

IASSC Certified Lean Six Sigma Yellow Belt

Six Sigma ICYB

Version Demo

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Topic Break Down

Topic	No. of Questions
Topic 1, Introduction to Lean Six Sigma	54
Topic 2, Define Phase	33
Topic 3, Measure Phase	41
Topic 4, Control Phase	21
Topic 5, Mix Questions	2
Total	151

QUESTION NO: 1

Which of the following are activities associated with the Sustain step of 5S? (Choose two.)

- A. Conduct regular 5S audits
- B. Reinforce workplace standards
- C. Remove unneeded items
- D. Assign locations to needed tools

ANSWER: A B

Explanation:

Conducting regular 5S audits and **reinforcing the established workplace standards** are correct. Sustain is the fifth S and is intended to maintain the gains achieved through Sort, Set in Order, Shine, and Standardize. Audits, visual checks, leadership support, training, and clear ownership help ensure that the improved workplace condition becomes routine rather than temporary.

Removing unneeded items is principally part of Sort, while arranging needed items for ease of use is part of Set in Order. All five steps are connected, but Sustain focuses specifically on maintaining discipline and continuously following the agreed standard. See [Lean Enterprise Institute's 5S overview](#).

QUESTION NO: 2

Which of the following are sources of variation that may be evaluated during a Gage Repeatability and Reproducibility study? (Choose two.)

- A. Same operator measuring the same part repeatedly
- B. Different operators measuring the same part
- C. Customer demand changes
- D. Supplier pricing changes

ANSWER: A B

Explanation:

Variation when the same operator measures the same part repeatedly and **variation among different operators measuring the same part** are correct. Repeatability is the variation observed when one appraiser uses the same measurement device and method to measure the same item repeatedly. Reproducibility is the variation associated with differences among appraisers using the measurement system.

A Gage R&R study helps determine whether measurement-system variation is sufficiently small relative to the process variation or tolerance for the intended decision. Product-to-product variation is also considered in a typical study design, but it is not measurement error introduced by repeatability or reproducibility. See [ASQ's Measurement Systems Analysis overview](#).

QUESTION NO: 3

Which of the following are commonly used to obtain Voice of the Customer information? (Choose two.)

- A. Customer surveys
- B. Customer interviews
- C. Equipment-maintenance logs

ANSWER: A B

Explanation:

Customer surveys and **customer interviews** are correct because both methods directly gather information about customer needs, expectations, perceptions, and dissatisfaction. Voice of the Customer information helps a team identify customer requirements and translate broad needs into measurable Critical-to-Quality characteristics.

Useful VOC information can also be obtained from complaints, warranty records, focus groups, observation, and market research. A calibration record or an equipment-maintenance log may be important process information, but neither is normally a direct source of customer voice. See [ASQ's Voice of the Customer resource](#).

QUESTION NO: 4

Which of the following actions would help reduce the risk associated with a high-priority failure mode identified in an FMEA? (Choose two.)

- A. Implement a mistake-proofing device
- B. Add an effective detection control
- C. Revise the RPN without changing the process
- D. Accept the failure without action

ANSWER: A B

Explanation:

Implementing a mistake-proofing device and **adding an effective detection control** are correct. Mistake-proofing, also called poka-yoke, can prevent a failure cause from occurring or prevent the failure from progressing. An effective detection control can improve the likelihood that a failure is found before it reaches the next operation or the customer.

FMEA actions should address the failure mode, its causes, or its ability to be detected. Simply revising the RPN without changing the process does not reduce risk, and accepting the failure without action does not improve the process. See [ASQ's Failure Mode and Effects Analysis resource](#).

QUESTION NO: 5

Which of the following are examples of non-value-added activities from the customer's perspective? (Choose two.)

- A. Waiting for approval
- B. Re-entering information already entered correctly
- C. Assembling a product feature requested by the customer
- D. Performing a service correctly to meet a stated customer requirement

ANSWER: A B

Explanation:

Waiting for approval and **re-entering information already entered correctly** are correct because neither activity changes the product or service in a way for which the customer would normally be willing to pay. Waiting delays flow, while duplicate data entry is unnecessary processing and may also create opportunities for error.

