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Institute for Private Training
معهد إنفو تك للتدريب الأهلي

Refinery Process Plant Troubleshooting & Problem Solving

Course Title	**Refinery Process Plant Troubleshooting & Problem Solving**
Country	**Dubai**
Location	**4-5 Star Hotel**
Time	**8AM - 2PM**
Date	**25 - 29 January 2026**

Learning Outcomes

- Apply structured troubleshooting methods to refinery operations.
- Diagnose problems effectively in process, control, and mechanical systems.
- Improve plant reliability and minimize unplanned shutdowns.
- Implement proactive and innovative solutions in refinery troubleshooting.

Day 1 – Introduction & Common Challenges

- Overview of refinery process plant operations and unit configurations.
- Typical operating problems in crude distillation, hydroprocessing, and reforming units.
- Troubleshooting fundamentals: systematic approach to identifying problems.
- Workshop: Identifying challenges in participants' own refinery units.

Day 2 – Diagnostic Tools & Root Cause Analysis

- Data gathering and analysis for troubleshooting.
- Root Cause Analysis (RCA) techniques and decision trees.
- Using PFDs and P&IDs to trace process deviations.
- Case Study: Atmospheric distillation column failure.

Day 3 – Instrumentation & Control Systems

- Role of process control in troubleshooting.
- Troubleshooting instrumentation issues (sensors, valves, transmitters).
- Emergency scenarios caused by control failures.
- Workshop: Simulated pressure/temperature control failure.

Day 4 – Mechanical & Operational Issues

- Mechanical failures: pumps, compressors, heat exchangers.
- Fouling, corrosion, and leakage issues in refinery equipment.
- Corrective vs. preventive maintenance strategies.
- Case Study: Heat exchanger fouling and blockage.

Day 5 – Innovative Solutions & Wrap-Up

- Advanced troubleshooting strategies and reliability-centered maintenance.
- Application of digital tools (Digital Twin, Predictive Analytics, AI in refineries).
- Developing proactive maintenance and troubleshooting plans.
- Final Project: Group presentation of a full troubleshooting action plan for a refinery case.