CERTIFIED SUPPLIER QUALITY PROFESSIONAL (CSQP)
BODY OF KNOWLEDGE

The topics in this Body of Knowledge include subtext explanations and the cognitive level at which the questions will be written. This information will provide useful guidance for both the Exam Development Committee and the candidate preparing to take the exam. The subtext is not intended to limit the subject matter or be all-inclusive of that material that will be covered in the exam. It is meant to clarify the type of content that will be included on the exam. The descriptor in parentheses at the end of each entry refers to the maximum cognitive level at which the topic will be tested. A complete description of cognitive levels is provided at the end of this document.

I. Supplier Strategy (20 Questions)

A. Supply Chain Vision/Mission
Assist in the development and communication of the supply chain vision/mission statement. (Apply)

B. Supplier Lifecycle Management
1. **Supplier Selection**
   Develop the process for supplier selection and qualification, including the identification of sub-tier suppliers using tools such as SIPOC, decision analysis, and total risk factor analysis. (Create)
2. **Performance Monitoring**
   Develop the supplier performance monitoring system, including expected levels of performance, process reviews, performance evaluations, improvement plans, and exit strategies. (Create)
3. **Supplier Classification System**
   Define and develop a supplier classification system (e.g., non-approved, conditionally approved, approved, preferred, certified, partnership, and disqualified). (Create)
4. **Partnerships and Alliances**
   Identify and analyze strategies for developing customer-supplier partnerships and alliances. (Analyze)

C. Supply Chain Cost Analysis
1. **Cost Reduction**
   Identify and apply relevant inputs to prioritize cost reduction opportunities. (Analyze)
2. **Supply Chain Rationalization**
   Interpret and analyze the optimization of a supply base to improve spending and leverage investments into supplier quality or risk reduction. (Analyze)
3. **Make/Buy Decisions**
   Provide input on make/buy decisions using internal and external capability analysis. Apply tools such as SWOT analysis and use historical performance to analyze requirements. (Analyze)

D. Supplier Agreements or Contracts
1. **Terms and Conditions**
   Review and provide input for developing terms and conditions that govern supplier relationships to ensure quality considerations are addressed. (Apply)
2. **Supplier Agreements**
   Identify elements of supplier agreements (e.g., business and legal approach/requirements). (Understand)

    3. Quality Agreements
Analyze the elements of quality agreements/requirements (e.g., other levels of approval/review). (Analyze)

    4. Finalization Controls
Describe controls used to finalize terms and conditions that govern supplier relationships (e.g., agreements, contracts, and purchase orders). (Understand)

E. Deployment of Strategy and Expectations
Communicate strategy internally and communicate expectations to suppliers externally. (Apply)

II. Risk Management (19 Questions)

A. Strategy

    1. System
Develop a risk-based approach to manage the supply base, including business continuity, contingency planning, and supply chain resilience. (Create)

    2. Product/Service Risk Mitigation
Develop and implement a risk mitigation plan for predicting, minimizing, monitoring, and/or controlling risks. (Create)

    3. Prevention Strategies
Identify and evaluate strategies and techniques such as supply chain mapping, avoidance, detection, and mitigation used to prevent the introduction of counterfeit parts, materials, and services. (Evaluate)

    4. Supplier Risk Identification and Categorization
Identify supplier risks and develop categorization (e.g., organizational, business, security, and product) using tools and models, such as the Kraljic portfolio segmentation model. (Create)

B. Analysis and Mitigation

    1. Analysis
Identify, assess, and prioritize risks to supplier quality using tools such as decision analysis (DA), failure mode and effects analysis (FMEA), fault tree analysis (FTA), and process auditing. (Evaluate).

    2. Mitigation Control
Develop and deploy controls such as inspection and test plans. Prioritize mitigation activities and sustain a risk mitigation plan appropriate to the risk of the product/service. (Create)

    3. Mitigation Effectiveness
Verify the effectiveness of the control plan and improve, if necessary, using continuous improvement methods such as plan-do-check-act (PDCA), lean, and product auditing tools. (Create)

III. Supplier Selection and Part Qualification (27 Questions)

A. Product/Service Requirements Definition

    1. Internal Design Reviews
Identify and apply common elements of the design review process, including roles and responsibilities of the participants. (Apply)

    2. Identifying Requirements
Identify and apply internal requirements (e.g., interrelated functional business units) for product or service in collaboration with stakeholders, including the requirements for supply chain, sub-tier suppliers, and manufacturability evaluation. (Evaluate)

