

EXIN LSSBB

EXIN LSSBB CERTIFICATION QUESTIONS & ANSWERS

Exam Summary – Syllabus – Questions

LSSBB

EXIN LSSA Lean Six Sigma Black Belt

60 Questions Exam – 63% Cut Score – Duration of 180 minutes

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Know Your LSSBB Certification Well:

The LSSBB is best suitable for candidates who want to gain knowledge in the EXIN Lean. Before you start your LSSBB preparation you may struggle to get all the crucial LSSBB materials like LSSBB syllabus, sample questions, study guide.

But don't worry the LSSBB PDF is here to help you prepare in a stress free manner.

The PDF is a combination of all your queries like-

- What is in the LSSBB syllabus?
- How many questions are there in the LSSBB exam?
- Which Practice test would help me to pass the LSSBB exam at the first attempt?

Passing the LSSBB exam makes you EXIN LSSA Lean Six Sigma Black Belt. Having the LSSBB certification opens multiple opportunities for you. You can grab a new job, get a higher salary or simply get recognition within your current organization.

EXIN LSSBB LSSBB Certification Details:

Exam Name	EXIN LSSA Lean Six Sigma Black Belt
Exam Code	LSSBB
Exam Price	\$615 (USD)
Duration	180 mins
Number of Questions	60
Passing Score	63%
Books / Training	LSSA Lean Six Sigma Black Belt Page
Schedule Exam	Pearson VUE
Sample Questions	EXIN LSSBB Sample Questions
Practice Exam	EXIN LSSBB Certification Practice Exam

LSSBB Syllabus:

Торіс	Details
	World class performance - 10%
	 The learning element `continuous improvement' reviews the history, values, and principles of the most common process improvement methodologies. Also, the culture within a continuous improvement organization as well as roles and responsibilities are reviewed. The candidate can
	 understand the origins of quality management, TPM, kaizen, Lean, Six Sigma and Agile.
Continuous	 propagate the Lean Six Sigma philosophy and principles.
improvement	 deploy a continuous improvement culture within the organization, which represents the collective values, beliefs, and principles.
	 assess and deploy the organization's maturity level of the organization, which is a combination of developing people and process.
	 promote the various continuous improvement roles and responsibilities.
	 The learning element 'customer value' reviews customer identification (internal/external), customer requirements and the Critical to Quality (CTQ)-measure. The candidate can
	 prioritize and translate the Voice of the Customer (VOC) requirements into internal specification requirements.
Customer value (VOC & CTQ)	 differentiate customer experience into dissatisfied, expected, satisfied and desired quality levels (e.g. KANO model).
	 translate the Voice of the Customer (VOC) into external Critical to Qualities (CTQs) and internal Critical to Qualities (CTQs).
	 construct a Critical to Quality (CTQ) flowdown that represents the key measurable characteristics of a product or process whose performance standards or specification limits must be met.
Policy	y development and deployment - 10%
Policy development	t - The learning element 'policy development' explains the importance of a so-called True North and how to develop an

Торіс	Details
	operational excellence strategy. - The candidate can
	 describe how Operational Excellence can be applied to processes in different types of enterprises.
	 define a transition roadmap for a continuous improvement policy development and deployment program.
	 define and implement a process of business performance management, which includes developing metrics as well as collecting, analyzing, and reporting data about the performance of the organization.
	 evaluate financial measures e.g. cost of poor quality (COPQ), total cost of quality, working capital (WC) and inventory turn ratio (ITR)
	 The learning element 'policy deployment' is focusing on the execution process of the improvement strategy. Within this element financial and performance metrics will be reviewed. The candidate can
	 describe the impact breakthrough projects can have on process owners, internal and external customers, and other stakeholders.
	 facilitate initiatives and apply techniques to manage change and overcome resistance (e.g. Kübler Ross, stakeholder analysis, Kotter approach).
Policy deployment	 propagate long term and meaningful objectives such as sustainability, dignity.
Policy deployment	 create an inspiring and healthy work environment throughout the organization.
	 demonstrate team progress in relation to goals, objectives and other metrics that support team success.
	• reward and recognize the team for its accomplishments.
	 describe and apply techniques that motivate team members and support and sustain their participation and commitment.
	 support the organization in the strategic planning process, applying Hoshin Kanri.
	 understand how Hoshin Kanri forms the link between policy development and policy deployment.
Competence development	- The learning element 'competence development' reviews how to develop those who need to ensure that the strategy is implemented successfully.

