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ME021:
Excellence in Maintenance & Reliability Management: *Preventive & Predictive Maintenance and Machinery Failure Analysis (RCFA)*

Training Description:

This intensive course presents the concepts and techniques of Maintenance, Reliability Management preventive, Predictive Maintenance and Machinery Failure Analysis. It is specifically designed to meet the needs of Managers, Engineers, Assistants and all technical personnel involved in maintenance. The course starts with maintenance strategies, concepts, techniques and spare parts management system. It covers the role, impact, cost, and benefits of preventive and predictive maintenance. It also covers the condition-based maintenance techniques and Machinery failure analysis in details. It covers the role, impact, cost, and benefits of Reliability Centered Maintenance (RCM). It also covers the RCM techniques, software, and methods such as the seven stages of RCM and FMECA; in additional to the implementation steps. Total productive maintenance (TPM) program implementation is presented. By the end of the course, the participants will be able to establish the maintenance system and techniques suitable to their own facilities.

Training Objectives:

By the end of the training, participants will be able to:

- ✓ Understand the maintenance concepts and techniques
- ✓ Understand the concept, performance measures, and analysis of preventive and predictive maintenance
- ✓ Describe the maintenance and reliability management as the basis of maintenance
- ✓ Identify preventive maintenance planning and scheduling
- ✓ Discuss the causes, effects, and goals of a successful preventive maintenance program
- ✓ Explain how a computerized preventive maintenance program can be developed and implemented
- ✓ Gain knowledge of the potential contribution of preventive and predictive maintenance technique to maintenance efficiency and performance
- ✓ Gain knowledge of the condition-based maintenance techniques and applications
- ✓ Apply a practical approach to developing an action plan to utilize preventive maintenance in trainee's area of responsibility, fitting into the overall maintenance organization and strategy
- ✓ Understand the concept, performance measures, and analysis of RCM
- ✓ Gain knowledge of the potential contribution of RCM to maintenance efficiency and performance
- ✓ Illustrate guidelines indicating how RCM interacts with and supports other elements of maintenance strategy particularly condition monitoring and CBM
- ✓ Apply a practical approach to developing an action plan to utilize RCM and TPM in the trainee's area of responsibility, fitting them into the overall maintenance organization and strategy

Training Designed for:

This course is intended for all Operators, Technicians, Maintenance Personnel, and Engineers in the fields of industry, gas turbine plants, heavy industry, electricity and water authority, chemical processing industries and oil industry.

Training Requirement:

"Hand's on practical sessions, equipment and software will be applied during the course if required and as per the client's request."

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Contents can be adapted to your specific wishes. It is therefore possible to focus on specific modules of the training course as per client's learning needs and objectives. Further, it should be forwarded to us a month prior to the course dates.

Training Program:

DAY ONE:

- PRE-TEST
- Maintenance Strategies
  - Types of maintenance, maintenance strategies, developments in maintenance
- Preventive Maintenance (PM), Concepts, Modeling & Analysis
  - Introduction, PM program goals, preventive maintenance advantages and disadvantages, criticality & vulnerability analysis and assessment, asset criticality

DAY TWO:

- Maintenance Logistics, Spares and Cost Modeling & Optimization
  - Asset management, types of decision, equipment deterioration types, spare parts management
- Risk Based Maintenance
  - Understanding risk, 7-steps of RBM, Failure Mode Effect & Critically Analysis (FMECA)

DAY THREE:

- Condition Based Maintenance
  - Condition monitoring techniques, vibration monitoring, vibration analysis, thermography, oil analysis, FFT spectrum
  - Analysis, electric analysis, water inspection, visual inspections, ultrasonic inspections, other techniques
- Measuring Failures
  - System reliability, achieving and improving system reliability., system configurations, failure rate, failure over time and equipment life cycle, Mean Time Between Failures (MTBF), Mean Time to Repair (MTTR), availability

DAY FOUR:

- Failure Detection and Analysis
- Maintenance Forecasting & Capacity Planning
- Maintenance Costs
- Understanding Reliability Centered Maintenance (RCM)
  - Reliability Centered Maintenance performance measures - availability & OEE
  - Reliability Centered Maintenance process and implementations

DAY FIVE:

- RCM Implementation-Organization and Sustaining Benefits
  - Total Productive Maintenance (TPM)
- Workshop
- The participants will be divided to small groups and discuss the implementation method of learnt techniques in their work
- Course Conclusion
- POST-ASSESSMENT and EVALUATION

Training Methodology:

This interactive training course includes the following training methodologies as a percentage of the total tuition hours:

- 30% Lectures, Concepts, Role Play
- 70% Workshops & Work Presentations, Techniques, Based on Case Studies & Practical Exercises, Gamification, Software & General Discussions
- Pre and Post Test

Training Certificate(s):

CMCT Internationally recognized certificate(s) will be issued to each participant who completed the course.

Training Fees:

TBA as per the course location - This rate includes participant's manual, hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Note: The 5% VAT (Value Added Tax), will be effective starting 01st of January 2018 as per the new regulation from the UAE Government. The VAT applies for all quotation both for local and abroad.

Training Timings:

Daily Timings:

07:45 - 08:00	Morning Coffee / Tea
08:00 - 10:00	First Session
10:00 - 10:20	Recess (Coffee/Tea/Snacks)
10:20 - 12:20	Second Session
12:20 - 13:00	Recess (Prayer Break & Lunch)
13:00 - 14:00	Last Session

For training registrations or in-house enquiries, please contact:

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