



Maintenance Engineering A Modern Approach



Designed for:

Mechanical, Maintenance & Electrical, Reliability, planning Engineers, Supervisors, Managers, directors.

Course Objectives:

To supply the participants with the proper maintenance engineering & management systems and introducing new modern approach used in industry according to standards.

Course Outcome:

At the end of this course the attendees will gain the knowledge about maintenance, computerized maintenance programs & maintenance planning basic concepts including maintenance background overview and the human factor in maintenance. Plus the information needed to set up a comprehensive maintenance program, identifying maintenance costs & economics in order to improve their maintenance planning system.

Course Outline:

Basic Concepts

- Maintenance Facts
- Maintenance Engineering Objectives
- Maintenance Terms & Definitions
- Maintenance Management & Control
- Maintenance Organization
- The Duties of a Maintenance Department
- Maintenance Management Principles
- Maintenance Philosophy & Policy
- Critical Path Method "CPM"
- Maintenance Principles

Setting Up a PM Program

- Introduction
- PM Objectives
- PM Elements
- PM Evaluation Questions
- Major Steps of Setting-Up a PM Program
- PM Advantages & Disadvantages
- Corrective Maintenance
- CM Introduction
- Major Steps of Setting-Up a CM Program
- CM Types

Reliability Centered Maintenance

- Introduction
- RCM Goals & Principles
- RCM Process & Components
- Maintenance Types
- Item/ Equipment Monitoring
- Failure Distribution Statistics
- Root Cause Failure Analysis "RCFA"
- RCFA Objectives
- Process for Repetitive Failure Analysis
- Predictive Testing & Inspection Technologies "PTI"
- RCM Effectiveness Measuring Indicators
- RCM Advantages

Maintenance Planning and Scheduling

- What is Planning
- Maintenance Planning Objectives
- Plant Operation
- Planned Maintenance
- Benefits of Planned Maintenance
- Types of Planning
- Planning Techniques
- Scheduling
- Inventory Control

Maintenance Economics & Cost

- Introduction
- Types of Maintenance Costs
- Factors Affecting Maintenance Costs
- Maintenance Budget

- Maintenance Methods and Costs
- Maintenance Classification
- Area for Reducing Maintenance Costs
- Economic Indicators of Maintenance Costs
- How to Reduce Maintenance Costs

Maintenance Human Errors, Quality & Safety

- Human Errors in Maintenance
- Human Failure Problems
- Reasons for Maintenance Errors
- How to reduce Human Errors
- Tools & Equipments Guidelines
- Quality & safety in Maintenance

Computerized Maintenance Management System

- CMMS Facts & Figures
- CMMS Importance
- Work Order System
- Work Order Procedure
- Work Order Registers
- Work Order Loading Boxes
- Statistics Log sheet
- Backlog Article

Reliability & Maintainability

- Reliability Definition
- Reliability Measures
- Reliability Analysis Methods

- Failure Mode & Cause Analysis " FMCA "
- Maintainability Definition
- Maintainability Objective
- Maintainability Design Characteristics
- Maintainability Measures