Торіс	Details
	- The candidate can
	 guide people through the four stages of competence development including lessons learned from former projects.
	 apply coaching and intervision to those involved in continuous improvement (e.g. Toyota Kata).
	 use appropriate communication methods (both within the team and from the team to various stakeholders) to report progress.
	 conduct milestone reviews and support the overall success of the project.
	Project management - 8.5%
	 The learning element 'managing a project' reviews how to set up, plan and execute a project. The candidate can
	define project selection criteria.
	 identify continuous improvement opportunities.
	 apply project selection techniques to select the projects that contribute to the strategy of the organization.
	 develop the project charter in relation to customer requirements and business goals.
	 develop and evaluate the problem statement, project boundaries (scope), objectives, benefits, and measurable targets for the project.
Managing a project	• support Green Belts in developing their project charter.
	 apply techniques to select team members (e.g. MBTI, Belbin).
	 facilitate the team through the classic stages of development: forming, storming, norming, performing and adjourning.
	 select and construct time management techniques.
	 set up team meetings, tollgates and publish agendas and ensure that the proper people and resources are available.
	 ensure that the project will meet its requirements for time, quality, and costs.
	 manage the project and apply the proper tools and techniques.
Process	- The learning element 'process improvement roadmaps' reviews

Торіс	Details
improvement roadmaps	a number of roadmaps, including PDCA and DMAIC. - The candidate can
	 apply project management methods that can be used in the workplace for kaizen initiatives (e.g. PDCA, A3- report).
	 apply the DMAIC roadmap for Lean and Six Sigma projects.
	 select the proper tools to use during the project.
	• facilitate the problem-solving process (e.g. 8D approach).
	 facilitate self-organizing teams.
	define clear boundaries for self-organizing teams.
	 propagate Scrum in product development and continuous improvement initiatives.
	 describe the DMADV-roadmap for Design for Six Sigma projects.
С	reating a solid foundation - 1.5%
Professional work environment	 The learning element 'professional work environment' is about good housekeeping and how to set up a proper and safe work environment in a structured manner. The candidate can develop an organized work environment by applying 5S (Sort, Straighten, Shine, Standardize, Sustain). understand that an organized environment will improve
	safety and moral.
	 The learning element 'standardized work' is about implementing and improving standards and protocols. The candidate can
Standardized work	 standardize tasks and processes to establish the foundation for continuous improvement.
	 develop or modify documents, standard operating procedures (SOPs) and one-point-lessons to ensure that the improvements are sustained over time.
	 implement Training Within Industry (TWI) principles in the organization.
Quality management	 The learning element 'quality management' is about developing procedures to identify and detect defects. Also preventing mistakes and avoiding problems is part of this element.

Торіс	Details
	- The candidate can
	 propagate the quality management system and procedures.
	 facilitate the evaluation of processes, including auditing (internal / external) and identification of opportunities for improvement.
Creating a	a continuous improvement culture - 3.5%
Visual managemen	 The learning element 'visual management' reviews how to set up a workplace that is organized and self-explaining. The candidate can develop the elements of Visual Workplace.
	 develop the elements of visual workplace. describe how they can help to control the improved process.
	 The learning element 'performance management' reviews how to set targets, and how to organize the work to be done. The learning element also reviews how to facilitate improvement teams at the shopfloor that work on kaizen improvement initiatives and Problem Solving. The candidate can
Performance management	 implement and facilitate stand-up meetings to drive continuous improvement initiatives. understand basic principles of Scrum. describe and propagate the kaizen principles.
	 empower improvement teams and facilitate kaizen events.
	 develop root cause analysis, recognize the issues involved in identifying a root cause. analyze problems by applying problem solving process and tools.
	 The learning element 'basic quality tools' reviews techniques to visualize data and guidelines how to facilitate and participate in brainstorm sessions. The candidate can
Basic quality tools	 apply brainstorm techniques: Affinity diagram, 5-Why's and Ishikawa. apply and analyze the outcome of basic quality tools to visualize data: Scatter plot, Pareto chart, Bar chart, Pie chart, Time Series Plot, Histogram and Box plot.