Lean distinguishes value-added work from non-value-added work by considering whether the activity transforms the product or service, is done correctly the first time, and is something the customer values. Some activities may be necessary under current conditions, such as a required regulatory review, but they should still be examined for simplification or elimination where possible. See [ASQ's Lean resource](#) and the [Lean Enterprise Institute overview of Lean](#).

QUESTION NO: 6

Which best describes the purpose of Six Sigma?

- A. Reduce Value Added Steps
- B. Reduce Variation in processes
- C. Reduce Non-Value Added Steps
- D. Reduce customer requirements

ANSWER: B

Explanation:

The purpose of Six Sigma is to reduce variation in processes. Six Sigma is a data-driven quality-improvement methodology focused on making process performance predictable and capable of consistently meeting customer requirements. It does this by defining critical requirements, measuring current performance, analyzing sources of variation and defects, implementing improvements, and controlling the improved process over time. When unwanted variation is reduced, outputs become more consistent, defect rates decline, and the organization is better able to deliver the level of quality valued by customers.

The statistical name reflects an aspirational level of process capability in which the spread of process results is very small relative to specification limits. In practical Lean Six Sigma work, the objective is not merely to apply statistics; it is to identify and control the root causes that create inconsistent results. Reducing variation therefore directly supports improved quality, reliability, customer satisfaction, and cost performance. The American Society for Quality describes Six Sigma as a method that provides organizations tools to improve business-process capability, reduce defects, and improve performance. See [ASQ's Six Sigma overview](#) and [NIST's discussion of Six Sigma methodology](#).

QUESTION NO: 7

As a Belt created a Process Map he realized there were multiple departments involved in this process so he added a feature to the map called _____.

- A. Passing Lanes
- B. Swim Lanes
- C. Department Dividers
- D. Responsibility Paths

ANSWER: B

Explanation:

Swim Lanes are the appropriate feature to add when a process map crosses multiple departments, roles, or functional areas. A swim-lane process map divides the overall workflow into horizontal or vertical lanes, with each lane representing the person, team, department, or function accountable for particular process activities. This makes handoffs visible, clarifies ownership, and helps a Yellow Belt identify where delays, rework, communication gaps, or unclear responsibilities may occur. In Lean Six Sigma work, understanding these cross-functional handoffs is especially useful during process definition and analysis because problems frequently arise at the interfaces between groups rather than within an individual task. The activities remain arranged in their actual process sequence, while the lanes add accountability context without changing the underlying flow. This visualization supports a shared understanding of the current-state process among stakeholders and

helps the project team locate opportunities to improve coordination and reduce non-value-added waiting. See ASQ's overview of [process mapping](#) and the [swimlane diagram guide from Lucidchart](#) for further details on depicting process responsibility and cross-functional flow.

QUESTION NO: 8

The variation in the average of the measurements made by different appraisers using the same measuring instrument when measuring the identical characteristic is known as?

- A. Repeatability
- B. Bias
- C. Linearity
- D. Reproducibility

ANSWER: D

Explanation:

Reproducibility is the appropriate measurement-system-analysis term because it describes the variation attributable to different appraisers (operators) when they use the same measurement system to assess the same characteristic of the same parts. In a Gage Repeatability and Reproducibility study, appraisers measure selected parts repeatedly under controlled conditions. The appraiser-to-appraiser component is estimated from differences among their average measurements; this is commonly called reproducibility, or the operator component of measurement variation. Assessing reproducibility is important because a measurement process should provide comparable results regardless of which trained person performs the measurement. If appraiser averages differ substantially, decisions based on the measurement—such as accepting product or identifying process variation—may depend improperly on the individual performing the inspection. The AIAG Measurement Systems Analysis reference material identifies reproducibility as variation in average measurements made by different appraisers using the same instrument while measuring the same characteristic. The concept is also covered in NIST's guidance on gauge R&R studies and measurement-process characterization. See [NIST: Measurement Process Characterization](#) and [AIAG: Measurement Systems Analysis](#).

