

## Overview of Rotating Equipment

### Z MEC-02

#### Duration :

Three days 18 Hours

#### Who Should Attend :

Field junior engineers, senior and junior maintenance technicians

#### Language :

Arabic, English



#### Overview

To provide the operation & maintenance engineers and technicians with the means to properly operate and support the rotating equipment in a way based on the good acquaintance. With the modern technologies applied in this field. Trouble-shooting & forecasting break downs are inclusive

#### Topics

- Technology and operation of rotating machines
- General Aspects of Machine Technology
- Main parts of the machines: casing, rotor, bearing coupling
- Auxiliaries: flushing, heating and cooling, lubrication systems
- Maintenance: assembly and dismounting procedures inspection, clearance, adjustment & alignment
- Operation and Performance
- Process Aspects
- Running parameters, head, flow, rpm, and efficiency
- Characteristic curves. Regulation. Start-up, routine survey. Effect of internal wear
- Mechanical Aspect
- Stress in machines. Influence on lifetime, on damage
- Failure prevention; monitoring, repair quality
- Internal leakages. Unbalancing. Wear and ruptures
- vibration
- Technology and Maintenance of the Machine components
- Lubrication
- Purpose, lube roles, different types of oil and grease
- Practical aspect
- Bearings
- Anti-friction bearings: types, lifetime, mounting, applications related problems
- Plain and pad bearings, thrust bearings; operation maintenance, incidents
- Coupling and Alignment

- Different types of couplings, related problems
- Different methods of alignment using comparators
- tolerances, practical aspects
- Sealing Devices for Pumps and Compressors
- Mechanical pump seals, types, operation, related problems. Installation, geometrical checks
- Other seals for positive displacement pumps and reciprocating compressors
- Rotors and Shafts
- Balancing: eccentricity, tolerances. Assembling on
- shaft : effect on balancing
- Geometrical shaft controls
- Forecasting Breakdowns
- Study of Ruptures and Wear and Other Failures
- Typical damage to machines: problems and causes of failures, influences of metallurgy and surface treatments
- Fatigue, wear and tear. Rupture face analysis Use of Vibration Surveys in Forecasting