B. Supplier Selection Planning

    1. Supplier Comparison
Evaluate existing suppliers' and distributors' capabilities, capacities, past quality, delivery, price, lead times, and responsiveness against identified requirements. (Evaluate)

    2. Potential Suppliers Evaluation
Assess potential new suppliers against identified requirements using tools such as self-assessments, audits, financial analysis, and quality function deployment. Verify third-party certification status and regulatory compliance and analyze and report on results of assessments to support the supplier selection process. (Evaluate)

    3. Supplier Selection
Evaluate and select suppliers based on analysis of assessment reports and existing supplier evaluations using decision analysis tools such as weighted decision matrices and selection matrices. (Evaluate)

C. Part, Process, and Service Qualification

    1. Technical Review
Interpret and evaluate technical specification requirements and characteristics such as views, title blocks, dimensioning and tolerancing, and apply GD&T symbols as they relate to the product and process. (Evaluate)

    2. Supplier Relations
Collaborate with suppliers to define, interpret, and classify quality characteristics for the part/process/service. (Evaluate)

    3. Process and Service Qualification Planning
Develop a part/process/service (e.g., calibration, laboratory, software, and design) qualification plan with supplier and internal team that includes service provider audit, calibration requirements, sample size, first article inspection, measurement system analysis (MSA), process flow diagram (PFD), failure mode and effects analysis (FMEA), control plans, critical to quality (CTQ), inspection planning, capability studies, material and performance testing, appearance approval, and internal process validation. (Analyze)

    4. Part Approval
Understand production part approval process (PPAP) requirements and ensure suppliers understand the processes required to produce parts with consistent quality during an actual production run at production rates. (Understand)

    5. Validate Requirements
Collaborate with internal team to interpret the results of the executed qualification plan for the part/process/service, including reviewing Certificate of Compliance (CoC), Certificate of Analysis (CoA), and production readiness reviews (PRR). (Evaluate)

IV. Supplier Performance Monitoring, and Improvement (29 Questions)

A. Supplier Performance Monitoring

1. Supplier Metrics

Define, implement, and monitor supplier performance metrics such as quality, delivery (e.g., on-time delivery [OTD] and on-time in full delivery [OTIF]), cost, and responsiveness. (Evaluate)

2. Supplier Performance

Analyze supplier performance data (e.g., warranty analysis/field returns and defect rates) and develop periodic reports (e.g., scorecard and dashboards). (Analyze)

3. Supplier Process Performance

Define and implement lean principles and applications such as 5S, kaizen, value stream mapping, supplier process capabilities and controls, 8 wastes, single minute exchange of dies (SMED), kanban, muda, standardized work, takt time, and error-proofing to reduce waste and increase performance. (Evaluate)

B. Assess Nonconforming Product/Process/Service

Segregate, control, and evaluate nonconforming materials to determine whether a material review board (MRB) requires disposition. Conduct risk assessments to prevent future discrepancies. (Evaluate)

C. Supplier Corrective and Preventive Action (CAPA)

1. Root Cause Analysis Tools and Methods

Evaluate the root cause analysis of a problem using tools such as cause and effect diagrams, Pareto analysis, 5 Why's, fault tree analysis, design of experiments (DOE), brainstorming, check sheets, measurement system analysis (MSA), production records, and review of process flow. (Evaluate)

2. Collaboration with Supplier

Evaluate and implement supplier corrective/preventive action and review its effectiveness and robustness with supplier. Understand the process of updating failure mode and effects analysis (FMEA) and process control plan, and understand statistical process control (SPC), 8D, and product/process design change. (Evaluate)

V. Supplier Quality Management (26 Questions)

A. Supplier Quality Monitoring

1. Supplier Audit

Apply the stages of a quality audit, including audit planning, conducting the initial audit, and executing periodic reevaluation. Understand and apply the various types of quality audits (e.g., product, process, and management system) and audit methods (e.g., virtual, on-site, and desktop). (Apply)

2. Audit Reporting and Follow-up

Apply and analyze audit reporting and follow up, including verification of the effectiveness of corrective action. (Analyze)

3. Supplier Communication

Evaluate various communication techniques such as periodic reviews, metric and performance indices, change management, notifications, recalls, change requests, and business updates. Maintain active communication with suppliers to assess risk and take appropriate action. (Evaluate)

