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#1 Process Certification Guide

ASQ CQT

ASQ QUALITY TECHNICIAN CERTIFICATION QUESTIONS & ANSWERS

Exam Summary – Syllabus – Questions

CQT

ASQ Certified Quality Technician (CQT)

110 Questions Exam – 550/750 Cut Score – Duration of 270 minutes

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Know Your CQT Certification Well:

The CQT is best suitable for candidates who want to gain knowledge in the ASQ Quality Control. Before you start your CQT preparation you may struggle to get all the crucial Quality Technician materials like CQT syllabus, sample questions, study guide.

But don't worry the CQT PDF is here to help you prepare in a stress free manner.

The PDF is a combination of all your queries like-

- What is in the CQT syllabus?
- How many questions are there in the CQT exam?
- Which Practice test would help me to pass the CQT exam at the first attempt?

Passing the CQT exam makes you ASQ Certified Quality Technician (CQT). Having the Quality Technician certification opens multiple opportunities for you. You can grab a new job, get a higher salary or simply get recognition within your current organization.

ASQ CQT Quality Technician Certification Details:

Exam Name	ASQ Certified Quality Technician
Exam Code	CQT
Exam Fee ASQ MEMBERS	USD $318
NON-MEMBERS	USD $418
RETAKES	USD $208
Exam Duration	270 Minutes
Number of Questions	110
Passing Score	550/750
Format	Multiple Choice Questions
Books / Trainings	**Certified Quality Technician Certification Preparation** **The Certified Quality Technician Handbook, Third Edition**
Schedule Exam	**Book Your Exam**
Sample Questions	**ASQ CQT Exam Sample Questions and Answers**
Practice Exam	**ASQ Certified Quality Technician (CQT) Practice Test**

CQT Syllabus:

I. Quality Concepts and Tools [18 Questions]	
A. Quality Concepts	1. Customers and suppliers - Define internal and external customers, identify their expectations, and determine their satisfaction levels. Define internal and external suppliers and key elements of relations with them. (Understand) 2. Quality principles for products and processes - Explain basic quality principles related to products (such as features, fitness-for-use, and freedom from defects) and processes (such as monitoring, measuring, and continuous improvement). (Understand) 3. Quality standards, requirements, and specifications - Define and distinguish between national or international standards, customer requirements, and product or process specifications. (Understand) 4. Cost of quality (COQ) - Describe and distinguish between the four classic cost of quality categories (prevention, appraisal, internal failure, external failure) and classify activities appropriately. (Apply)
B. Quality Tools	1. The seven basic quality tools - Select, construct, and interpret 1. cause and effect diagrams, 2. flowcharts (process maps), 3. check sheets, 4. Pareto charts, 5. scatter diagrams, 6. control charts, and 7. histograms. (Evaluate) 8. Problem solving techniques - Define, describe, and apply problem solving techniques such as 5 Whys and 8D. (Apply) 9. Six Sigma - Identify key Six Sigma concepts and tools such as quality function deployment (QFD), design of experiments (DOE), and design, measure, analyze, improve, control (DMAIC). (Remember) 10.Lean - Identify key lean concepts and tools such as 5S, value-stream mapping, flow, and pull system. (Remember) 11.Continuous improvement techniques - Define and use various continuous improvement techniques including the plan-do-check-act (PDCA) cycle, brainstorming, and benchmarking. (Apply)
C. ASQ Code of Ethics for Professional Conduct	Determine and apply appropriate behaviors and action that comply with this ethical code. (Evaluate)

II. Statistical Techniques [17 Questions]	
A. General Concepts	1. Terminology - Identify and differentiate between statistical terms such as population, sample, parameter, statistic, and statistical process control (SPC). (Understand) 2. Frequency distributions - Define and compare normal, Poisson, and binomial frequency distributions. (Understand)
B. Calculations	1. Measures of central tendency - Define, compute, and interpret mean, median, and mode. (Analyze) 2. Measures of dispersion - Define, compute, and interpret standard deviation, range, and variance. (Analyze) 3. Confidence levels - Explain confidence levels in various situations. (Understand) 4. Confidence limits - Explain confidence limits in various situations. (Understand) 5. Probability - Explain probability using the basic concepts of combinations, permutations, and area under the normal curve. (Understand)
C. Control Charts	1. Control limits vs. specification limits - Identify and distinguish the different uses of control limits and specification limits. (Analyze) 2. Variables charts - Identify, select, construct, and interpret variables charts such as X-R and X-s. (Analyze) 3. Attributes charts Identify, select, construct and interpret attributes charts such as p, np, c, and u. (Analyze) 4. Process capability measures - Define the prerequisites for capability, and calculate and interpret capability indices (e.g., Cp, Cpk, Pp, Ppk) and capability ratio (CR) in various situations. (Analyze) 5. Common and special cause variation Interpret various control chart patterns (e.g., runs, hugging, trends) and use rules for determining statistical control to distinguish between common cause and special cause variation. (Analyze) 6. Data plotting Identify the advantages and limitations of using this method to analyze data visually. (Understand)
III. Metrology and Calibration [18 Questions]	
A. Types of Measurement and	Describe, select, and use the following types of M&TE, and evaluate their measurement results

