IASSC Black Belt Certification Practice Test 1

This comprehensive guide offers 150 questions, designed to help you prepare for the IASSC Black Belt exam.

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Your feedback is invaluable in enhancing this document.
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Questions and your corresponding Answers:

Que	Ans	Que	Ans	Que	Ans	Que	Ans	Que	Ans	Que	Ans
1		26		51		76		101		126	
2		27		52		77		102		127	
3		28		53		78		103		128	
4		29		54		79		104		129	
5		30		55		80		105		130	
6		31		56		81		106		131	
7		32		57		82		107		132	
8		33		58		83		108		133	
9		34		59		84		109		134	
10		35		60		85		110		135	
11		36		61		86		111		136	
12		37		62		87		112		137	
13		38		63		88		113		138	
14		39		64		89		114		139	
15		40		65		90		115		140	
16		41		66		91		116		141	
17		42		67		92		117		142	
18		43		68		93		118		143	
19		44		69		94		119		144	
20		45		70		95		120		145	
21		46		71		96		121		146	
22		47		72		97		122		147	
23		48		73		98		123		148	
24		49		74		99		124		149	
25		50		75		100		125		150	

LSS_BoK_1.1 - The Basics of Six Sigma: 6 Questions

Which statistical parameter is used to estimate the probability of a defect?
A) The mean
B) The sigma level
C) The standard deviation
D) It is not possible to determine this probability

Who is most famous for the widespread deployment of Six Sigma at General Electric in 1995?
A) Bob Galvin
B) Jack Welch
C) Bill Smith
D) Joseph Juran

A successful Six Sigma program should reduce the need for management to maintain quality.
A) True
B) False

If Y is discrete and binary (for example: "conforming" or "non-conforming"), the resulting Y = f(X) model:
A) Cannot be calculated
B) Requires a specific two-level experimental design
C) Can be calculated by classical regression using categorical predictive variables
D) Can be calculated by logistic regression with an evaluation of the P-value, and values of the coefficient of determination (R^2)

Data on Voice of the Customer (VOC) cannot be obtained in a reactive and/or proactive manner with:
A) Customer surveys
B) Interviews with customers
C) Market research
D) Satisfaction surveys
E) A market-leading position

The responsibility of a Black Belt is to:
A) Lead a large-scale project completely autonomously, independent of Green Belts
B) Lead a large-scale project, possibly including sub-projects led by Green Belts.
C) Lead a medium-scale project under the supervision of a Master Black Belt
D) Select projects throughout the enterprise

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LSS_BoK_1.2 - The Fundamentals of Six Sigma : 5 Questions

Before being able to describe a process, it is essential for a company to consider the information needed to manage and control this process. A Belt should consider the following questions: Why do we have this project? Who is it for? Therefore, the Belt must determine:

A) The solution
B) The process mapping
C) The problem
D) The objective

Which term best describes the following definition: A mapping process that creates measurable characteristics of a service to a customer?

A) Critical to Process Tree (Critical to Process)
B) Critical to Customer Tree (Critical to Customer)
C) Critical to Business Tree (Critical to Business)
D) Critical to Quality Tree (Critical to Quality)

As a private investor, Jacques is promised a sum of 25,000 euros in two years if he keeps his investment in his friend's manufacturing company. He is offered an annual interest rate of 4%. What is the net present value (NPV) of Jacques' investment?

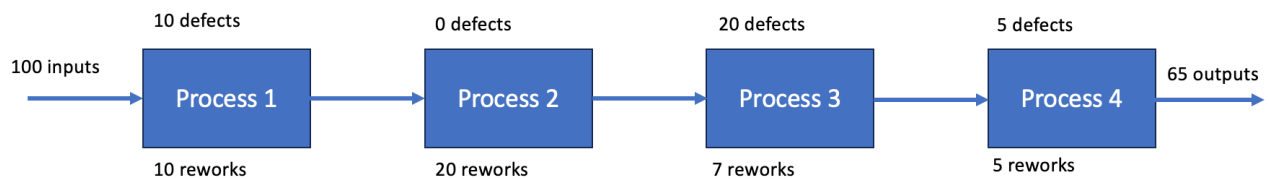A) 23,114 euros
B) 11,423 euros
C) 15,625 euros
D) 23,000 euros