4. **Supplier Development and Remediation**

Identify and analyze present and future training needs and gaps, using quality methods and tools such as kaizen and benchmarking. Use process improvement tools such as DMAIC, cycle time reduction, defect rate, and cost reduction. Evaluate supplier remediation to develop and manage improvement plans. (Evaluate)

5. **Project Management Basics**

Understand and apply various types of project reviews, such as phase-end, management, and retrospectives or post-project reviews to assess project performance and status, to review issues and risks, and discover and capture lessons learned from the project. Apply forecasts, resources, schedules, and task and cost estimates to develop and monitor project plans. (Apply)

B. **Teams and Team Processes**

1. **Team Development**

Identify and describe the various types of teams and the classic stages of team development: forming, storming, norming, performing, and adjourning. (Apply)

2. **Team Roles**

Define and describe various team roles and responsibilities for leader, facilitator, coach, and individual member. (Understand)

3. **Performance and Evaluation**

Describe various techniques to evaluate training, including evaluation planning, feedback surveys, pre-training testing, and post-training testing. (Understand)

C. **Compliance with Requirement and Supplier Categorization**

Understand and evaluate compliance with regulations and industry standards (e.g., RoHS, Governmental regulatory authorities, and ISO), specifications, contracts, agreements, and certification authority. Evaluate and categorize suppliers based on risk and performance. (Evaluate)

VI. Relationship Management (16 Questions)

A. **Supplier Onboarding**

Understand and apply processes for orientation of suppliers such as providing overview of company, vision, mission, guiding principles, overall requirements, expectations, and criticality of product, service, and delivery requirements. (Apply)

B. **Communication**

1. **Techniques and Mediation**

Identify and apply communication techniques (e.g., oral, written, and presentation) specifically for internal stakeholders and suppliers to resolve issues. Apply different techniques when working in multi-cultural environments. Identify and describe the impact that culture, communications, and Diversity, Equity, and Inclusion (DEI) can have on an organization. (Evaluate)

2. **Reporting Using Quality Tools**

Use appropriate technical and managerial reporting techniques for effective presentation and reporting, including the seven classic quality tools: Pareto charts, cause and effect diagrams, flowcharts, control charts, check sheets, scatter diagrams, and histograms. (Analyze)

C. Leadership and Collaboration
Understand and apply techniques for coaching suppliers through regular communications, influencing without authority, negotiation techniques, conflict resolution techniques, and establish clear roles and responsibilities of internal stakeholders and suppliers using tools such as a RACI matrix (responsible, accountable, consulted, and informed). (Evaluate)

VII. Business Governance, Ethics, and Compliance (13 Questions)

A. ASQ Code of Ethics
Determine appropriate behavior in situations requiring ethical decisions, including identifying conflicts of interest, and recognizing and resolving ethical issues. (Apply)

B. Compliance and Sustainability
1. Compliance
Understand issues of compliance and their applicable policies, laws, and regulations (e.g., conflict of interest, confidentiality, and bribery). (Apply)
2. Sustainability
Understand and recognize the importance of environmental, social, and governance factors and adhere to applicable sustainability policies. (Understand)

C. Confidentiality
1. Organizational Policies
Apply organizational policies for executing appropriate agreements such as non-disclosure, quality, and change notification agreements. (Apply)
2. Intellectual Property
Apply procedures for protecting the intellectual property of an organization and its suppliers. (Apply)
3. Illegal Activity
Understand and interpret policies for reporting observations and deviations that could be perceived as illegal activity. (Apply)

**Levels of Cognition
Based on Bloom's Taxonomy – Revised (2001)**

In addition to **content** specifics, the subtext for each topic in this BOK also indicates the intended **complexity level** of the test questions for that topic. These levels are based on "Levels of Cognition" (from Bloom's Taxonomy – Revised, 2001) and are presented below in rank order, from least complex to most complex.

Remember
Recall or recognize terms, definitions, facts, ideas, materials, patterns, sequences, methods, principles, etc.

Understand
Read and understand descriptions, communications, reports, tables, diagrams, directions, regulations, etc.

Apply
Know when and how to use ideas, procedures, methods, formulas, principles, theories, etc.

Analyze
Break down information into its constituent parts and recognize their relationship to one another and how they are organized; identify sublevel factors or salient data from a complex scenario.

Evaluate
Make judgments about the value of proposed ideas, solutions, etc., by comparing the proposal to specific criteria or standards.

Create
Put parts or elements together in such a way as to reveal a pattern or structure not clearly there before; identify which data or information from a complex set is appropriate to examine further or from which supported conclusions can be drawn.