Торіс	Details
Creati	ng stable and efficient processes - 30%
	 The learning element 'process mapping' reviews a number of tools to map and analyze the flow of a process. The candidate can
Process mapping	 distinguish between key process input variables and key process output variables based on a high-level process map e.g. SIPOC.
	 apply process mapping to visualize the flow of activities and decisions within a process.
	 The learning element 'performance metrics' reviews performance metrics for both logistics as for quality. The candidate can
Performance metrics	 calculate and analyze performance metrics related to time (e.g. takt time, cycle time, lead time, queue time, WIP and OEE).
	• apply Little's Law.
	 distinguish and calculate performance metrics related to quality (e.g. ppm, DPMO, DPU and RTY).
	• describe the difference between a defect and a defective.
	• calculate rolled throughput yield for a number of defects.
	 The learning element 'basic statistics' reviews different types of data, measurement scales and data collection tools. Also, a set of measures (statistics) that characterizes a given set of data are reviewed. The candidate can
	• propagate the importance of reliable and accurate data.
	 describe and distinguish between qualitative and quantitative data (continuous and discrete data).
Basic statistics	 define and analyze nominal, ordinal, interval, and ratio measurement scales.
	 apply Likert scale to convert an ordinal scale into a discrete interval scale.
	 define and analyze tools for collecting data e.g. data sheets, check sheets, concentration diagrams and questionnaires.
	 calculate population parameters and sample statistics: measures of central tendency, measures of dispersion, ratios, and proportions.

Торіс	Details
	 The learning element 'value stream analysis' reviews how to create a Value Stream Map of the current situation. The candidate can
	 distinguish value adding from non-value adding and necessary activities.
Value stream analysis	 apply Value Stream Mapping (VSM) to construct a Current State Map of the process to identify waste and non-value adding activities.
	 understand the way process mining can support the analysis of flow within the organization.
	 recall what product attributes are needed for process mining.
Reducing Muda (Waste)	 The learning element 'reducing Muda' reviews how to identify and eliminate Waste in the organization and its processes. The candidate can identify and analyze process Waste (Muda): Overproduction,
	Waiting, Transport, Overprocessing, Inventory, Movement, Defects and Unused expertise.
	 The learning element 'reducing Muri' reviews how to identify overburden in the organization. This element also reviews how to implement flow and work balancing to reduce overburden. The candidate can
Doducing Muri	• describe the importance of flow for reducing Muri.
Reducing Muri (Overburden)	 develop flow in the organization.
(overburden)	 describe the importance of Work balancing for reducing Muri.
	develop Work balancing.
	 describe how competence management supports the reduction of Muri.
	 set up and apply a competence management system.
	 The learning element 'reducing Mura' reviews how to identify unevenness in the organization and its processes. This element also reviews a number of techniques to reduce unevenness. The candidate can
Reducing Mura	
(Unevenness)	describe the importance of pull for reducing Mura.
	 develop and implement pull in the organization by applying Kanban systems.
	 implement a balanced process flow by both volume leveling, type leveling and one piece flow.

