

Quality Management and Metrology (MEC-E1090)

Final Examination, Dec. 13th, 2021

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Question 1.

Quality Policy as a part of the **SFS – EN ISO 9001 quality standard**. How the real-life company quality manuals fulfil the standard requirements?

Question 2.

Describe **calibration** and **traceability** as well as their relationship from quality perspective.

Question 3.

Gauge Blocks; calibration of the blocks and calibration with the blocks

Question 4.

Suppose supplier A has provided a sample of 20 parts which upon inspection show a **Cp of 1.21** and a **Cpk of 1.15**. Another Supplier B has provided a sample of 20 parts with upon inspection show a **Cp of 1.62** and a **Cpk of 0.91**.

Which supplier would you rather work with and why?

Question 5.

Reflect the phases of the **DMAIC process** and its typical tools: What do want to achieve and why.

Question 6.

What is an **Xbar-R chart** and how is it useful:

When your product quality levels have a **Cp = 0.8** and **Cpk = 0.7**?

When your product quality levels have a **Cp = 1.5** and **Cpk = 1.2**?