

Your grade: 93.33%  
You test: 1 / 2 questions high 93.33% To pass you need at least 80%. We keep your highest score.

Next item →

1 point

1. Statistical process control expectations are encapsulated into the:

Variability of the quality characteristic  
 Consistency of performance  
 Median level of the quality characteristics  
 A and B only

**Correct**  
Statistical process control expectations are encapsulated into the variability of the quality characteristic and consistency of performance

1 / 1 point

2. When preparing for SPC, we must ensure

Buy technology to do SPC  
 Training has been completed.  
 We have dedicated resources to administrate the control chart process  
 B and C only

**Correct**  
When preparing for SPC, we must ensure training has been completed and we have dedicated resources to administrate the control chart process

1 / 1 point

3. Subgroup size is driven by our desire to minimize chance variation within a subgroup. For this reason, 5 groups of five would yield \_\_\_\_\_ informative results over one group of 25.

More  
 Less

**Correct**  
Subgroup size is driven by our desire to minimize chance variation within a subgroup. For this reason, 5 groups of five would yield more informative results over one group of 25.

1 / 1 point

4. Mistaking special causes for other causes, forecloses an opportunity to track down and eliminate something specific that is increasing variation in your process.

True  
 False

**Correct**  
Mistaking special causes for other causes, forecloses an opportunity to track down and eliminate something specific that is increasing variation in your process.

1 / 1 point

5. Within lot variation consists of

piece to piece variation  
 Lot-to-lot variation  
 Time to time variation  
 A and C only

**Correct**  
Within lot variation consists of piece to piece variation and time to time variation

1 / 1 point

6. When we have discrete data and we are counting occurrences with equal opportunity, our best chart selection would be the

C chart  
 U chart  
 Xbar- S Chart  
 P Chart

**Correct**  
When we have discrete data and we are counting occurrences with equal opportunity, our best chart selection would be the C Chart

1 / 1 point

7. When we have continuous data and we have individual measurements, our best chart selection would be the

Xbar- R Chart  
 X-MR  
 I-MR  
 Either B or C

**Correct**  
When we have continuous data and we have individual measurements, our best chart selection would be X-MR or I-MR

1 / 1 point

8. \_\_\_\_\_ are useful at the onset of an improvement or to analyze the outcome of a process improvement.

X-MR  
 Xbar- S Chart  
 I-MR  
 Median charts

**Correct**  
Median charts are useful at the onset of an improvement or to analyze the outcome of a process improvement.

1 point

9. Normality is important for moving average charts

False  
 True

**Incorrect**  
See Module 7-2 Lesson 2

1 / 1 point

10. Subgroup size will be held constant for the following charts.

u chart  
 c chart  
 p chart  
 A and C only

**Correct**  
Subgroup size will be held constant for c charts

1 / 1 point

11. EWMA stands for \_\_\_\_\_

Exponentially Waiting and Moving Average  
 Exponentially Weighted and Moving Average  
 Exponentially Weighted and Moving Average  
 Exponentially Weighted and Median Average

**Correct**  
EWMA stands for Exponentially Weighted and Moving Average

1 / 1 point

12. In EWMA, a memory factor of 0.8 means the rate at which "older" data enters into the calculation is

High  
 Low

**Correct**  
In EWMA, a memory factor of 0.8 means the rate at which "older" data enters into the calculation is low

1 / 1 point

13. A \_\_\_\_\_ is a series of points on the same side of the median.

Trend  
 Shift  
 Run  
 Drift

**Correct**  
A run is a series of points on the same side of the median.

1 / 1 point

14. A special where we have six or more points continuously increasing or decreasing is called

shifting  
 drifting  
 trending  
 cycling

**Correct**  
A special where we have six or more points continuously increasing or decreasing is called trending

1 / 1 point

15. A special where we have fifteen points in a row within 1 stdev of the centerline on either side is called

stratification  
 See Saw  
 trending  
 cycling

**Correct**  
A special where we have fifteen points in a row within 1 stdev of the centerline on either side is called stratification

1 / 1 point

16. There is never a point where preventative maintenance far exceeds its benefit.

False  
 True

**Correct**  
There is a point where preventative maintenance far exceeds its benefit.

1 / 1 point

17. \_\_\_\_\_ places many of the routine elements of the maintenance in the hands of the operator.

Total Preventative Maintenance  
 Total Process Maintenance  
 Total Productive Maintenance  
 Repair Maintenance

**Correct**  
Total Productive Maintenance places many of the routine elements of the maintenance in the hands of the operator.

1 / 1 point

18. Suppose we have the following time frames:

Available time: 560 minutes  
Set up time: 10 minutes  
Planned downtime: 35 minutes  
Unplanned downtime: 50 minutes

What is the availability?

91.1%  
 89.3%  
 88.5%  
 87.8%

**Correct**  
Correct

1 / 1 point

19. Suppose the theoretical cycle time is 2.7 minutes per unit. Actual cycle time is 3.5 minutes per unit. Processed amount is 180 units. 94% of products meet quality standards. If the operating time is 465 minutes, what is the OEE?

