Six Sigma Certification Exam Questions with Answers

(Based on ASQ Black Belt BOK DMAIC sections)

CONTROL

1) A black belt and a green belt are assigned to an assessment project. They need to measure whether trainers' evaluation scores at various six sigma training locations are in control. The data is variable and a sample size is 45. Which control chart should they use?

a) X Bar / S
b) X Bar / R
c) I-MR
d) NP

The X Bar / S should be used when the data is variable and the sample is greater than 10.

2) At a six sigma certification exam a black belt candidate correctly identified that C chart should be used with attribute data when:

a) Measuring defects with variable sample size
b) Measuring defects with constant sample size
c) Measuring defectives with variable sample size
d) Measuring defectives with constant sample size

The C chart is used with attribute data to measure defects with constant sample size. Answer a) is incorrect as it describes U chart. Answers c) and d) refer to P and NP charts for defectives and NOT defects.

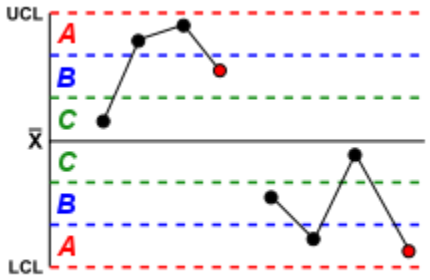
3) _____ system maximizes equipment effectiveness by using a preventative maintenance program throughout the life of the equipment.

a) DFSS
b) TPM
c) SMED
d) Fishbone

TPM or Total Productive Maintenance was pioneered by Toyota group. It ensures continued and uninterrupted performance by equipment in a production process. DFSS stands for Design for Six Sigma and has no direct relation to equipment maintenance. SMED refers to a series of techniques which shorten changeover time for production machinery. Fishbone is not a system, but a diagram.

4) Applying Western Electric rules to control charts, what is the correct interpretation for the this control chart?

Zone A Between 2σ from the centerline and the control limit (3σ)
Zone B Between 1σ and 2σ from the centerline
Zone C Within 1σ of the centerline



a) Variation is due to common causes
b) This is a multi-vary chart
c) Process has dual stability
d) Assignable causes seem to be present

Answer d) is correct as by the Western Electric rules if 2 out of 3 consecutive points fall beyond the 2σ limit (in zone A or beyond), on the same side of the centerline then presences of assignable causes can be inferred. Reference: http://en.wikipedia.org/wiki/Western_Electric_rules

5) Every six sigma practitioner credits _____ _____ with inventing control charts.

a) Edwards Deming
b) Walter Shewhart
c) Joseph Juran
d) Bill Smith

Walter Shewhart invented control charts while working for Bell in 1920s. These charts are also referred as Shewhart charts.