QUESTION NO: 9

A Micro Process Map may map a process showing the entire activities of a department and can likely be broken into many Macro Process Maps showing numerous processes that comprise the activities of the department.

- A. True
- B. False

ANSWER: B

Explanation:

False is correct because process maps are organized from broad to detailed, not from micro to macro. A macro process map provides the high-level view of an end-to-end process or organizational area. It identifies the major process stages, key boundaries, and principal handoffs without documenting every activity or decision. That broad view can then be decomposed into more detailed maps for individual subprocesses.

A micro process map is the detailed, operational-level representation. It documents the specific activities, decisions, inputs, outputs, roles, and sequence of work within a particular process segment. Therefore, a department-wide view of its overall activities would normally begin as a macro-level map and may be broken down into multiple micro process maps. This hierarchical decomposition helps a Lean Six Sigma team maintain context while examining the detailed work where variation, delay, waste, or defects may occur. ASQ describes process mapping as a way to visualize process steps and relationships, while detailed flowcharting supports analysis of the actual work sequence. See [ASQ: Process Mapping](#) and [ASQ: Flowchart](#).

QUESTION NO: 10

Which of the following should normally be included in a Control Plan? (Choose two.)

- A. The method and frequency for monitoring the measure
- B. The reaction required when performance is unacceptable
- C. The original project-team meeting schedule
- D. A list of individual employees to be disciplined

ANSWER: A B

Explanation:

The method and frequency for monitoring the measure and **the reaction required when performance is unacceptable** are correct. A Control Plan documents how critical process characteristics and output measures will be monitored after improvement. It identifies what is to be measured, the acceptable requirement, how and how often it will be checked, who is responsible, and what action must occur if the process does not meet the requirement.

The plan sustains the improved process by making expectations and responses explicit for the process owner. It is not a substitute for the project charter or a document used to assign blame when a problem occurs. See [ASQ's Control Plan resource](#) and [ASQ's Control phase overview](#).

QUESTION NO: 11

SIPOC stands for Suppliers, Inputs, _____, Output and Customers.

- A. Production
- B. Process
- C. Products
- D. Presentation

ANSWER: B

Explanation:

SIPOC stands for Suppliers, Inputs, Process, Outputs, and Customers. Therefore, **Process** correctly fills the blank. A SIPOC diagram is a high-level process-mapping tool used in Lean Six Sigma, particularly during the Define phase of DMAIC, to establish a shared understanding of the process being examined and its boundaries. The Process portion summarizes the major activities that transform the identified inputs into outputs; it is typically represented with a small number of broad steps rather than a detailed workflow. Identifying the process at this level helps the project team clarify what work is included in scope before gathering detailed data or analyzing potential causes of problems. The SIPOC structure also connects the process to its upstream suppliers and inputs, as well as to the outputs delivered and the customers who receive them. This end-to-end perspective ensures the team focuses improvement work on the value stream and on requirements relevant to customers. The [American Society for Quality's SIPOC overview](#) describes SIPOC as a tool for documenting suppliers, inputs, process, outputs, and customers. For additional Lean Six Sigma context, see [iSixSigma's SIPOC definition](#).

QUESTION NO: 12

Lean focuses on analytical and statistical analysis to reduce variation in a process output.

- A. True
- B. False

ANSWER: B

Explanation:

False is correct. Lean principally seeks to maximize customer value and improve process flow by identifying and eliminating waste, such as waiting, unnecessary motion, excess inventory, overproduction, defects, and non-value-added processing. Its methods commonly include value-stream mapping, workplace organization, pull systems, visual management, and continuous improvement. These practices make work flow more efficiently, shorten lead times, and improve responsiveness.

Analytical and statistical methods specifically aimed at understanding and reducing variation in process outputs are central to Six Sigma. Six Sigma uses data-driven tools to measure performance, analyze sources of variation, establish process capability, and sustain more consistent results. Lean and Six Sigma are frequently integrated in Lean Six Sigma because flow efficiency and variation reduction complement one another, but their primary emphases remain distinct. Therefore, describing Lean itself as focused on statistical analysis for variation reduction is not accurate. The American Society for Quality distinguishes Lean's focus on waste and flow from Six Sigma's focus on defect and variation reduction: [ASQ: Lean](#). For additional context on Six Sigma's data-driven improvement approach, see [ASQ: Six Sigma](#).

QUESTION NO: 13

When we create a Process Map we use a _____ to show the direction of work flow.

- A. Solid line arrow
- B. Dashed line arrow
- C. Series of dots
- D. Double lines

ANSWER: A

Explanation:

A solid line arrow is used to show the direction of workflow in a process map. Process maps use standardized flowchart symbols to make the sequence of activities visible and understandable. The arrow, often called a flow line, connects process steps and indicates where the work, material, information, customer request, or output moves next. Its arrowhead establishes the intended direction of travel, allowing a team to follow the process from its starting point through decisions, activities, handoffs, and completion.

This visual direction is essential in Lean Six Sigma because teams use process maps to develop a shared understanding of the current process before identifying waste, delays, rework loops, bottlenecks, and improvement opportunities. Clearly directed arrows also help distinguish the order of work from the symbols representing the work itself, such as rectangles for activities and diamonds for decision points. Standard flowcharting guidance identifies flow lines with arrowheads as the connectors that show the sequence and direction between symbols. See the [ASQ flowchart resource](#) and the [ISO 5807 documentation-symbol reference](#) for established flowchart conventions.

QUESTION NO: 14

As we attempt to find a commonality of terms to assess the performance of a broad range of processes we use a key metric called the DPMO which stands for _____?

- A. Delayed production metrics output
- B. Defects by management oversight
- C. Defects per million opportunities
- D. Developed production management oversight

ANSWER: C

Explanation:

Defects per million opportunities is correct. DPMO is a standardized Six Sigma performance metric that expresses the number of defects observed for every one million opportunities for a defect to occur. An “opportunity” is a measurable chance for a process, product, or service characteristic to fail to meet a defined requirement. By accounting for the number of opportunities in each unit, DPMO allows teams to compare the quality performance of very different processes on a common scale, even when those processes produce different volumes or have different numbers of critical requirements.

The calculation is: defects divided by the product of units produced and defect opportunities per unit, multiplied by one million. This normalization supports baseline measurement during the Measure phase and helps teams evaluate improvement after changes are implemented. DPMO is also commonly used when relating process performance to sigma-level capability, provided the organization applies consistent operational definitions and data-collection methods. The American Society for Quality defines DPMO as defects per million opportunities and provides the associated calculation at [ASQ Six Sigma Metrics](#). For further guidance on defining defects and opportunities in a process measure, see [iSixSigma's DPMO reference](#).

QUESTION NO: 15

The Cost of Poor Quality (COPQ) is comprised of which two of the following? (Choose two.)

- A. Tangible (Visible) Costs
- B. Input Costs
- C. Production
- D. Hidden Costs

ANSWER: A D**Explanation:**

Cost of Poor Quality is correctly described as having both **Tangible (Visible) Costs** and **Hidden Costs**. Visible costs are the readily measured, recorded costs caused by quality failures, such as scrap, rework, warranty claims, returns, repair, sorting, and complaint handling. These costs are usually available in accounting, manufacturing, service, or warranty records and therefore tend to receive the most attention.

Hidden costs are the less directly measured consequences of poor quality. They can include lost customer confidence, lost future sales, reduced employee morale, extra management time, production disruption, and damage to an organization's reputation. The common “iceberg” model of quality costs emphasizes that visible failure costs may represent only the portion above the waterline, while substantial consequential costs remain below it. Identifying both categories helps a Yellow Belt communicate the full business impact of defects and supports prioritization of improvement work based on total economic impact rather than only easily booked expenses. ASQ discusses cost of quality and the financial consequences of quality-related activities at [ASQ's Cost of Quality resource](#); additional guidance on quality-cost concepts is available from the [NIST Baldrige Performance Excellence Program](#).