

General Quality Concepts

Q1. What is Quality Assurance (QA)?

A: Quality Assurance is the set of systematic activities and processes designed to ensure that products or services meet customer requirements and industry standards. Unlike Quality Control (QC), which focuses on detecting defects, QA is preventive and process-oriented.

Q2. What is the difference between Quality Assurance and Quality Control?

A: QA ensures processes are designed to prevent defects, while QC involves inspecting the final output to detect and fix defects. QA is proactive; QC is reactive.

Q3. Why is quality important for MSMEs?

A: Strong quality practices reduce waste, build customer trust, ensure compliance with standards (ISO, Six Sigma), and improve competitiveness in larger markets.

Tool-Related Questions

Q4. What is a Pareto Chart and when should I use it?

A: A Pareto Chart shows causes of defects in descending order, applying the 80/20 rule (80% of problems come from 20% of causes). Use it when prioritizing which issues to tackle first.

Q5. What is a Fishbone Diagram?

A: Also known as an Ishikawa diagram, it helps identify root causes of problems. It categorizes causes under the “6M” framework: Man, Machine, Method, Material, Measurement, and Mother Nature (environment).

Q6. What is a Control Chart?

A: A Control Chart monitors process performance over time. It plots data points with control limits to detect unusual variation. Use it for ongoing process stability analysis.

Q7. What is a Histogram used for in quality?

A: A Histogram shows the frequency distribution of data. It helps visualize process variation, patterns, or skewness.

Q8. What is Process Capability Analysis (Cp/Cpk)?

A: Cp and Cpk measure how well a process fits within specification limits. Cp checks overall spread vs. limits, while Cpk accounts for both spread and process centering.

Q9. Which tool should I use if I don't know where defects are coming from?

A: Start with a Fishbone Diagram for root cause analysis, then use a Pareto Chart to prioritize causes.

Q10. Can I customize the charts generated by the system?

A: Yes. The Assistant allows customization of chart labels, colors, and formats before exporting.

System Usage FAQs

Q11. How do I upload documents for analysis?

A: Use the sidebar upload option to add PDFs. The Assistant will extract text, index it, and use it to answer your questions with citations.

Q12. What happens if the system is not confident in its answer?

A: If confidence is below 30%, the system escalates the query to a human expert via email. You can configure the escalation recipient in settings.

Q13. Can the system analyze images or scanned documents?

A: Yes, in Vision Mode, the Assistant can analyze images (charts, tables, defect photos) and incorporate them into responses.

Q14. Can I export generated tools and responses?

A: Yes. You can export charts as PNG/PDF and export chat logs to PDF.

Q15. What kind of data can I provide to generate tools?

A: You can either type your data in natural language (e.g., “We had 50 defects in Machine A, 30 in Machine B...”) or use the data entry forms available in the UI.

Q16. How are tool recommendations made?

A: The system uses semantic matching and confidence scoring to recommend the most relevant QC tool based on your query.

Q17. Do I need coding or statistical knowledge to use this Assistant?

A: No. The Assistant is designed for non-technical users. You just provide data or ask a question in plain English.

Q18. Can multiple team members use the system?

A: Yes, as long as they have access to the deployed web app and necessary credentials.

Q19. What happens to my uploaded data?

A: Uploaded documents are processed temporarily for analysis and stored in the vector index. Sensitive information should be handled carefully as per your company’s data policy.

Q20. How can this system help me as a student learning quality management?

A: You can use it to understand concepts, practice with real QC tools, and see live visualizations of statistical techniques without needing specialized software.

Q21. Who are you?

A: I am an AI-powered Quality Assurance Assistant designed to support MSMEs and quality professionals. I can answer your questions, recommend quality tools, generate charts, and even escalate issues to human experts if needed.

Q22. What can you do for me as an employee of an MSME?

A: I can help you save time by automatically generating quality tools (Pareto, Fishbone, Control Charts, Histograms, Cp/Cpk). I can also guide you through best practices, analyze your QA documents, and explain quality concepts in simple terms.

Q23. Are you replacing human quality experts?

A: No. I am here to assist, not replace. I handle repetitive analysis and tool generation, while complex or uncertain cases are escalated to human experts.

Q24. How should I talk to you?

A: Just type your questions in plain language. For example:

- “Make a Pareto chart for these defect counts...”
- “Explain Cp and Cpk in simple words.”
- “What is the difference between QA and QC?”

Q25. Can I trust your answers?

A: Yes, but with safeguards. When I’m highly confident, I’ll give you the answer directly. If my confidence is low (<30%), I’ll escalate to a human expert via email.

Quality Concepts & Tools

Q26. What is Quality Assurance (QA)?

A: QA is about setting up processes to prevent defects and ensure consistent quality. It is proactive and process-oriented.

Q27. What is the difference between Quality Assurance and Quality Control?

A: QA focuses on preventing defects during processes. QC focuses on detecting defects in finished products.

Q28. What is a Pareto Chart and why should I use it?

A: A Pareto Chart prioritizes problems using the 80/20 rule. It helps MSMEs focus on the most impactful issues first.

Q29. What is a Fishbone Diagram?

A: Also called an Ishikawa diagram, it’s a tool for root cause analysis, categorizing causes under 6M: Man, Machine, Method, Material, Measurement, and Mother Nature.

Q30. What is a Control Chart used for?

A: A Control Chart tracks process variation over time and helps you spot when a process goes out of control.

Q31. What is a Histogram in quality?

A: A Histogram shows how data is distributed, helping you see variation patterns or abnormalities in your process.

Q32. What are Cp and Cpk in process capability analysis?

A: Cp measures how well process spread fits within specification limits. Cpk measures both spread and centering, telling you how capable and consistent your process is.

Q33. Which tool should I use if I don't know the root cause of defects?

A: Start with a Fishbone Diagram for root cause brainstorming, then use a Pareto Chart to prioritize which causes matter most.

Using the Assistant**Q34. How do I upload documents for analysis?**

A: Use the sidebar upload option to add PDFs. I'll extract and index the content, then answer your questions with references from the file.

Q35. What happens if you don't know the answer?

A: If my confidence is low, I'll escalate the query to a designated human expert via email. You can configure the escalation settings in the sidebar.

Q36. Can you analyze images like defect photos or charts?

A: Yes. In Vision Mode, I can analyze images and incorporate them into my answers.

Q37. Can I customize the charts you generate?

A: Yes. You can adjust labels, titles, colors, and formats before exporting.

Q38. Can I export charts and conversations?

A: Yes. You can export charts as PNG/PDF and save chat transcripts as a PDF for reporting.

Q39. Do I need special training to use you?

A: No. Just use plain English. You don't need coding or statistical expertise.

Q40. How do you recommend tools?

A: I use semantic similarity and confidence scoring to suggest the most suitable QC tool for your situation.

Q41. What kind of data can I give you?

A: You can type data in sentences (e.g., "Machine A had 10 defects, Machine B had 5...") or use the sidebar data forms.

Data & Reliability

Q42. Will my data be shared outside my company?

A: No. Escalation emails only go to recipients you configure. Your data stays within your environment.

Q43. Can multiple employees use the Assistant?

A: Yes. Any authorized user with access to the app can use it.

Q45. Can you help me as a student or trainee?

A: Yes! I can explain concepts in simple terms, generate tools for practice, and help you prepare for quality certifications.