Торіс	Details
	differentiate between the different order fulfilment strategies.
	 reduce change over times by implementing Single Minute Exchange of Die (SMED).
	 The learning element 'value stream improvement' reviews how the techniques and tools that reduce Muda, Muri and Mura can be applied in constructing a Future State Value Stream Map. The candidate can
Value stream improvement	 define the gap between the current state and the target condition.
	 develop a Future state map using Value Stream Mapping (VSM).
	 apply techniques to reduce Muda, Mura and Muri.
	 The learning element 'process and quality control' looks at how results that have been achieved in process improvement projects can be sustained. This element reviews the following techniques and principles: Process FMEA (pFMEA), Control plan, Jidoka and Poka Yoke. The candidate can
	• deploy the importance of the First Time Right principle.
	 implement a culture of stopping to fix problems to get quality right the first time.
Process and quality control	 empower the work force to stop the line when there is a quality problem (Jidoka).
	 apply Poka Yoke to prevent quality problems.
	 prepare all elements of a Process FMEA (pFMEA), calculate the risk priority number (RPN) and action priority (AP).
	 review the effect of FMEA results on processes, products, and services.
	 prepare a control plan to document and hold gains.
	 define controls and monitoring systems.
	 transfer of responsibility from the project team to the process owner.
Total Productive Maintenance (TPM)	 The learning element 'total productive maintenance' reviews the coherence between reliable systems and equipment and continuous improvement. The candidate can
	• describe the eight pillars of TPM and describe how it can

Торіс	Details
	be used for process improvement.
	• apply elements of TPM to control the improved process.
	 calculate the Overall Equipment Effectiveness (OEE) performance metric.
	calculate utilization.
	Creating capable processes - 31.5%
	 The learning element 'statistical techniques' reviews a number of metrics that are often used in Six Sigma projects. The element also reviews a number of sampling methods for assuring data accuracy and integrity. The candidate can
Statistical techniques	 evaluate special cause and common cause variation. develop and apply appropriate sampling methods that ensure representative data e.g. random sampling, stratified sampling and systematic sampling. calculate power and sample size for common hypothesis tests.
	 The learning element 'distributions' reviews a number of continuous and discrete distributions. The element also reviews the central limit theorem and a number of probability concepts. The candidate can
	 interpret Probability Density Functions and Cumulative Distribution Functions.
Distributions	 apply continuous distributions: Normal, Weibull, Student's t, Chi square, Fdistribution, Lognormal and Exponential distribution.
	 apply normality test (Anderson-Darling) describe shape parameters (Skewness and Kurtosis).
	apply discrete distributions: Poisson, Binomial.
	apply the central limit theorem.
	 identify non-normal data and use Box-Cox or Johnson transformation.
Measurement	 The learning element 'measurement systems' reviews how to evaluate measurement systems. The candidate can
systems	 define and implement measurement methods for both continuous and discrete data.
	 analyze measurement systems for continuous data.

Торіс	Details
	 interpret repeatability and reproducibility (R&R), stability, bias, linearity, precision to tolerance and number of distinct categories.
	• analyze measurement systems for qualitative properties.
	 establish attribute agreement within appraiser, between appraisers and appraisers versus standard.
Hypothesis testing and confidence	 The learning element 'hypothesis testing and confidence intervals' reviews test methods that are used to test a hypothesis. This learning element also discusses confidence intervals that indicate the reliability of test conclusions. The candidate can
intervals	 define and analyze the significance level, power, type I and type II errors in statistical tests.
	• calculate confidence, prediction, and tolerance intervals.
	• distinguish between statistical and practical significance.
	proportions' reviews the most common hypothesis tests to investigate the difference between population means (μ); difference in variances (σ); difference in proportion (p) and difference in counts (λ). Also, the ANOVA analysis is reviewed. - The candidate can
Tests for means, variances, and	 apply and analyze hypothesis tests for means. apply and analyze hypothesis tests for variances.
proportions	 apply ANOVA and analyze the results and the main effect and interaction plots.
	 apply and analyze hypothesis tests for proportions.
	 apply and analyze Chi-square goodness-of-fit test and Contingency tables.
	 apply and analyze non-parametric tests: Mann-Whitney, Kruskal Wallis and Mood's median test.
Correlation and	 The learning element 'correlation and regression' describes the predictive models using regression techniques to determine the relation between factors on a response. The candidate can
regression	 calculate and analyze the correlation coefficient and determine its statistical significance (p-value). recognize the difference between correlation and causation. apply linear and polynomial regression analysis.

