



TABLE OF CONTENTS

I. CERTIFICATION OVERVIEW	I-1	B. MANAGEMENT TOOLS	IV-21
CQPA EXAM	I-3	1. Affinity diagrams	IV-22
CQPA BOK.....	I-6	2. Tree diagrams	IV-24
II. QUALITY BASICS	II-1	3. PDP charts	IV-26
A. ASQ CODE OF ETHICS	II-2	4. Matrix diagrams	IV-28
B. QUALITY PLANNING	II-6	5. Interrelationship digraphs	IV-30
C. COST OF QUALITY	II-15	6. Prioritization matrices	IV-32
D. STANDARDS/REQUIREMENTS	II-20	7. Activity network diagrams	IV-34
E. DOCUMENTATION SYSTEMS	II-21	C. TAGUCHI CONCEPTS	IV-36
F. AUDITS	II-30	1. Loss function	IV-36
Introduction	II-30	2. Robust design	IV-37
Types	II-33	3. Signal-to-noise ratios	IV-42
Audit Processes	II-39	D. REFERENCES	IV-46
Roles & Responsibilities	II-45	V. IMPROVEMENT TOOLS	V-1
G. REFERENCES	II-47	A. CONTINUOUS IMPROVEMENT MODELS	V-2
III. TEAMS AND TRAINING	III-1	1. PDCA	V-5
A. TEAMS	III-2	2. Kaizen	V-7
1. Types of teams	III-2	3. Six sigma	V-9
2. Team building activities	III-6	4. Reengineering	V-14
3. Roles & responsibilities	III-19	B. PROJECT MANAGEMENT	V-19
B. TRAINING COMPONENTS	III-25	1. PERT	V-24
C. REFERENCES	III-47	2. CPM	V-26
IV. QUALITY TOOLS	IV-1	3. Gantt charts	V-29
A. BASIC TOOLS	IV-2	C. LEAN TECHNIQUES	V-32
1. Cause & effect diagrams	IV-4	1. Lean glossary	V-33
2. Flow charts	IV-6	2. Cycle time reduction	V-35
3. Checksheets	IV-9	3. 5S organization	V-40
4. Histograms	IV-11	4. Visual factory	V-45
5. Control charts	IV-14	5. SMED	V-50
6. Pareto diagrams	IV-15	D. BENCHMARKING	V-53
7. Scatter diagrams	IV-19	E. REFERENCES	V-58
B. MANAGEMENT TOOLS	IV-21	VI. BASIC STATISTICS	VI-1
1. Affinity diagrams	IV-22	A. DATA BASICS	VI-2
2. Tree diagrams	IV-24	B. DATA COLLECTION	VI-5
3. PDP charts	IV-26		
4. Matrix diagrams	IV-28		
5. Interrelationship digraphs	IV-30		
6. Prioritization matrices	IV-32		
7. Activity network diagrams	IV-34		
C. TAGUCHI CONCEPTS	IV-36		
1. Loss function	IV-36		
2. Robust design	IV-37		
3. Signal-to-noise ratios	IV-42		
D. REFERENCES	IV-46		
V. IMPROVEMENT TOOLS	V-1		
A. CONTINUOUS IMPROVEMENT MODELS	V-2		
1. PDCA	V-5		
2. Kaizen	V-7		
3. Six sigma	V-9		
4. Reengineering	V-14		
B. PROJECT MANAGEMENT	V-19		
1. PERT	V-24		
2. CPM	V-26		
3. Gantt charts	V-29		
C. LEAN TECHNIQUES	V-32		
1. Lean glossary	V-33		
2. Cycle time reduction	V-35		
3. 5S organization	V-40		
4. Visual factory	V-45		
5. SMED	V-50		
D. BENCHMARKING	V-53		
E. REFERENCES	V-58		
VI. BASIC STATISTICS	VI-1		
A. DATA BASICS	VI-2		
B. DATA COLLECTION	VI-5		

C. MEASUREMENT SCALES	VI-8	D. DESIGN OF EXPERIMENTS	IX-31
D. BASIC CALCULATIONS	VI-10	1. DOE terms	IX-32
E. PROBABILITY DISTRIBUTIONS	VI-17	2. DOE steps	IX-40
F. PROBABILITY	VI-29	3. Full factorial example	IX-52
G. REFERENCES	VI-38	E. REFERENCES	IX-56
VII. SAMPLING AND MEASUREMENT	VII-1	X. CUSTOMER CONCEPTS	X-1
A. SAMPLING	VII-2	A. INTERNAL & EXTERNAL CUSTOMERS	X-2
1. OC curve	VII-4	1. Employee surveys	X-5
2. OC curve effects	VII-7	2. External customers	X-8
3. Sampling definitions	VII-11	B. CUSTOMER SATISFACTION	X-13
4. Plan summaries	VII-18	1. Customer surveys	X-15
B. MEASUREMENT	VII-23	2. Customer service	X-19
C. REFERENCES	VII-26	3. Customer needs	X-28
VIII. SPC	VIII-1	4. Quality function deployment	X-31
A. CONTROL CHART APPLICATIONS	VIII-2	C. CORRECTIVE & PREVENTIVE ACTIONS	X-34
B. CONTROL LIMITS VS SPEC LIMITS	VIII-4	1. Corrective action definitions	X-36
C. VARIABLE CHARTS	VIII-5	2. Types of corrective action	X-41
1. X bar & R charts	VIII-5	3. Root cause analysis	X-43
2. X bar & sigma charts	VIII-9	4. Prevention activities	X-46
D. CHART INTERPRETATION	VIII-13	D. REFERENCES	X-46
E. ATTRIBUTE CHARTS	VIII-20	XI. SUPPLIER CONCEPTS	XI-1
1. Formulas	VIII-21	A. SUPPLIER MANAGEMENT	XI-2
2. P charts	VIII-22	1. Supplier ratings	XI-4
3. c charts	VIII-24	2. Supplier assessment metrics	XI-11
4. np charts	VIII-26	B. RELIABILITY	XI-17
F. RATIONAL SUBGROUPING	VIII-28	1. Bathtub model	XI-20
G. PRE-CONTROL TECHNIQUE	VIII-31	2. Reliability terminology	XI-23
H. DATA PLOTTING VS RECORDING	VIII-33	C. PRODUCT/PROCESS APPROVAL SYSTEMS	XI-28
I. PROCESS CAPABILITY	VIII-35	D. MATERIAL IDENTIFICATION	XI-34
J. REFERENCES	VIII-46	1. Nonconforming material definitions	XI-39
IX. ADVANCED STATISTICS	IX-1	E. REFERENCES	XI-43
A. HYPOTHESIS STATISTICS	IX-2	XII. APPENDIX	XII-1
1. Confidence intervals	IX-7	A. DEFINITIONS	XII-2
2. Z test	IX-9	B. TABLES	XII-11
3. t test	IX-10	C. INDEX	XII-20
B. ANALYSIS OF VARIANCE	IX-13	D. QUESTION ANSWERS	XII-31
1. F Test	IX-17		
C. REGRESSION & CORRELATION	IX-20		