
**THE
QUALITY ENGINEER
SOLUTIONS TEXT**

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WITH A LITTLE HELP FROM MY FRIENDS.

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We would appreciate any comments regarding improvement and errata. It is our concern to be accurate.

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SECTION II

MANAGEMENT & LEADERSHIP -- TEST QUESTIONS

- 2.1. A thorough review of the works of the major quality gurus would indicate which of the following to be the most effective way to create quality?
- Effective problem solving
 - Benchmarking the best competition
 - Continuous process improvement
 - Modern statistical control techniques

Solution: This question requires a general familiarity with the teachings of major quality gurus and an answer review. Dr. Juran refers to quality improvement as part of his quality trilogy. Dr. Deming's point 5 (The 14 obligations of top management) discusses the need for constant improvement to the process of planning, production and service. Philip Crosby's 14 step approach lists quality improvement teams (2) and "do it all over again"(14) which indicate continuous improvement.

Other answers are subsets of continuous process improvement, which is the best choice.

Answer c is correct.

Reference: *CQE Primer*, Section II - 2/12 (and logic).

- 2.2. A method of improving the performance in any functional area of a company, including product or service quality, would be:
- Utilizing FMEA or FMECA techniques
 - Applying the benchmarking process
 - Instituting an improved design review
 - Reading the Baldrige application guidelines

Solution: FMECA and design review procedures are utilized in product driven companies. Thus, answers (Utilizing FMEA or FMECA techniques) and (Utilizing FMEA or FMECA techniques) can be eliminated. Baldrige criteria is an excellent guideline for systems improvement. However, a specific functional area would be more directly served by using the benchmarking process.

Answer b is correct.

Reference: *CQE Primer*, Section II - 37/39 and other locations.

- 2.3. What is the advantage of displaying a RACI matrix?
- They add considerably more input
 - They show team member's their stake in a project
 - They open stakeholder communication channels
 - They always save team member time

Solution: A RACI matrix does not show team member's stake in a project. For simple projects they may waste team member time. The RACI matrix does open up stakeholder communications.

Answer c is correct.

Reference: *CQE Primer*, Section II - 44.

SECTION II

MANAGEMENT & LEADERSHIP -- TEST QUESTIONS

- 2.4. The best way to disseminate information about a new quality program is to:
- Send an e-mail to all employees
 - Post the announcement on the company bulletin board
 - Send a memo to all department heads
 - Use a combination of media

Solution: People receive communications by various media in different ways. Everyone does not read the bulletin board. Some department heads do not pass on information received in memos. Using e-mail is a convenient way to send messages, but the message may not be read, or may be read at a later date than when the information is useful. To reach all relevant employees with the information about a new quality program, a combination of media is needed, including e-mail, bulletin boards, memos, meetings, newsletters, etc.

Answer d is correct.

Reference: *CQE Primer*, Section II - 73/75.

- 2.5. The most important step in vendor certification is to:
- Obtain copies of the vendor's quality manual
 - Familiarize the vendor with quality requirements
 - Analyze the vendor's first shipment
 - Visit the vendor's plant

Solution: The key question phrase is "most important step." One of the fundamental steps in dealing with a vendor is to familiarize them with the basic requirements. If the requirements are not understood, then quality manuals, plant visits and incoming inspection will be futile.

Answer b is correct.

References: *CQE Primer* Section II - 89/91. This question has been modified from an old published CQE exam.

- 2.6. Which of the following concepts is mostly associated with Taiichi Ohno?
- SPC
 - TOC
 - CTQ
 - TPS

Solution: Taiichi Ohno is the main contributor to the Toyota Production System (TPS).

Answer d is correct.

Reference: *CQE Primer*, Section II - 15 and 19.

SECTION II

MANAGEMENT & LEADERSHIP -- TEST QUESTIONS

- 2.7. For employee involvement efforts to succeed, what may be needed?
- Increased employee incentives
 - Increased basic training companywide
 - Employee understanding of how they can make a difference
 - The initiation of pilot projects

Solution: Increasing employee incentives indicates that one believes that incentives are a way to guarantee success. It is a very specific solution and may not be correct. Increased training is a good choice, but not the best choice. Having employees understand how they can make a difference, is a basic step toward success. The initiation of pilot projects is another specific and somewhat restrictive solution.

Answer c is correct.

Reference: *CQE Primer*, Section II - 53/56.

- 2.8. A pre-award evaluation of a supplier's quality system capability should include consideration of:
- The supplier's product quality history
 - The supplier's geographical location
 - The size of the supplier's quality department
 - The supplier's selling price

Solution: Answer "The supplier's geographical location" is of little importance. The geographical location, especially from an expense standpoint, may affect the methods by which a pre-award is conducted, but should not affect the fact that it will be conducted. Location and quality capability are two different subjects. Answers "The size of the supplier's quality department" and "The supplier's selling price" are of marginal importance. The quality department may be ineffective "The size of the supplier's quality department" and no price is a good price for defectives products and services "The supplier's selling price." Answer "The supplier's product quality history" is very important.

Answer a is correct.

Reference: *CQE Primer*, Section II - 86/89.