Торіс	Details
	analyze the regression model for estimation and prediction.
	 interpret the residual analysis to validate the model.
	• apply attributes data using (binary) logistic regression to investigate sources of variation.
	• apply multivariate studies such as principal components and factor analysis.
	 The learning element 'process capability and performance' explains process capability and performance in relation to specification limits. The candidate can
	 apply and analyze process capability studies.
	 develop sampling plans to verify stability.
	 calculate and analyze Cp and Cpk to assess process capability.
Process capability and performance	 describe and use appropriate assumptions and conventions when only short-term data or attributes data are available and when long-term data are available.
	 analyze the relationship between long-term and short- term capability.
	 calculate and analyze Pp and Ppk to assess process performance.
	 interpret the relationship between capability and performance indices.
	calculate the process capability and process sigma level for attribute data.
	 The learning element 'Design of Experiments' reviews efficient ways of experimenting. Design of Experiments examines the influence of factors and interactions on a process. The candidate can
	 design experiments by determining the objective, selecting factors, responses and measurement methods.
Design of Experiments (DOE)	 apply DOE elements: responses, factors, levels, transfer function, run order, randomization, balanced designs, residual error, main effects, interaction effects, replicates, repetitions, curvature and center points.
	design and analyze full factorial experiments.
	understand and apply contrast, covariate, blocking.
	 design and analyze fractional factorial experiments and describe how confounding affects their use.

Торіс	Details
	understand and apply alias tables and folding.
	 design and analyze Response Surface Models (RSM) such as Box Behnken and Central Composite Designs.
	 analyze the response surface using path of steepest ascent and apply Evolutionary Operations (EVOP).
	 The learning element 'Statistical Process Control' explains the controls methods used to identify out-of-control situations and deviations over time. Different types of SPC charts are reviewed. The candidate can
Statistical Process Control (SPC)	describe the objectives of SPC.
	 select and construct the following types of control charts: Xbar-R, Xbar-S, individuals and moving range (I MR), median, p, np, c, u, short-run SPC and moving average. interpret control charts and distinguish between common and special cause variation using rules for determining statistical control.
Cre	eating future-proof processes - 5%
Product Lifecycle Management (PLM)	 understand the lifecycle for products from creation,
	engineering, manufacturing to service and disposal.
Design for Six Sigma	 participate in new product and process development. The learning element 'design for Six Sigma' reviews a number of methodologies and techniques that can be applied within Design for Six Sigma, such as Quality Function Deployment, Reliability engineering and Tolerance analysis. The candidate can understand the impact of design for excellence and modularization on cost, manufacturability, producibility and maintainability. understand that QFD can be applied to translate customer requirements into product performance measures.
	 describe key functions of a design, the primary potential failure modes relative to each function and the potential causes of each failure mode.
	 describe critical parameter management (CPM) and the DMADV roadmap.

Торіс	Details
	• understand that reliability specifications and design tests can be used to demonstrate reliability specifications.
	 understand basic principles of failure rate function of lifetime tests.
	 understand the basic principles of tolerance analysis using worst case, RSS, Monte Carlo and empirical methods.
The fourth industrial revolution	 The learning element 'the fourth industrial revolution' reviews the role of continuous improvement methodologies that currently used and the fourth industrial revolution. The candidate can
	understand the future of operational management.describe elements of Industry 4.0.

EXIN LSSBB Sample Questions:

Question: 1

After returning from a two-week vacation a manager reviewed the Xbar and R charts that were maintained during the manager's absence. One of the Xbar charts shows the last 50 points to be very near the centerline. In fact, they all seem to be within about one sigma of the centerline.

What is the best explanation for this occurrence?

- a) It shows that the operators did a very good job keeping the process close to target.
- b) Somebody restored the original, wider control limit calculation.
- c) The process standard deviation has decreased and the control limits were not recomputed.
- d) There has been poor quality performance for quite some time.

