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I. o o

A. h

1. Techniques for assuring data accuracy and integrity

B. h

1. Basic probability concepts
2. Descriptive statistics
3. Graphical methods
4. Central limit theorem and sampling distribution of the mean
5. Drawing valid statistical conclusions

C. #

1. Types of data
2. Measurement scales
3. Methods for collecting data
4. Techniques for assuring data accuracy and integrity

D. =

1. Fundamental concepts of hypothesis testing
I. Statistical vs. practical significance
II. Significance level, power, type I and type II errors
III. Sample Size
2. Point and interval estimation
3. Tests for means, variances, and proportions
4. Paired-comparison tests

E. h

1. Distributions commonly used by black belts
2. Other distributions

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II. o o

III. o o

A. h

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1. Six Sigma – basic premise
2. Quality improvement concepts

1. Measurement systems that are discriminate, repeatable, and reproducible
2. Processes in statistical control
3. Statistically capable processes
4. Long term capability

1. Data collection methods
- 2.

- I. @
 - A. Six Sigma – basic premise
 - B. Goals of the lean enterprise
- II. U
 - A. DMAIC
 - B. Utility of a standard methodology
- III.)
 - A. h
 - 1. Project charter and problem statement
 - 2. Charter negotiation
 - 3. Project planning tools
 - 4. Project documentation
 - 5. Project metrics
 - 6. Project tracking
 - 7. Project risk analysis
 - 8. Project closure
 - B. u
 - 1. Initiating teams
 - 2. Selecting team members
 - 3. Team stages and dynamics
 - 4. Roles and responsibilities
 - 5. Team tools
 - 6. Team facilitation techniques
 - 7. Teambuilding
 - 8. Team performance evaluation
 - 9. Motivation techniques
 - 10. Communication
 - 11. Negotiation and conflict resolution techniques
 - C. #
 - 1. Managing change
 - 2. Organizational roadblocks
 - D. t
 - 1. Customer focus
 - 2. Owners and stakeholders
 - E. h
 - 1. Process mapping (flowcharts)
 - 2. Value stream mapping
 - 3. Identify key process input variables and process output variables (SIPOC), and document their relationships through relational matrices, etc.
- IV.

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- A. t
 - 1. Collect customer data
 - 2. Analyze customer data

B. M

C. h

V. °

A. h

- 1. Value-added and non-value-added activities
- 2. Characterize the classic wastes
- 3. To-be flowchart

B. 7

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C. @

VI. @

A. o

B. O

- 1. Visual workplace/factory
- 2. Standard operating procedures
- 3. 5-s
- 4. Error proofing/Mistake proofing/Poka yoke
- 5. Audits
- 6. Quick changeovers/single minute exchange of dies (SMED)
- 7. Total productive maintenance (TPM)
- 8. Level production

C. o

D. h

E. @

VII. #

A. #

B. o

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A. #

B.)

1. Revenue
2. Cost
3. Experience curve
4. Quality
5. Time
6. Complexity
- 7.