on Leadership, Quality Engineering and management at CIL and on behalf of Indian Institution of Production Engineers (IIPE), Pune Section. He has also published many articles on Six Sigma and quality engineering.



He has conducted Black/Green Belt Programmes for companies including Ashok Leyland, Tata Motors, Fleetguard Filters, TACO, Alfa Laval, Menon Pistons and DGP Hindoday. He has also conducted many Six Sigma Black and Green Belt public workshops. He has trained more than 1900 Black and Green Belts. He was a panelist for the Lean Six Sigma Awards organized by Symbiosis Center for Management and Human Resource Development (SCMHRD). Hemant was a visiting faculty at Symbiosis Institute of Business (SIBM) Management

for Six Sigma and Business Statistics. He has authored a book 'Six Sigma for Business Excellence' which is published by Pearson Education in September 2010. He has also coauthored the book 'Total Quality Management' which has been published in October 2010.

Hemant is:

- **Recipient of D.L.Shah Quality Council of India Quality Champion Silver Award 2018**
- **Recipient of Silver Standard 2003 award from Qimpro Foundation** for outstanding Quality Manager in India
- **Fellow of ASQ.**
- **The first Six Sigma Master Black Belt and Black Belt in India certified by American Society for Quality (ASQ)**
- **The first ASQ Certified Quality Manager in India (1998)**
- **ASQ Certified Quality Engineer (1996) and**
- **ASQ Certified Reliability Engineer (2005)**
- Fellow of IIPE and Life Member of National Institution for Quality and Reliability (NIQR)
- Qualified Lead Assessor

Mr.Yashwant Mahakal is a mechanical engineer from VJTI with rich experience in Automotive and Engineering Industries including TATA Motors, Fleetguard Filters (Cummins Group), Filtrum Tools, TACO Group, Veena Industries in the areas of Lean Manufacturing Systems / Quality Assurance / Quality Management Systems/ Product Development / Supplier Development and Costing. He has four years of consulting experience in the Areas of Lean Manufacturing and Quality Management Systems. He has successfully implemented many lean manufacturing projects. **He is certified by American Society for Quality (ASQ) as:**



- **Six Sigma Black Belt (CSSBB)**
- **Quality Engineer (CQE)**
- **Manager of Quality and Organizational Excellence (CMQ.OE) and**
- **Reliability Engineer.**

Yashwant is also certified as **Lead Assessor for**

- **Quality Management Systems (ISO9001:2008),**
- **Environmental Management Systems ISO14001:2008 and**
- **OHSAS18001:2007.**

About Institute of Quality and Reliability:

Institute of Quality and Reliability (IoQR) was established in Nov. 2005, with primary objective to help Industries for improving their business performance. IQR also supports individuals aspiring to improve their knowledge and skills in Quality and Reliability. After 28 years of rich industrial experience in the Industry, at Cummins India Ltd. (CIL), Hemant Urdhwareshe decided to start IoQR. So far we have trained about 2000 Black/Green Belts, 400 reliability engineers and about 5000 individuals in the field of Quality and Reliability.

For registration or more information Contact us:

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Email: ioqr@world-class-quality.com

Web site: www.world-class-quality.com

Or

Send SMS or WhatsApp message as 'SixSigma May19' <your Name> <Your email ID>' to 9822014488

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