Answer: c

Question: 2

Which tool can be used to translate a customer's requirements into appropriate company measures?

- a) Cause and effect diagram
- b) Quality function deployment (QFD)
- c) SIPOC diagram
- d) Value stream map (VSM)

Answer: b



Question: 3

Which statement does not describe a 'lessons learned' from an improvement project?

- a) A company facing increasing pressure to cut costs and speed up lead times must implement internal controls and invest in new technology.
- b) Advice from the Ministry of Trade and Industry indicates that drawing up a contract is a lengthy process, and that compensation should be paid.
- c) The purchasing department's experience indicates that delays usually occur when contracts with third-party suppliers do not include a time frame within which delivery for the service is expected.
- d) Two companies that provided technical support and that proved to be unreliable in other projects will not be identified as potential service providers.

Answer: a

Question: 4

Why is visualization of data useful?

- a) Visualization enables the organization to be 80% correct today, rather than 100% correct in 6 months.
- b) Visualization encourages out-of-the-box thinking to generate as many ideas as possible.
- c) Visualization identifies and eliminates the root cause of faults or problems.
- d) Visualization makes it possible to draw conclusions from a large amount of data.

Answer: d

Question: 5

What is the best way to measure the 'on-time' performance of the national railways?

- a) Calculate the difference between the scheduled departure time and the actual departure time over a period of a month
- b) Check the internet to record the departure time for each train over a period of a month
- c) Record the number of trains that left at the scheduled departure time over a period of a day
- d) Record the number of trains that left at the scheduled departure time over a period of a month

Answer: a



Question: 6

A manufacturing plant has a number of inspections built into its production process. Many of these inspections are required to comply with health and safety regulations, some inspections are for quality control purposes, and two inspections are mandated by the customer.

Should any of these inspections be classed as Overprocessing or Waste (Muda)?

- a) Yes, because the inspections mandated by a customer are unnecessary movement.
- b) No, because all inspections are classed as value adding.
- c) Yes, because the inspections measuring quality do not change the product.
- d) No, because the mandated inspections are classed as a necessary activity.

Answer: c

Question: 7

To calculate process capability of non-normal data a Box-Cox transformation is used with a lambda = 0.5. What would be the effect on the USL of 16 in the transformed graph?

- a) Remains at 16
- b) Changed to 8
- c) Changed to 256
- d) Changed to 4

Answer: d

Question: 8

What does a high OEE index indicates?

- a) A machine is being exploited very effectively as compared to the so-called "ideal" machine.
- b) A machine does not need much maintenance.
- c) A machine is running almost all the time with only a few stops.
- d) A machine is running optimally in terms of the 8 Lean 'Waste (Muda)' categories.

Answer: a

Question: 9

The design for a new camera is being developed. When applying Designing for Excellence (DfX), which element is not a relevant factor?

- a) How strong the camera casing should be to protect the camera lens
- b) The number of pixels of the camera sensor
- c) Whether the camera settings and buttons are easy to use and understand
- d) Whether parts from other designs are being considered to use

Answer: b

Question: 10

What is the core of performance management?

- a) Discussing and setting personal goals with individual employees
- b) Discussing performance on KPIs established in the organization
- c) Discussing the support that is necessary and the risks employees see
- d) Looking back on yesterday's workday and looking forward to today

Answer: b

Study Guide to Crack EXIN LSSBB LSSBB Exam:

- Getting details of the LSSBB syllabus, is the first step of a study plan. This pdf is going to be of ultimate help. Completion of the syllabus is must to pass the LSSBB exam.
- Making a schedule is vital. A structured method of preparation leads to success. A candidate must plan his schedule and follow it rigorously to attain success.
- Joining the EXIN provided training for LSSBB exam could be of much help. If there is specific training for the exam, you can discover it from the link above.
- Read from the LSSBB sample questions to gain your idea about the actual exam questions. In this PDF useful sample questions are provided to make your exam preparation easy.
- Practicing on LSSBB practice tests is must. Continuous practice will make you an expert in all syllabus areas.

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