



# FUNDAMENTALS OF PLANT MAINTENANCE: Principles and Practices

BUILDING COMPETENCE, INSPIRING CONFIDENCE



# Overview

This course provides a comprehensive understanding of maintenance philosophy and the management of maintenance activities. It introduces both traditional and modern maintenance approaches while emphasizing resource management, cost optimization, and reliability improvement to ensure sustainable plant performance.

## Course Objective:

To equip participants with the fundamental concepts and tools needed to effectively plan, manage, and optimize maintenance operations within industrial environments.

## Why Us:

We deliver industry-focused training that empowers professionals and organizations to achieve operational excellence. Each program is customized to client needs, ensuring practical relevance and measurable results.

Our expert trainers bring real-world insights, industrial case studies, sharing their experiences and best practices to every session. We create engaging, actionable learning experiences that bridge the gap between theory and practice.

## Who Should Attend:

Young Engineers and professionals entering the field of maintenance and reliability engineering, seeking to develop a solid foundation in maintenance concepts and practices.

# Course Outline

## Topic 1

### Maintenance Concept & Terminology

Introduction to key maintenance principles and industry terminology (MTBF, MTTR, reliability, availability, maintainability) to build a strong conceptual foundation.

## Topic 2

### Maintenance Objectives

Understanding maintenance goals – maximizing equipment reliability and availability, minimizing downtime, extending asset life, ensuring safety, and optimizing costs.

## Topic 3

### Types of Maintenance

Overview of major maintenance strategies:

1. Preventive Maintenance – scheduled servicing to prevent failures.
2. Predictive Maintenance – data-based forecasting of equipment condition.
3. Reactive (Breakdown) Maintenance – corrective action after failure.
4. Corrective Maintenance – fixing issues identified during inspections.
5. Proactive Maintenance – addressing root causes before failures occur.

# Course Outline

## Topic 4

### Maintenance Organization

Structuring maintenance departments effectively, defining roles and responsibilities, and fostering teamwork and coordination with production.

## Topic 5

### Planning and Scheduling

Developing systematic plans for maintenance tasks, including prioritization, resource allocation, and use of CMMS (Computerized Maintenance Management Systems) to minimize operational disruption.

## Topic 6

### Resources Management and Cost Optimization

Applying preventive and predictive maintenance strategies to reduce breakdown frequency and production losses.

# Trainers



**Mr. Shahid Ahmed**

**Senior Trainer & Consultant**

Mr. Shahid Ahmed, a Mechanical Engineer, began his career at National Fertilizer Corporation before joining Fauji Fertilizer Company Ltd (FFC), where he served for 30 years and rose to Senior Manager Maintenance. As Head of Maintenance, he led all maintenance operation for dual Ammonia-Urea trains, developing strategies to enhance equipment reliability, optimize costs, and extend asset life. Renowned for his leadership and technical expertise, he trained numerous Engineers and fostered high performing teams. His core strengths include preventive maintenance planning, shutdown execution, inventory and asset management, safety compliance, and vendor negotiation. He presented a technical paper at the AIChE Forum in Boston and holds certifications in Strategic Planning (University of Michigan) and Negotiation Strategies (Harvard Law School).



**Mr. Mansoor Ahmed**

**Senior Trainer & Consultant**

Mr. Mansoor Ahmed is a seasoned Mechanical Engineer with over 35 years of leadership experience in industrial maintenance and plant operations. At Fauji Fertilizer Company (FFC), he spent more than 25 years in key roles, including Planning Manager & Maintenance Manager, where he led major turnarounds, shutdowns, and critical equipment repairs. He also served as Assistant Works Manager at Heavy Industries Taxila. With a B.E. in Mechanical Engineering, an MBA in Marketing, and a Diploma in Chinese Language, he has further enhanced his expertise through international certifications and leadership training from China, the Netherlands, Turkey, Malaysia, Singapore, IBA Karachi, and LUMS. Known for his strategic planning, mentorship, and strong operational command, he is widely respected for his contributions to plant reliability and team development.

# Logistics

## Duration

2 days

## Location

At Client's Site / Lahore

## Training Instructors

Mr. Shahid Ahmed | Mr. Mansoor Ahmed

Get in Touch

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