Test Equipment (M&TE)	to determine conformance to specifications. (Evaluate) 1. Hand tools (e.g., calipers, micrometers, linear scales, analog, digital, vernier scales) 2. Gauges (e.g., pins, thread, custom gauges, gage blocks) 3. Optical tools (e.g., comparators, profiles, microscopes) 4. Coordinate measuring machines (CMM) (e.g., touch probes, vision, laser) 5. Electronic measuring equipment (e.g., digital displays, output) 6. Weights, balances, and scales 7. Hardness testing equipment (e.g., Brinell, Rockwell) 8. Surface plate methods and equipment 9. Surface analyzers (e.g., profilometers, roughness reference standards) 10. Force measurement tools (e.g., torque wrenches, tensometers) 11. Angle measurement tools (e.g., protractors, sine bars, angle blocks) 12. Color measurement tools (e.g., spectrophotometer, color guides, light boxes) 13. Automated in-line inspection methods (e.g., vision systems, laser inspection systems, pyrometers)
B. Control and Maintenance of M&TE	1. M&TE identification, control, and maintenance - Describe various methodologies for identifying and controlling M&TE to meet traceability requirements, and apply appropriate techniques for maintaining such equipment to obtain optimum performance. (Apply) 2. Customer-supplied M&TE Describe and apply requirements for validation and control of customer-supplied equipment. (Apply)
C. Calibration of M&TE	1. Calibration intervals - Apply calibration schedules on the basis of M&TE usage history and risk. (Apply) 2. Calibration results - Interpret calibration results and the potential impact of using out-of-calibration tools or failing to calibrate equipment on a regular basis. (Analyze) 3. Calibration error Identify the causes of calibration error and its effect on processes and products. (Understand) 4. Hierarchy of standards - Explain the levels of standards (e.g., reference, primary, transfer) and their relationship to one another. (Apply)
IV. Inspection and Test [23 Questions]	
A. Blueprint Reading and Interpretation	1. Blueprint symbols and components - Interpret drawings and apply requirements in various test and inspection activities. (Analyze) 2. Geometric dimensioning and tolerancing (GD&T)

	- Define and apply GD&T covered in the ASME Y14.5 standard. (Analyze) 3. Classification of product defect characteristics - Define and distinguish between defect characteristics (e.g., critical, major, minor). (Analyze)
B. Inspection Concepts	1. Types of measurements - Define and select between direct, differential, and transfer measurements. (Understand) 2. Gauge selection - Determine which measurement instrument to use considering factors such as resolution, accuracy, tolerance, environment, and product features. (Evaluate) 3. Measurement systems analysis (MSA) - Define and distinguish between measurement terms such as correlation, bias, linearity, precision-to-tolerance, and percent agreement. Describe how gauge repeatability and reproducibility (R&R) studies are performed and how they are applied in support of MSA. (Analyze) 4. Rounding rules - Use truncation and rounding rules on both positive and negative numbers. (Apply) 5. Conversion of measurements - Convert between metric and English units. (Apply) 6. Inspection points - Define and distinguish between inspection point functions (e.g., receiving, in-process, final, source, first-article), and determine what type of inspection is appropriate at different stages of production, from raw materials through finished product. (Analyze) 7. Inspection error - Explain various types of inspection error, including operator error (e.g., parallax, fatigue), environment (e.g., vibration, humidity, temperature), and equipment (e.g., limitations, capability, setup). (Understand) 8. Product traceability - Explain the requirements for documenting and preserving the identity of a product and its origins. (Apply) 9. Certificates of compliance (COC) and analysis (COA) - Define and compare these two types of certificates. (Understand)
C. Inspection Techniques and Processes	1. Nondestructive testing (NDT) techniques - Explain various NDT techniques (e.g., X-ray, eddy current, ultrasonic, liquid penetrant, magnetic particle). (Understand) 2. Destructive testing techniques - Explain various destructive tests (e.g., tensile, fatigue, flammability). (Understand) 3. Other testing techniques - Describe characteristics of testing techniques used for electrical measurement (e.g., DC, AC, resistance, capacitance, continuity), chemical analysis (e.g., pH, conductivity,

	chromatography), physical/mechanical measurement (e.g., hardness, pressure tests, vacuum, flow), and other techniques such as gravimetric testing, cleanliness testing, contamination testing, and environmental testing (e.g., bioburden, surface, air, water testing). (Remember)
D. Sampling	1. Sampling characteristics - Identify and define sampling characteristics such as operating characteristic (OC) curve, lot size, sample size, acceptance number, and switching rules. (Apply) 2. Sampling types - Define and distinguish between sampling types such as fixed sampling, single, double, skip lot, 100 percent inspection, attributes, and variables sampling. (Apply) 3. Selecting samples from lots - Determine sample size (e.g., AQL), selection method and accept/reject criteria used in various situations. (Apply)
E. Nonconforming Material	1. Identifying and segregating - Determine whether products or material meet conformance requirements, and use various methods to label and segregate nonconforming materials. (Evaluate) 2. Material review process - Explain various elements of this process such as the function of the material review board (MRB), the steps in determining fitness-for-use, and product disposition. (Understand)
V. Quality Audits [12 Questions]	
A. Audit Types and Terminology	- Define basic audit types: 1) internal, 2) external, 3) systems, 4) product, 5) process. Distinguish between first-,second-, and third-party audits. (Understand)
B. Audit Components	- Describe and apply various elements of the audit process: 1. audit purpose and scope, 2. audit reference standard, 3. audit plan (preparation), 4. audit performance, 5. opening and closing meetings, 6. final report and verification of corrective action. (Apply)
C. Audit Tools and Techniques	- Define and apply various auditing tools: 1. checklists and working papers, 2. data gathering and objective evidence, 3. forward- and backward-tracing, 4. audit sampling plans and procedural guidelines. (Apply)
D. Audit Communication Tools	- Identify and use appropriate interviewing techniques and listening skills in various audit situations, and develop and use graphs, charts, diagrams, and other aids in support of written and oral presentations. (Apply)

VI. Risk Management [12 Questions]	
A. Risk Assessment and Mitigation	- Describe methods of risk assessment and mitigation such as trend analysis (SPC), failure mode and effects analysis (FMEA), root cause analysis (RCA), product and process monitoring reports, and control plans. (Understand)
B. Corrective Action	- Explain and apply elements of the corrective action process: identify the problem, contain the problem (interim action), assign responsibility (personnel) to determine the causes of the problem and propose solutions to eliminate it or prevent its recurrence (permanent action), verify that the solutions are implemented, and confirm their effectiveness (validation). (Apply)
C. Preventive Action	- Explain and apply elements of a preventive action process: use various data analysis techniques to identify potential failures, defects, or process deficiencies; assign responsibility for improving the process (e.g., develop error- or mistake-proofing devices or methods, initiate procedural changes), and verify the effectiveness of the preventive action. (Apply)

ASQ CQT Sample Questions:

Question: 1

Which of the following groups is responsible for producing parts to specifications?

a) The quality assurance department
b) The manufacturing department
c) The process engineering department
d) The manufacturing engineering department

Answer: b

Question: 2

Under which of the following circumstances can the calibration interval of a gage be lengthened?

a) No defective parts were produced that were checked with the gage.
b) The production rate of the parts checked with the gage increases.
c) The inspection department requests the change in writing.
d) History indicates satisfactory calibration performance.

Answer: d

Question: 3

If a distribution is normal, with μ = 50 and σ = 15, what percentage of data will be less than 30?

a) 59.18%
b) 40.82%
c) 1.33%
d) 9.18%

Answer: d

Question: 4

What is the recommended minimum number of subgroups necessary to calculate the limits for a control chart?

a) 10
b) 15
c) 25
d) 35

Answer: c

Question: 5

Who is responsible for determining whether a follow-up response is sufficient to close out an internal audit?

a) Executive management
b) The quality manager
c) The audit team leader
d) The internal auditee

Answer: c

Question: 6

Which of the following tools would be best for measuring projected surface intersections?

a) Thread micrometer
b) Optical comparator
c) Profilometer
d) Protractor

Answer: b

Question: 7

A material review board (MRB) usually has the responsibility for which of the following?

a) Analyzing and dispositioning of nonconforming material
b) Defining the statistical specifications of nonconforming material
c) Assuring the availability of materials to meet production schedules
d) Controlling the cost of materials

Answer: a

Question: 8

Which of the following is the best definition of a flow chart?

a) A diagram used to structure ideas into useful categories
b) An illustration used to analyze variation in a process
c) A picture used to separate steps of a process in sequential order
d) An analytical tool used to clarify opposing aspects of a desired change

Answer: c

Question: 9

Which of the following types of micrometers is best for detecting external out-of-roundness on a cylindrical part?

a) Blade
b) Three-point
c) V-anvil
d) Depth

Answer: c

Question: 10

Which of the following elements of an audit program must be aligned with the organization's overall strategy?

a) Objectives
b) Schedule
c) Scope
d) Compliance

Answer: a

Study Guide to Crack ASQ Quality Technician CQT Exam:

- Getting details of the CQT syllabus, is the first step of a study plan. This pdf is going to be of ultimate help. Completion of the syllabus is must to pass the CQT exam.
- Making a schedule is vital. A structured method of preparation leads to success. A candidate must plan his schedule and follow it rigorously to attain success.
- Joining the ASQ provided training for CQT exam could be of much help. If there is specific training for the exam, you can discover it from the link above.
- Read from the CQT sample questions to gain your idea about the actual exam questions. In this PDF useful sample questions are provided to make your exam preparation easy.
- Practicing on CQT practice tests is must. Continuous practice will make you an expert in all syllabus areas.