X

Unit 6 - Week 5 - Control Charts for Variables

Assignment - 05

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2018-09-12, 23:59 IST.

1) The object of a statistical process control (SPC) system is to *1 point*

- provide a signal when natural variations are present.
- eliminate natural variation.
- provide a signal when assignable variations are present.
- assess the customer expectations.

No, the answer is incorrect.
Score: 0

Accepted Answers:
provide a signal when assignable variations are present.

2) The R-chart *1 point*

- is used to indicate gains or losses in uniformity.
- is used to measure changes in the central tendency.
- is always in control if the X-bar chart is in control.
- generally, uses control limits set at plus or minus 2 standard deviations of the distribution, rather than plus or minus 3 which is commonly used on the X-bar chart.

No, the answer is incorrect.
Score: 0

Accepted Answers:
is used to indicate gains or losses in uniformity.

3) Which of the following chart types would be used to monitor the average weight of the contents of a box of cereal? *1 point*

- x-bar chart

Accepted Answers:
x-bar chart

4) Which of the following chart types would be used to monitor the range of the diameter of forged steel rods within a production lot? ***1 point***

- x-bar chart
- R-chart
- p-chart
- c-chart

No, the answer is incorrect.
Score: 0

Accepted Answers:
R-chart

5) Twenty samples of size 5 are taken from a stable process. The average means of the sample means is 42.5, and the average range of the samples is 1.5. What is the UCL for the X-bar chart? ***1 point***

- 47.0
- 43.37
- 42.5
- 3.17

No, the answer is incorrect.
Score: 0

Accepted Answers:
43.37

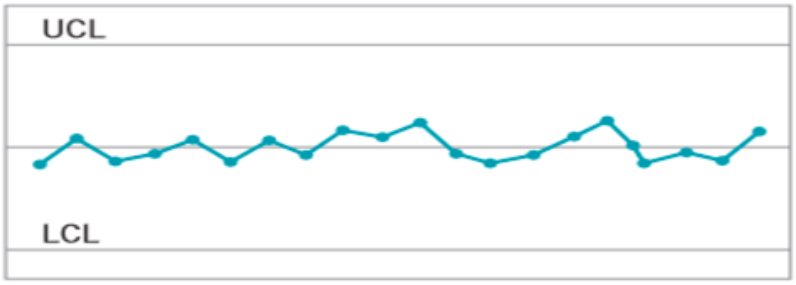
6) Twenty samples of size 5 are taken from a stable process. The average means of the sample means is 42.5, and the average range of the samples is 1.5. What is the UCL for the R-chart? ***1 point***

- 1.5
- 43.37
- 0.00
- 3.17

No, the answer is incorrect.
Score: 0

Accepted Answers:
3.17

7) Carefully look at the Control Chart provided below and identify the Pattern. ***1 point***



- Cyclic Pattern
- Mixture Pattern

- Trend
- Stratification

No, the answer is incorrect.
Score: 0

Accepted Answers:
Stratification

8) _____ pattern on a chart may result from systematic environmental changes such as temperature, operator fatigue, regular rotation of operators and/or machines, or fluctuation in voltage or pressure or some other variable in the production equipment. ***1 point***

- Cyclic
- Mixture
- Trend
- Stratification

No, the answer is incorrect.
Score: 0

Accepted Answers:
Cyclic

9) **Questions 09 - 12**: ***1 point***

A quality control analyst for a light bulb manufacturer is concerned that the time it takes to produce a batch of light bulbs is too erratic. Accordingly, the analyst randomly surveys 5 production periods each day for 8 days and records the sample mean and range for each day.

Day	$\bar{X}(minutes)$	R
1	13.6	3.5
2	14.3	4.1
3	15.3	5.0
4	12.6	2.8
5	11.8	3.7
6	12.9	4.8
7	17.3	4.5
8	15.8	2.4
	113.6	30.8

Referring to the table, suppose the analyst constructs an R chart to see if the variability in production times in-control is. What is the upper control limit (UCL) for this R chart?

- 8.04
- 7.82
- 7.18
- 6.84

No, the answer is incorrect.
Score: 0

Accepted Answers:
8.04

10) Referring to the table, suppose the analyst constructs an R chart to see if the variability in production times in-control is. What is the lower control limit (LCL) for this R chart? ***1 point***

- 0.86
- 0.52
- 3.85
- 0.00

No, the answer is incorrect.
Score: 0

Accepted Answers:
0.00

11) Referring to the table, suppose the analyst constructs an X chart to see if the production process is in-control. What is the upper control limit (UCL) and the lower control limit (LCL) for this chart? ***1 point***

- 15.64 and 12.76
- 16.42 and 11.98
- 14.20 and 3.85
- 15.39 and 12.03

No, the answer is incorrect.
Score: 0

Accepted Answers:
16.42 and 11.98

12) Referring to the table, suppose the analyst constructs an X chart to see if the production process is in-control. Which expression best describes this chart? ***1 point***

- Increasing trend
- Decreasing trend
- At least one point is outside of the control limits
- In-control

No, the answer is incorrect.
Score: 0

Accepted Answers:
At least one point is outside of the control limits

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