

Table of Contents

<i>Foreword to the Second Edition</i>	<i>xiii</i>	
<i>Preface and Acknowledgements to the Second Edition</i>	<i>xv</i>	
<i>Preface to the First Edition</i>	<i>xvii</i>	
<i>Acknowledgements to the First Edition</i>	<i>xix</i>	
Chapter 1	Introducing Best Practices	1
1.1	Introduction: What Is a Best Practice?	2
1.2	Key Terms and Definitions	3
1.3	What Do Best Practices Have to Do with Maintenance and Reliability?	4
1.4	Examples of Maintenance and Reliability Benchmarks	6
1.5	Basic Test on Maintenance and Reliability Knowledge	9
1.6	Summary	17
1.7	Self Assessment Questions	17
1.8	References and Suggested Reading	18
Chapter 2	Culture and Leadership	19
2.1	Introduction	20
2.2	Key Terms and Definitions	21
2.3	Leadership and Organizational Culture	22
2.4	Strategic Framework: Vision, Mission, and Goals	28
2.5	Change Management	36
2.6	Reliability Culture	38
2.7	Measures of Performance	42
2.8	Summary	45
2.9	Self Assessment Questions	46
2.10	References and Suggested Reading	47

Chapter 3	Understanding Maintenance	49
3.1	Introduction	50
3.2	Key Terms and Definitions	51
3.3	Maintenance Approaches	53
3.4	Other Maintenance Practices	59
3.5	Maintenance Management System: CMMS	63
3.6	Maintenance Quality	74
3.7	Maintenance Assessment and Improvement	76
3.8	Summary	78
3.9	Self Assessment Questions	79
3.10	References and Suggested Reading	80
Chapter 4	Work Management: Planning and Scheduling	81
4.1	Introduction	82
4.2	Key Terms and Definitions	85
4.3	Work Flow and Roles	87
4.4	Work Classification and Prioritization	91
4.5	Planning Process	98
4.6	Scheduling Process	105
4.7	Turnarounds and Shutdowns	108
4.8	Measures of Performance	113
4.9	Summary	114
4.10	Self Assessment Questions	114
4.11	References and Suggested Reading	115
Chapter 5	Materials, Parts, and Inventory Management	117
5.1	Introduction	118
5.2	Key Terms and Definitions	120
5.3	Types of Inventory	122
5.4	Physical Layout and Storage Equipment	128

5.5	Optimizing Tools and Techniques	134
5.6	Measures of Performance	145
5.7	Summary	147
5.8	Self Assessment Questions	148
5.9	References and Suggested Reading	149
Chapter 6	Measuring and Designing for Reliability and Maintainability	151
6.1	Introduction	152
6.2	Key Terms and Definitions	156
6.3	Defining and Measuring Reliability and Other Terms	157
6.4	Designing and Building for Maintenance and Reliability	176
6.5	Summary	184
6.6	Self Assessment Questions	185
6.7	References and Suggested Reading	186
Chapter 7	Operator Driven Reliability	187
7.1	Introduction	188
7.2	Key Terms and Definitions	190
7.3	The Role of Operations	193
7.4	Total Productive Maintenance (TPM)	194
7.5	Workplace Organization: 5S	203
7.6	Overall Equipment Effectiveness (OEE)	208
7.7	Measures of Performance	213
7.8	Summary	214
7.9	Self Assessment Questions	217
7.10	References and Suggested Reading	217
Chapter 8	Maintenance Optimization	219
8.1	Introduction	220
8.2	Key Terms and Definitions	221

8.3	Understanding Failures and Maintenance Strategies	224
8.4	Maintenance Strategy — RCM	225
8.5	Maintenance Strategy — CBM	245
8.6	Other Maintenance Strategies	274
8.7	Summary	280
8.8	Self Assessment Questions	281
8.9	References and Suggested Reading	282
Chapter 9	Managing Performance	283
9.1	Introduction	284
9.2	Key Terms and Definitions	286
9.3	Identifying Performance Measures	288
9.4	Data Collection and Data Quality	297
9.5	Benchmarking and Benchmarks	298
9.6	Summary	305
9.7	Self Assessment Questions	306
9.8	References and Suggested Reading	307
Chapter 10	Workforce Management	309
10.1	Introduction	310
10.2	Key Terms and Definitions	313
10.3	Employee Life Cycle	314
10.4	Understanding the Generation Gap	317
10.5	Communication Skills	323
10.6	People Development	329
10.7	Resource Management and Organization Structure	338
10.8	Measures of Performance	348
10.9	Summary	348
10.10	Self Assessment Questions	349
10.11	References and Suggested Reading	349

Chapter 11	Maintenance Analysis and Improvement Tools	351
11.1	Introduction	352
11.2	Key Terms and Definitions	353
11.3	Maintenance Root Cause Analysis Tools	357
11.4	Six Sigma and Quality Maintenance Tools	381
11.5	Lean Maintenance Tools	387
11.6	Other Analysis and Improvement Tools	394
11.7	Summary	398
11.8	Self Assessment Questions	399
11.9	References and Suggested Reading	399
Chapter 12	Current Trends and Practices	401
12.1	Introduction	402
12.2	Key Terms and Definitions	402
12.3	Sustainability, Energy Management, and the Green Initiative	405
12.4	Personnel, Facility, and Arc Flash Safety	417
12.5	Risk Management	427
12.6	Corrosion Control	434
12.7	Systems Engineering and Configuration Management	437
12.8	Standards and Standardization	441
12.9	Summary	447
12.10	Self Assessment Questions	449
12.11	References and Suggested Reading	450
	<i>Appendix for Chapter 1</i>	451
	Best Practices Q–A: Answer Key and Explanation	451
	<i>Index</i>	467