



International Management Research
and Technology Consortium – LLC - USA

CERTIFIED LEAN SIX SIGMA BLACK BELT (CLSSBB)



www.imrtc.org



consortium@imrtc.org

Bridging The Gap Between
Academia and The Industry
Worldwide!

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International Management Research and Technology Consortium – LLC - USA

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Introduction:

There is a global need for market and requires competent Six Sigma Certified Black Belt Managers, who can understand Lean Process and Optimization of Business process and Business process Re-Engineering. We as a recognized institute and offers a comprehensive training curriculum in this belt. IMRTC after recognizing the need and in consultation with senior members, executives and trainers have come up with a comprehensive certification program: **THE CERTIFIED LEAN SIX SIGMA BLACK BELT (CLSSBB)**

About CLSSBB:

LEAN SIX SIGMA BLACK BELT - CLSSBB is require and need to develop necessary expertise and skills for Quality Management System, Production, Operations and Services People. The ultimate goal of this certification that management can increase their productivity by reducing cost effective through lean processes with efficiency and effectiveness. LEAN SIX SIGMA BLACK BELT - CLSSBB covers the areas from Quality Cycle, Lean Management, Qualitative and Quantitative Assessment of Processes and strategic approaches of operational Management of businesses through information technology and ERP, CRM systems. The program follows a systematic learning format with hands on approach including lot of exercises, quizzes, audio-visual aids, case studies, practice sessions and case studies for development of project.

The Audience:

Anyone involved in Quality, Production, Service industry and/or Manufacturing Industry, and excellent professional qualification for Managers, executive assistants and supervisor in any sector, which are working in the professional market.

The Credentials:

The Candidates who are looking to have this certification need a proper training of 48 Professional Training Hours (PTH) from any recognized institute and approved professional trainers of IMRTC. The program also required a self-develop project which depends on real case and complete problem and issues shall be encountered in this project. The project required in soft form and submitted to our concerned training partners or chapters for assessment and after approval the candidate can sit in the final examination of IMRTC. After passing the certification examination the candidates can use the credentials CERTIFIED LEAN SIX SIGMA BLACK - CLSSBB after their name.

Pre-Requisite:

Bachelor's degree (high school professional diploma, associate's degree or the global equivalent)

2-3 years of professional experience in Quality, Manufacturing or Service Industry

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PROGRAM CONTENT



This Area provides a detail of Lean Six Sigma Black Belt. It covers theory, process and practice of the Statistical Application of Six Sigma, Methodologies, ANOVA and another advance statistical application, and identify qualitative and quantitative aspects of Problem solving tools will cover.

- Topic-1 Basis statistical applications w.r.t. Six Sigma
- Topic-2 Measure of central tendencies with applications
- Topic-3 Measure of Dispersions with applications
- Topic-4 Correlation and regression with applications
- Topic-5 Introduction to probability, permutation and combination
- Topic-6 Population distributions with applications -1
- Topic-7 Population distributions with applications -2
- Topic-8 Progress Check Test
- Topic-9 Sampling Distributions with applications - 1
- Topic-10 Sampling Distributions with applications - 2
- Topic-11 Testing of Hypotheses; Parametric and nonparametric hypotheses. Type I and Type II errors. Critical Region.
- Topic-12 Parametric Hypotheses Tests: for one mean, equality of means. Testing the variance, equality of variances, significance of correlation coefficient, population proportion, quality of proportions
- Topic-13 ANOVA

