Tel No:+97126654546 | Fax No:+97126654182 | Email: training@cmc-me.com | www.cmc-me.com

MU238:
Centrifugal Compressor & Steam Turbine

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Training Description:

This intensive training course is designed to provide participants with a detailed and up-to-date overview of centrifugal compressor and steam turbine. It covers the different types of compressors and turbines; the classification of steam turbines and compressors; the principles of operation of compressors and turbines; the importance of dry seals and bearings on compressors and turbines availability; and the advanced information in preventive as well as predictive maintenance of compressors and steam turbines.

During this interactive course, participants will learn the advanced condition monitoring technologies stressing on vibration and oil analysis; the safety, start-up and shutdown of steam turbines and compressors; and the pre-warming and start-up of different types of compressor, compressor loading and turbine ramp up, pressure balancing and line-up of compressor/turbine with the process and surging and anti-surge controlling, emergency handling and safe shutdown.

Training Objectives:

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

- ✓ Operate, maintain and troubleshoot steam turbines and centrifugal compressors in a professional manner
- ✓ Identify the different types of compressors and turbines as well as classify steam turbines and compressors
- ✓ Discuss the principles of operation of compressors and turbines
- ✓ Recognize the importance of dry seals and bearings on compressors and turbines availability
- ✓ Grasp the advanced information in preventive as well as predictive maintenance of compressors and steam turbines
- ✓ Present the advanced condition monitoring technologies stressing on vibration and oil analysis
- ✓ Carryout safety, start-up and shutdown of steam turbines and compressors
- ✓ Troubleshoot compressors and turbines
- ✓ Perform pre-warming and start-up of different types of compressor, compressor loading, and turbine ramp up, pressure balancing and line-up of compressor/turbine with the process and surging and anti-surge controlling, emergency handling and safe shutdown

Training Designed for:

This course is intended for Supervisors, Operation Specialists and field operators.

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."

Practical session will be organized during the course for participants to practice the theory learnt. Participants will be provided with an opportunity to carryout various exercises using the "SIM 3300 Centrifugal Compressor", "CBT on Compressors" and "Steam Turbines & Governing System CBT" simulators.

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.

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Training Program:

DAY ONE:

- PRE-TEST
- Steam Turbine
  - Introduction of Steam Turbines Theory, Theory of Operation, Main Components of a Steam Turbine Engine, Arrangements of Steam Turbines, Introduction to Combined Cycles, Combines Cycles Applications & Advantages, Steam Turbine Industrial Applications

DAY TWO:

- Steam Turbine Maintenance
  - Steam Turbine Maintenance & Reliability, Steam Turbine Preventive, Maintenance Planning & Scheduling, Fault Diagnosis of Steam Turbines, Troubleshooting of Steam Turbines, Steam Turbine Checking List, Vibration Check

DAY THREE:

- Cogeneration Systems
  - Introduction to Cogeneration, Types of Cogeneration Systems, Cogeneration with Steam Turbine Cycle, Cogeneration with Gas Turbine Cycle, Selection Considerations of Combined Cycles and Cogeneration, Plants Applications of Cogeneration & Combined Cycle Plants

DAY FOUR:

- Centrifugal Compressors
  - Compressors Overview, Compressors Classifications, Principles of Operation, Types of Compressors, Centrifugal Compressor Components, Centrifugal Compressor Performance, Centrifugal Compressor Selection, Centrifugal Compressor Seals
- Simulator (Hands-on Practical Sessions)
  - Practical session will be organized during the course for participants to practice the theory learnt. Participants will be provided with an opportunity to carryout various exercises using the "SIM 3300 Centrifugal Compressor", "CBT on Compressors" and "Steam Turbines & Governing System CBT" simulators

DAY FIVE:

- Centrifugal Compressor Maintenance &Troubleshooting
  - Maintenance Types, Maintenance Techniques, Centrifugal Compressor Preventive Maintenance, Fault Diagnosis of Centrifugal Compressors, Troubleshooting of Centrifugal Compressors, Centrifugal Compressor Installation, Centrifugal Compressor FactoryTest, Centrifugal Compressor SiteTest
- Course Conclusion
- POST-ASSESSMENT and EVALUATION

Training Certificate(s):

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

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 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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