



Mechanical Malfunction And Skills For Basics Of Mechanical Engineering



Introduction:

This training program aims at providing the participants with a comprehensive theoretical and practical knowledge, practical aspects, and enhancing their knowledge and skills for basics of mechanical engineering and acquainted with the role of mechanical equipment and systems. Emphasis shall be laid on topics relevant to mechanical equipment types and functions, varieties of mechanical drivers and driven equipment (Engines, turbines, compressors, pumps), common mechanical components such as bearings, mechanical seal, gaskets, impellers, mechanical interfaces with process, mechanical codes and standards, pressure vessels, pipes, valves and fittings. Operations and maintenance scheduling and planning will be addressed too. It will also cover Overall Equipment Effectiveness considerations (Availability, Reliability, Efficiency and Utilization) and basic mechanical selection criterion for mechanical equipment

Who Should Attend?

Delegates should represent a wide range of personnel in many industrial facilities who are directly or not directly involved in day to day maintenance activities and requires basic knowledge in mechanical engineering malfunction.

These should include:

- Mechanical Engineers and Mechanical Technician
- Instrumentation Engineers

- Instrumentation Technician
- Operation and process staff
- New hired technical people
- Chemical Engineers and technicians

Methodology:

This interactive Training will be highly interactive, with opportunities to advance your opinions and ideas and will include:

- Lectures
- Workshop & Work Presentation
- Case Studies and Practical Exercise
- Videos and General Discussions

Certificate:

BTS attendance certificate will be issued to all attendees completing minimum of 80% of the total course duration.

Course outline:

Day 1

- Basics of mechanical engineering in industrial facilities
- Malfunction and prevention of mechanical drivers and driven equipment
- Malfunction and prevention of Pressure Vessels and Boilers
- Malfunction and prevention of Pipes, Pipelines and Pipe fittings

Day 2

- Types of Valves and applications and its malfunction and prevention
- Malfunction and prevention of Diesel Engines
- Malfunction and prevention of Gas Turbines
- Malfunction and prevention of Steam Turbines
- Malfunction and prevention of Anti friction Bearings

Day 3

- Malfunction and prevention of Sleeve Bearings
- Malfunction and prevention of Gearbox function and construction
- Malfunction and prevention of Couplings (Flexible and rigid)
- Malfunction and prevention of Sealing (Stuffing Boxes and mechanical seals)
- Malfunction and prevention of Gaskets types and applications
- Malfunction and prevention of Pumps (Positive pumps and centrifugal pumps)

Day 4

- Malfunction and prevention of Compressors and accessories
- Malfunction and prevention of Mechanical workshop machines
- Mechanical codes and standards
- Operations and maintenance scheduling and planning
- Equipment Availability
- Equipment Reliability

Day 5

- Overall Equipment Effectiveness considerations
- Basic mechanical equipment selection criterion

Best Technology Solutions **(BTS)**

Training Program

- Maintenance decision and computer applications
- Equipment replacement decision
- Questions/Discussion and Wrap-up