

# Section 1

## Unit 1

- Six Sigma Goals
- Value of Six Sigma
- Origins of Six Sigma
- Organizational Drivers
- Goals and Projects
- Lean Principles
- Lean Concepts and Tools
- Non-Value-Added Activities
- Theory of Constraints
- Design for Six Sigma (DFSS)
- DFSS Road Maps

## Unit 2

- FMEA
- Define - Teams & Customers
- Process Management for Projects
- Process Elements
- Owners and Stakeholders
- Identify Customers

- Collect Customer Data
- Analyze Customer Data
- Translate Customer Requirements
- Team Dynamics and Performance
- Team Stages and Dynamics
- Six Sigma and Other Team Roles
- Team Tools
- Communications

## Unit 3

- Define - Projects, Tools & Results
- Project Management Basics
- Project Charter
- Project Scope
- Project Metrics
- Project Planning Tools
- Project Documentation
- Project Risk Analysis
- Project Closure
- Management and Planning Tools
- Business Results for Projects

- Process Performance

## **Unit 4**

- Descriptive Statistics

# **Section 2**

## **Unit 1**

- Measure - Data & Process Analysis
- Process Analysis and Documentation
- Process Modeling
- Process Inputs and Outputs
- Collecting and Summarizing Data
- Data Types
- Data Collection Methods
- Data Accuracy and Integrity
- Graphical Methods

## **Unit 2**

- Measure - Probability
- Probability and Statistics
- Valid Statistical Conclusions

- Central Limit Theorem
- Basic Probability Concepts

## **Unit 3**

- Probability Distributions
- Binomial Distribution
- Poisson Distribution
- Normal Distribution
- Chi-square Distribution
- Student's t Distribution

## **Unit 4**

- Measure - Capability & Measurement
- Measurement System Analysis
- Process Capability and Performance
- Process Capability Studies
- Process Performance vs. Spec
- Process Capability Indices
- Short-term vs. Long-term Capability
- Process Capability for Attributes

# Section 3

## Unit 1

- Analyze
- Exploratory Data Analysis
- Correlation and Regression
- Hypothesis Testing
- Basic Concepts
- Point & Interval Estimation

## Unit 2

- Major Tests
- Paired-comparison Tests
- Single-Factor ANOVA
- Chi-square

## Unit 3

- Improvement Techniques
- Design of Experiments (DOE)
- Introduction
- Terminology

- Design Types
- Implement and Validate Solutions
- Response Surfaces
- EVOP
- DOE Improvement Analysis

## **Unit 4**

- Control Concepts
- Statistical Process Control (SPC)
- Objectives and Benefits
- Rational Subgrouping
- Application of Control Charts
- Variable Charts
- Attribute Charts
- Analysis of Control Charts
- Control Plans