Unit I Introduction to Quality Improvement
Quality Circles, Total quality management definitions – PDCA cycle quality circle tools – old and new QC tools – Statistical Thinking - Motorola’s Six Sigma.

Unit II: Define and Measure tools
Six Sigma overview and the DMAIC principle – process mapping – quality function deployment – failure mode effects analysis – team development for organizational effectiveness – Six Sigma metrics based on normal distribution – evaluation of defect rates – parts per million (PPM) and defects per million opportunities (DPMO) – process capability analysis – measurement system analysis.

Unit III: Analyze and Improvement tools

Unit IV: Control
Control plans – mistake proofing – special applications – discrete parts and continuous processes – control charts and administration - statistical process control charts – tolerencing.

Unit V: Design for Six Sigma and Lean Manufacturing

References: