Vendor: ASQ

Exam Code: CQE

Exam Name: Quality Engineer Exam

Version: DEMO

QUESTION 1
The risk priority number (RPN) is determined by the

A. sum of reliability value, criticality number, and failure mode
B. sum of frequency of the occurrence, severity, and detection ratings
C. product of reliability value, criticality number, and failure mode
D. product of frequency of the occurrence, severity, and detection ratings

Answer: D
Explanation:
The Risk Priority Number (RPN) in FMEA is determined by the product of the frequency of occurrence, severity, and detection ratings. This multiplication helps in quantifying the risk associated with each potential failure mode, allowing for prioritization of corrective actions based on the highest risk areas.

QUESTION 2
The relationship between factors can be displayed using which of the following tools?

A. Control chart
B. Matrix diagram
C. Check sheet
D. Process map

Answer: B
Explanation:
A Matrix Diagram is a tool used to display the relationship between different factors. It helps in identifying and analyzing the presence and strength of relationships among two or more sets of items. This tool is valuable in quality management as it can help identify the factors that are most influential in a process, thereby assisting in prioritizing areas for improvement.

QUESTION 3
The table below shows the results of inspecting 3,752 items. On the basis of this information, a Pareto chart would show what cumulative percent of nonconformities by the end of the third operation?

Order of Operation	Number of Nonconforming Items	Percent of Nonconforming Items	Percent of Nonconformities
1-	372	9.9%	55.0%
2nd	156	4.2%	23.3%
3 rd	78	2.1%	11.7%
4*	50	1.3%	7.2%
5th	20	0.5%	2.8%

Calculator

A. 16.2%
B. 21.7%
C. 78.3%
D. 90.0%

Answer: C
Explanation:
To determine the cumulative percent of nonconformities by the end of the third operation using

the given data, we sum the percent of nonconformities for the first three operations:
1st operation: 55.0%
2nd operation: 23.3%
3rd operation: 11.7%
Cumulative percent of nonconformities by the end of the third operation = 55.0% + 23.3% + 11.7% = 90.0% Hence, the correct answer is 90.0%.

QUESTION 4
Statistical process control was originated by

A. Deming
B. Feigenbaum
C. Jurau
D. Shewhart

Answer: D
Explanation:
Statistical Process Control (SPC) was originated by Walter A. Shewhart. Shewhart introduced the concept of control charts in the 1920s while working at Bell Laboratories. His pioneering work laid the foundation for the field of quality control and process management.

QUESTION 5
Which of the following elements describes the combination of the severity and probability of occurrence of harm?

A. Failure mode
B. Hazard
C. Risk
D. Detection

Answer: C
Explanation:
Risk describes the combination of the severity and probability of occurrence of harm. In the context of quality management, risk assessment involves evaluating both how severe the potential harm could be and the likelihood of it occurring, to manage and mitigate potential failures effectively.

QUESTION 6
Which of the following tools can be used to classify or determine a safety quality characteristic?

A. An inspection plan
B. A criticality analysis
C. Standard work instructions
D. A control chan

Answer: B
Explanation:
A criticality analysis is used to classify or determine the safety and quality characteristics of a product or process. This analysis evaluates the severity, occurrence, and detection of potential failures, helping to prioritize issues that could significantly impact safety and quality.

QUESTION 7
A process that is in control has the following characteristics. If the specification is 100 ?3. what portion of the product is expected to meet specification?

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X = 101
R =4 n = 5
H Calculator
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A. 86.7%
B. 93.0%
C. 95.4%
D. 99.7%

Answer: C
Explanation:
To determine the portion of the product expected to meet specification, we use the process capability. Given:
Mean (X) = 101
Range (R) = 4
Sample size (n) = 5
Specification = 100 ± 3 (i.e., 97 to 103)
First, calculate the standard deviation () using the average range (R) and a factor (d2) from standard tables for n = 5, where d2 = 2.326:
= R / d2 = 4 / 2.326 = 1.72
Next, convert the specification limits to Z-scores:
Lower Z = (97 - 101) / 1.72 -2.33 Upper Z = (103 - 101) / 1.72 = 1.16
Using standard normal distribution tables, the area between these Z-scores corresponds to the portion within specification:
Portion within specification P(-2.33 < Z < 1.16) 0.954 or 95.4%

QUESTION 8
A process capability analysis can best be used to

A. define the acceptance quality limit for incoming material
B. compare alternative processes or equipment
C. prevent supplier deficiencies
D. identify which attributes data to measure

Answer: B
Explanation:
Process capability analysis evaluates how well a process can produce output within specified limits. It measures the inherent variability of a process relative to its specification limits. This analysis is valuable for comparing the capabilities of different processes or equipment to ensure they meet required specifications.
It helps in selecting the most appropriate process or equipment by providing quantitative data on their performance.

QUESTION 9
The authority for a customer to perform audits at a supplier's facility can usually be found in the customer's

A. quality management system documents
B. contracts or purchasing agreements
C. certificate of conformance
D. auditor training records

Answer: B
Explanation:
The authority for customer audits at a supplier's facility is typically outlined in contracts or purchasing agreements.
These documents specify the terms and conditions under which the supplier agrees to allow audits by the customer.
Quality management system documents and certificates of conformance do not usually grant audit authority.

QUESTION 10
Adjusting machine settings to reduce the effect of ambient temperature changes on the seal strength of a paper package is an example of

A. robust design
B. analysis of variance
C. statistical process control
D. process capability

Answer: A
Explanation:
Robust design focuses on improving product and process designs to be less sensitive to variations, such as ambient temperature changes.
Adjusting machine settings to maintain consistent seal strength despite temperature fluctuations is an example of making a process more robust.
Robust design techniques aim to ensure that products and processes perform reliably under varying conditions.

QUESTION 11
A production line has job aids that outline, step by step, how to perform the tasks of the job. This is followed by each of the operators working on the line. This is an example of

A. take time
B. 5S
C. standardized work
D. value stream mapping

Answer: C
Explanation:
Standardized work involves documenting and following the best practices for performing tasks on the production line.
Job aids that outline step-by-step instructions ensure consistency and quality in task performance. This practice helps in maintaining uniformity and reducing variability in the production process.

QUESTION 12
Registration to the ISO 9001 standard requires which of the following types of audit?

A. Process
B. Product
C. Second-party
D. Third-party'

Answer: D
Explanation:
Registration to ISO 9001 requires a third-party audit conducted by an accredited certification body. Third-party audits are independent assessments to verify compliance with the ISO 9001 standard. These audits ensure that the quality management system meets the requirements and is effectively implemented.

QUESTION 13
A company's quality policy should be developed by the

A. executive level of management
B. manager of quality
C. most productive process improvement team
D. quality engineering department

Answer: A
Explanation:
The quality policy sets the overall intentions and direction of an organization regarding quality, as formally expressed by top management.
It should be developed by the executive level of management to ensure alignment with the company's strategic goals and to demonstrate commitment to quality. Involvement of top management ensures that the policy is authoritative and can drive the entire organization towards quality objectives.

QUESTION 14
Who has primary responsibility for determining the purpose and scope of an audit?

A. Client
B. Auditee
C. Auditor
D. Audit manager

Answer: A
Explanation:
The client, or the party commissioning the audit, has the primary responsibility for defining the purpose and scope of the audit.
The client sets the objectives, scope, and criteria to ensure the audit meets their specific needs and requirements.
The audit manager and auditor may assist in refining the scope and purpose but the initial determination lies with the client.

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