48.6%  
 65.8%  
 87%  
 54.8%

**Correct**  
Correct

1 / 1 point

20. \_\_\_\_\_ are left in the hands of a self-directed work force. The workforce will develop the activities, ensure the completion of these activities, problem solve when needed, and track their own performance.

Total Preventative Maintenance activities  
 Autonomous maintenance activities  
 Standard work  
 Repair maintenance activities

**Correct**  
Autonomous maintenance activities are left in the hands of a self-directed work force. The workforce will develop the activities, ensure the completion of these activities, problem solve when needed, and track their own performance.

1 / 1 point

21. When a project concludes, we should always do a post mortem to understand

what went well  
 the best practices can we add to the core values of the business  
 where we will celebrate  
 A and B only

**Correct**  
When a project concludes, we should always do a post mortem to understand what went well and the best practices can we add to the core values of the business

1 / 1 point

22. If the process is functioning, then \_\_\_\_\_ the activities, otherwise, seek to understand why not and develop a new plan for improvement.

Expand  
 Document  
 Eliminate  
 Standardize

**Correct**  
If the process is functioning, then standardize the activities, otherwise, seek to understand why not and develop a new plan for improvement.

1 / 1 point

23. Dynamic control planning is a collection of essential information that pertains to a process. This information can includes all except

control plans  
 gage control plans  
 SOP's  
 TPM's

**Incorrect**  
See Module 7-4 Lesson 2

1 / 1 point

24. We obtain information for our control plan from a number of sources including:

Management  
 Historical data or knowledge  
 Suppliers  
 Employees

**Correct**  
We obtain information for our control plan from a number of sources including historical data or knowledge

1 / 1 point

25. For pre-control, we consider our process qualified when we have \_\_\_\_\_ consecutive measurements in the green zone

10  
 5  
 2

**Correct**  
For pre-control, we consider our process qualified when we have 5 consecutive measurements in the green zone

1 / 1 point

26. When designing a robust curriculum, consider \_\_\_\_\_ content into manageable pieces and build upon a transfer of knowledge approach.

Downsizing  
 Modularizing  
 standardizing  
 Compartmentalizing

**Correct**  
When designing a robust curriculum, consider modularizing content into manageable pieces and build upon a transfer of knowledge approach.

1 / 1 point

27. In the world of manufacturing and business, events never fall into place as they are conceived to. Performance is measured on effort, not results.

True  
 False

**Correct**  
In the world of manufacturing and business, events never fall into place as they are conceived to. Performance is measured on results, not effort.

1 / 1 point

28. Document Control assures that

No one has there own documents  
 Documents are encrypted  
 Documents are kept secret  
 the most current version is used

**Correct**  
Document Control assures that the most current version is used

1 / 1 point

29. Ongoing evaluation is a cyclic process consisting of

Improvement  
 Evaluation  
 Oversight  
 Improvement and Evaluation only

**Correct**  
Ongoing evaluation is a cyclic process consisting of improvement and evaluation only

1 / 1 point

30. As part of ongoing evaluation, the organization should have an oversight or executive committee to respond to both problems and opportunities.

True  
 False

**Correct**  
In the world of manufacturing and business, events never fall into place as they are conceived to. Performance is measured on results, not effort.

1 / 1 point

18. Calculating Availability  
Your Selection: 88.5% (Correct)

Availability measures the percentage of scheduled time that the operation is actually running.

- Planned Production Time: First, subtract planned downtime (like breaks or scheduled meetings) from the total available time.  
• 560 min - 35 min = 525 minutes
- Operating Time: Subtract unplanned losses (unplanned downtime and setup time) from the planned production time.  
• 525 min - 10 min (setup) - 50 min (unplanned) = 465 minutes
- Availability Formula:  
$$\text{Availability} = \frac{\text{Operating Time}}{\text{Planned Production Time}}$$
  
$$465 \approx 0.8857 \text{ or } 88.6\% \text{ (rounded to 88.5% in your options)}$$

19. Calculating OEE  
Your Selection: 48.6% (Correct)

OEE is the product of Availability, Performance, and Quality. Using the operating time from the previous problem:

- Availability: As calculated above, this is 88.57% (or 465/525).
- Performance: This measures how fast the machine ran compared to its ideal speed.

Performance = 
$$\frac{\text{Theoretical Cycle Time} \times \text{Total Units}}{\text{Operating Time}}$$

$$\frac{2.7 \text{ min} \times 180 \text{ units}}{465 \text{ min}} = 0.8857 \text{ or } 88.6\% \text{ (rounded to 88.5% in your options)}$$

(Note: In many OEE models, Performance is capped at 100%, but we'll use the raw value for the final calculation.)

- Quality: You are given that 94% of products meet standards.
- Final OEE Calculation:  
$$\text{OEE} = \text{Availability} \times \text{Performance} \times \text{Quality}$$
  
$$0.8857 \times 1.045 \times 0.94 \approx 0.87 \text{ or } 87\%$$

1 / 1 point