



Preparation for Manager of Quality/Organizational Excellence examination

3 days 8 hours each day

Definition of quality

Leadership

Organization structures

- Quality steering committee
- Functional
- Matrix

Culture

- Organizational
- National
- Sub-cultures

Roles

- Top management
- Senior management
- Project management
- Modern management role
- Unions

Change

- CEO
- Scale
 - Organization wide
 - At a fine level

- Roadblocks

Motivation

- Taylor
- Hawthorne studies
- Maslow
- Theory X vs. Theory Y
- Herzberg

Negotiation

- Win-Win
- Conflict Resolution
- Prisoner's Dilemma studies
- Consensus Building

Empowerment

- Barriers
- Quality of Work Life

Teams

- Stages
- Objectives
- Membership
- Size
- Charter
- Project Selection
- Sponsor
- Champion
- Leader
- Groupthink
- Performance and Evaluation
- Reward and Recognition

Strategic Development

Planning

- Models
- Vision
- Mission
- Principles
- Tactics

Quality Assurance

Standards

- Business impact
- ISO 9001
- Malcolm Baldrige National Quality Award
- ISO/TS 16949
- Audits

Regulations

- Business impact
- Good Laboratory Practice
- Ministry of Transport regulations

Quality Control

- Inspection
- Testing

Standards

- ASTM
- SAE
- IEEE

Regulations

- Good Manufacturing Practice

SWOT Analysis

Five Competitive Forces

- New entrants
- Power of Suppliers
- Power of Customers
- Substitute Products or Services
- Rivalry

Stake Holders

- Needs
- Goal alignment

Plan-Do-Check-Act

Technology

- Trends
- Lean

Continuous Improvement and Six Sigma

- Seven basic tools
- Seven advanced tools

Assessment

- Behavioural
- Technical

Regulatory and Legal

- Health and safety
- Product Safety and Liability
- Criminal and Personal Liability

Strategic Planning

- Integration
- Breakthrough
- Tactical
- Resource allocation
- Deployment
- Metrics

Management skills

Principles

- Planning
- Leading
- Monitoring
- Controlling
- Organizing
- Staffing

Performance

Theories

Organization Structure

- Scientific Management
- Administration
- Organizational Behaviour

Leadership Models

- Management Styles

Personality

- Meyer-Briggs Classification System
- DiSC
- Big Five Factors

Functions

- Responsibilities
 - Functional
 - Cross-Functional

Human Resources

- Selection
- Hiring
- Position Descriptions
- Evaluation
- Development
- Staffing Goals and Objectives

Quality

Financial Management

- Benefit-Cost Analysis
- Returns
- Financial Analysis
- Ratio Analysis
- Cost Accounting
 - Activity based
- Risk Management

Knowledge Management

- Data-Information-Knowledge Cycle
- Availability
- Learning Organization

Communication

- Basics
- Communication Flow
- Forms
- Effectiveness
- Language Issues
- Culture Issues
- Technology
- Information systems

- Electronic

Project Management

- Financial Justification
- Work Breakdown Structure
- Estimation
- Planning
- Measurement
- Risk Management
- Staging (Milestones)
- Documentation

Quality Systems

- Mission
- Principles
- Policies
- Planning
 - Quality Council
- Deployment
- Measurements
- Audits
- Effectiveness
- Management Review
- Models and standards
 - Malcolm Baldrige Award
 - ISO 9001
 - Six Sigma
 - Total Quality Management
 - Continuous Improvement
- Benchmarking

Quality Leaders

- Covey
- Crosby
- Deming
- Feigenbaum
- Ishikawa
- Juran
- Shewhart
- Taguchi

Management Tools

Problem Solving

- Strategy
- Seven basic tools
 - Exercise
 - Cause and Effect Diagram
 - Flow Chart
 - Histogram
 - Check Sheet
 - Pareto Chart
 - Control Chart
 - Scattergram
- Seven Management tools

Improvement activity

- Perform a process
- Improve the process
- Implement the improvement

Reengineering

Innovation

- Creativity
- Brainstorming
- TRIZ
- Risk Assessment
- Design For Six Sigma
 - Quality Function Deployment
- Robust Design
 - Taguchi
- Design For X
- Axiomatic Design
- Systematic Design
- Pugh Concept Selection
- Review Lessons Learned
- Life Cycle cost
- Design Cycle models
 - Waterfall
 - Spiral
- Tools
 - Configuration Management

- Design of Experiments
 - Factorial designs
- Statistical Analysis
- Simulations
- Physical Modelling
- Prototype or first in class
- Reliability Engineering
 - FMEA
 - Reliability
 - Maintainability
 - Availability
- Functional testing
- Qualification testing
- Acceptance testing
- Validation and verification
- Improvement
- Lessons Learned

Implementation

- Manufacturing or service delivery
- Acceptance
- Inspection
- Factory Acceptance Test
- Quality control plan
- Improvement

Cost Accounting

- Accounting Model
- Activity Based Accounting

Cost of Quality

- Prevention
- Appraisal
- Internal Failure
- External Failure
- Optimisation
- Reports
- Limitations

Process Approach

- Goals
- Selection

- Measurement
- Flow

Lean

- Andon Board
- Continuous Flow Manufacturing
 - Cycle Time
 - Process Flow
 - Just-in-Time - Inventory Turns
 - Pull
- Muda - Wastes - Housekeeping
- Poke-Yoke – mistake proofing
- Single Minute Exchange of Die
- Standard Work
- Value stream– Non-Value added

Theory of Constraints

- Constraint Management

Measurement Tools

- Measurement
- Accuracy and Integrity
- Impact of Data Collection
- Goal-Question-Metric

Sampling

- Terminology
- Acceptance Sampling
- Discovery Sampling
- Stratified Sampling
- Randomization

Statistics

- Central Tendency
- Dispersion or variation
- Central Limit Theorem
- Distributions
- Trend analysis
- Process Control
- System Variation
- Process Capability
- Surveys

Customer Focus

Internal Customers

- Communication
- Training

External Customers

- End Users
- Intermediate Users
- Identification
- Characterisation

Customer Expectations

- Basic
- Expected
- Desired
- Unanticipated

Customer Needs

Customer Training

Voice of the Customers

- Quality Function Deployment
- Commitment
- Satisfaction
- Guarantees
- Complaints
- Corrective Action
- Feedback
- Public entities
- Customer Retention
- Customer Loyalty
- Customer Service
- Partnerships
- Conflict Resolution

Supplier Management

Internal Supplier

- Evaluation
- Rating

External Supplier

- Evaluation
- Metrics
- Rating
- Certification
- Improvement
- Reports
- Alliances and Partnerships
- Logistics

Corrective Action

- Material Review Board
- Service Review Board
- Corrective Action
 - Planning
 - Fix current problem
 - Contain and identify scope of problem
 - Root Cause
 - Preventative Action

Communication

- Planning
- Activities

Training and Development

- Management Support
- Objectives
- Alignment with Business Strategy
- Performer Factors
- Needs Analysis
- Curriculum and Materials
- Learning Principles
- Training Tools
- Technology
- Benefits and Costs
- Metrics
- Evaluation
- Kirkpatrick Model

Essay Questions