The dotted blue line in the chart indicates:

Freight Billing Errors:

	Secondary Carrier	Missing code	Incorrect destination Postal code	Incorrect codes	Missing Designation	Incorrect Freight Classification	Other
Number	18	15	4	2	1	1	2
Percent	41,9	34,9	9,3	4,7	2,3	2,3	4,7
% Cumulative	41,9	76,7	86,0	90,7	93,0	95,3	100,0

A) The cumulative frequency of billing errors in %
B) The % of errors
C) The % of other billing errors
D) The total number of errors

The complete process RTY is:

100 inputs	10 defects	0 defects	20 defects	5 defects	65 outputs
	Process 1	Process 2	Process 3	Process 4	
	10 reworks	20 reworks	7 reworks	5 reworks	

A) 80%
B) 65%
C) 23%
D) 37.33%

LSS_BoK_1.3 - Selecting Lean Six Sigma Projects: 3 Questions

Question 1/8 or 12/150:
At the end of the definition phase, a project charter states ambitious objectives without quantifying the key performance indicators (KPIs) of the processes. What should the project team and its sponsor do?
A) Abandon the project
B) Reduce the ambition of improvement
C) Wait until the end of the measurement phase to know the precise level of performance without biased data
D) Quantify the objectives and revise them later if necessary

Question 2/8 or 13/150:
A Belt has decided that their main KPI will be Process Cycle Efficiency (PCE), defined as the ratio of value-added time to Process Lead Time. Consequently, you should:
A) Tell them that this is not the correct definition of PCE
B) Tell them that their project is "Lean only" and that he/she should change the subject
C) Tell them to add another KPI on variation to bring a "Six Sigma" dimension to their project
D) Tell them to consider the effect of variation on this KPI, due to concerns of VOC/VOB/VOE

Question 3/8 or 14/150:
The financial impact of the project can be measured as:
A) A one-time event
B) Sustainable savings over time
C) A one-time event or savings over time
D) A percentage of turnover

LSS BoK 1.4 - The Lean Enterprise: 6 Questions

Lean leaders lead from the Gemba, "where the truth lies." They know that the only way to truly understand what is happening is to follow the process at the heart of the action. Therefore, they do all of the following, except:
A) Genchi
B) Genbutsu
C) Genjitsu
D) Hanedashi

Who is the author of the term "Lean" in "Lean Manufacturing," a concept born in the 1990s?
A) Jack Welch
B) Shigeo Shingo
C) W. Edwards Deming
D) James Womack

The combination of Lean and Six Sigma:
A) Can be achieved by adding Lean tools to a DMAIC cycle
B) Can be achieved by integrating tools from each methodology into a PDCA cycle
C) Is not achievable
D) Should be done sequentially

One of the methods used to identify the 7 wastes is:
A) Gemba Walk
B) Project charter creation
C) Brainstorming
D) Comparative analysis

Traditionally, the 7 wastes, also known as "Muda," include:
A) Employee stress analysis
B) Overproduction
C) Data collection
D) Physical inventory activities

Which 5S concept emphasizes the need to place essential information where it's needed?
A) Visual workplace
B) Audits
C) Clean desk policy
D) Daily small group meeting

LSS BoK 2.1 - Process Definition: 8 Questions

It is possible that a team may find that once they have identified possible causes, they may need to investigate further to find a true root cause. For example, each root cause coming out of the main category of a "bone" could have one or more sub-causes stemming from it. At this stage, who can help lead the team to the true root cause?
A) The 5 Whys
B) A Pareto chart
C) Hypothesis testing
D) Waste analysis

An Ishikawa diagram is also called:
A) FMEA (Failure Modes and Effects Analysis)
B) Process mapping
C) Fishbone diagram
D) Box plot

What is the main purpose of a SIPOC?
A) Focus all attention on your customer
B) Identify areas of waste in your process
C) Help you understand what impacts your process
D) Basis for a detailed process flowchart

What is the standard symbol for "an activity or a process step" in process mapping?
A) Diamond
B) Ellipse
C) Arrow
D) Rectangle

The X-Y diagram (prioritization matrix) is used as:
A) A tool used in a team to prioritize potentially influential X's
B) An objective tool
C) A tool for the definition phase
D) A team-based prioritization tool for potential X's