ADVANCED MAINTENANCE EXCELLENCE: INTEGRATING INDUSTRY 4.0

CPD COURSE (PEC)

TWO DAYS TRAINING

5TH & 6TH AUG

SATURDAY-SUNDAY

TOTAL CONTACT HOURS 12

NUST CERTIFIED COURSE

COURSE DESCRIPTION:

Advanced Maintenance Excellence: Integrating Industry 4.0 is a comprehensive course designed to equip professionals with advanced skills in maintenance management. Participants will gain a deep understanding of maintenance department design, performance management, continuous improvement methodologies like Total Productive Maintenance (TPM) and 5s, Industry 4.0 integration using Internet of Things (IoT), Artificial Intelligence (AI), and smart sensors for real-time data analytics. The course also covers Reliability Centered Maintenance (RCM) methodologies, such as Failure Mode and Effective Analysis (FMEA), and emphasizes the importance of safety in maintenance operation. Led by Dr. Antash Najib, an experienced researcher and industrial consultant, the course combines theoretical knowledge with practical exercises and case studies to enhance understanding and application of key concepts

COURSE OUTLINE

- MAINTENANCE DEPARTMENT DESIGN
- MAINTENANCE PERFORMANCE MANAGEMENT
- CONTINUOUS MAINTENANCE IMPROVEMENT (TPM & 5S MODEL)
- INDUSTRY 4.0 INTEGRATION IN MAINTENANCE (IOT, AI & SMART SENSORS FOR REAL-TIME DATA ANALYTICS)
- RELIABILITY CENTERED MAINTENANCE
- MAINTENANCE & SAFETY

LEARNING INVESTMENT

RS: 15,000/-

Scan For Registration

PNS JAUHAR, Habib Ibrahim Rehmatullah Road, Karachi, Pakistan

NUST KARACHI CAMPUS

INDUSTRY 4.0

PDC
NUST-PNEC

NUST CERTIFIED COURSE

WORKSHOP CONTENTS:

DAY-1

MODULE 1
MAINTENANCE DEPARTMENT DESIGN

1. Asset Management & Maintenance Management
2. Objectives & organization of Maintenance Department
3. Issues in Maintenance Organization
4. Exercise: Designing a Maintenance department

MODULE 2
MAINTENANCE PERFORMANCE MANAGEMENT

1. Maintenance Productivity & Performance
2. Maintenance Performance Measurement (MPM)
3. MPM-Overall Equipment Effectiveness (OEE)
4. Exercise: Calculating the OEE for a company

MODULE 3
CONTINUOUS MAINTENANCE IMPROVEMENT (TPM & 5S MODEL)

1. Total Productive Maintenance (TPM)
2. TPM: 5s Model and implementation
3. TPM: Components or Pillars
4. Exercise: Importance of 5s

DAY-2

MODULE 4
INDUSTRY 4.0 INTEGRATION IN MAINTENANCE (INTERNET OF THINGS, AI AND SMART SENSORS FOR REAL-TIME DATA ANALYTICS)

1. ·Maintenance Management strategies
2. ·IoT technologies for real-time data analytics.
3. ·AI for predictive maintenance and anomaly detection.
4. ·Smart sensors and data collection.
5. ·Cloud computing and remote monitoring.
6. ·Cybersecurity considerations.
7. ·Case Study: Maintenance at a 4.0 automotive industry.

MODULE 5
RELIABILITY CENTERED MAINTENANCE

1. Historical background
2. RCM methodology
3. Failure Mode and Effect Analysis (FMEA)
4. Logic or Decision Tree Analysis (LTA)
5. Case Study: FMEA Power plant steam generator (boiler

MODULE 6
MAINTENANCE & SAFETY

1. Significance of studying Maintenance & Safety
2. Interconnection between Safety and Maintenance
3. Root causes of safety-related issues in Maintenance
4. Approaches for Accident and Hazard Prevention in Maintenance

ABOUT THE TRAINER:

Dr. Antash Najib is an accomplished researcher and industrial consultant with over 10 years of experience in the power generation, Oil & Gas and and Energy R&D industries. Dr. Najib holds a PhD from the University of California, Davis, and has served in different roles at various industries including K-Electric Limited, Himark Biogas (Canadian Front-End Engineering Design Firm), ENI (Italian Oil and Gas company) and Western Cooling Efficiency Center, USA. He continues to work as a consultant and trainer for various National and International industries for areas related to maintenance and energy efficiency.

CONTACT US

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