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PROGRAM CONTENT



Topic-14	Jarque Bera , Chow test , Taghuchi Statistics
Topic-15	Six Sigma Introduction
Topic-16	Six Sigma Project Definition
Topic-17	Project Selection Process
Topic-18	Six Sigma Deployment
Topic-19	Process Mapping
Topic-20	Input Prioritization Tools
Topic-21	Failure Mode Effect Analysis
Topic-22	Minitab 15 Introduction -Measurement Systems
Topic-23	Capability Analysis
Topic-24	Sample Size Selection
Topic-25	Statistical Process Control
Topic-26	Process Control Plan
Topic-27	Project Plan & Deliverable
Topic-28	Project Reviews
Topic-29	Advanced Graphical Analysis
Topic-30	Multi-Variable Planning
Topic-31	Variation Trees and Funneling
Topic-32	Hypothesis Testing
Topic-33	Central Limit Theorem
Topic-34	Statistical Analysis Roadmap
Topic-35	Test for Mean with t - test, One Way ANOVA
Topic-36	Non -manufacturing Applications
Topic-37	Correlation and Regression
Topic-38	Multi -Variable Analysis
Topic-39	Process Control Plan
Topic-40	Project Plan & Deliverable
Topic-41	Multiple Regression
Topic-42	Advanced Multi-Variable
Topic-43	Attribute Measurements
Topic-44	Attribute Measurement Systems
Topic-45	Sample Size Calculations
Topic-46	Six Sigma for Service
Topic-47	Managing Change
Topic-48	Introduction to DOE

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PROGRAM CONTENT



Topic-49	Full Factorial Experiments
Topic-50	Full Factorial Simulations
Topic-51	Fractional Factorials Designs
Topic-52	DOE Sample Size Selection
Topic-53	In class DOE Project
Topic-54	Project Planning & Deliverables
Topic-55	Design of Experiments Review
Topic-56	Blocking in Experiments
Topic-57	General Factorial Experiments
Topic-58	Six Sigma Residual Analysis
Topic-59	Non-Normal Data - Transformations
Topic-60	Non-Normal Data in Experiments
Topic-61	Sequential Experimentation
Topic-62	Response Optimization Designs
Topic-63	Multiple Response Optimization
Topic-64	Transactional Improvements,
Topic-65	Simulations for Improvement
Topic-66	Applied Experimentation
Topic-67	Statistical Process Control
Topic-68	Mistake Proofing
Topic-69	Control Methods
Topic-70	Project Closure and Synergy
Topic-71	Class Project
Topic-72	Integration of Lean

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PROCESS OF CERTIFICATION

To give the certification, 48-Training-hours as PTH is mandatory required from any concern professional trainer or Partner and participants should have to submit their credentials with the Examination Application Form with the attachments of bachelor degree and other experience certificates. The Paper is based on 100 Question with MCQs and 50% passing marks is required to pass the exam. Further, if the Project is also included in your exam, then marks will be distributed according to course & certification.

TERMS & CONDITIONS RELATED TO EXAMINATION AND CERTIFICATION

3. The 48-Training-hours as PTH are valid up to three year.
4. If the candidate is failed in the examination then S/he has one more chance to attempt the paper within one year, and if you have not passed the exam then you have to pay the examination fee and re-appear in the examination.
5. If the candidate has not passed the examination within one year and after sometime S/he would like to appear in the examination then candidate must to submit 48-Training-hours as CPE again required to appear in the examination.
6. The examination system is online and candidate can book anytime the exam according to his or her availability.
7. Those countries, who would not have the facility of online examination facility then they can give the paper based examination, which can be sent to authorized partner / trainers / examiner. The assessment time will be a month and we will be sent the results to partner.
8. The candidate will get the certificate after one month and administration will courier to your defined partners or your address accordingly.
9. To maintain the worth and eligibility in the market the candidate must have to renew their membership on yearly basis.

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PROJECT

REAL TIME PROJECT

Lean Six Sigma Black Belt required One Real Time Project from the participants with complete details, and it should be endorsed from the authority of the organization, which project has done successfully!

50% marks is for project, that is the mandatory requirement of the Lean Six Sigma Certification

NOTE

The Examinations shall be online through our accredited testing partner centers worldwide in each country chapter; In case chapter or partner is not available in a particular country then candidates can directly approach IMRTC USA examination body through email: examination@imrtc.org and they will be advised accordingly. The passing criteria shall be 70% of Whole Exam.

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