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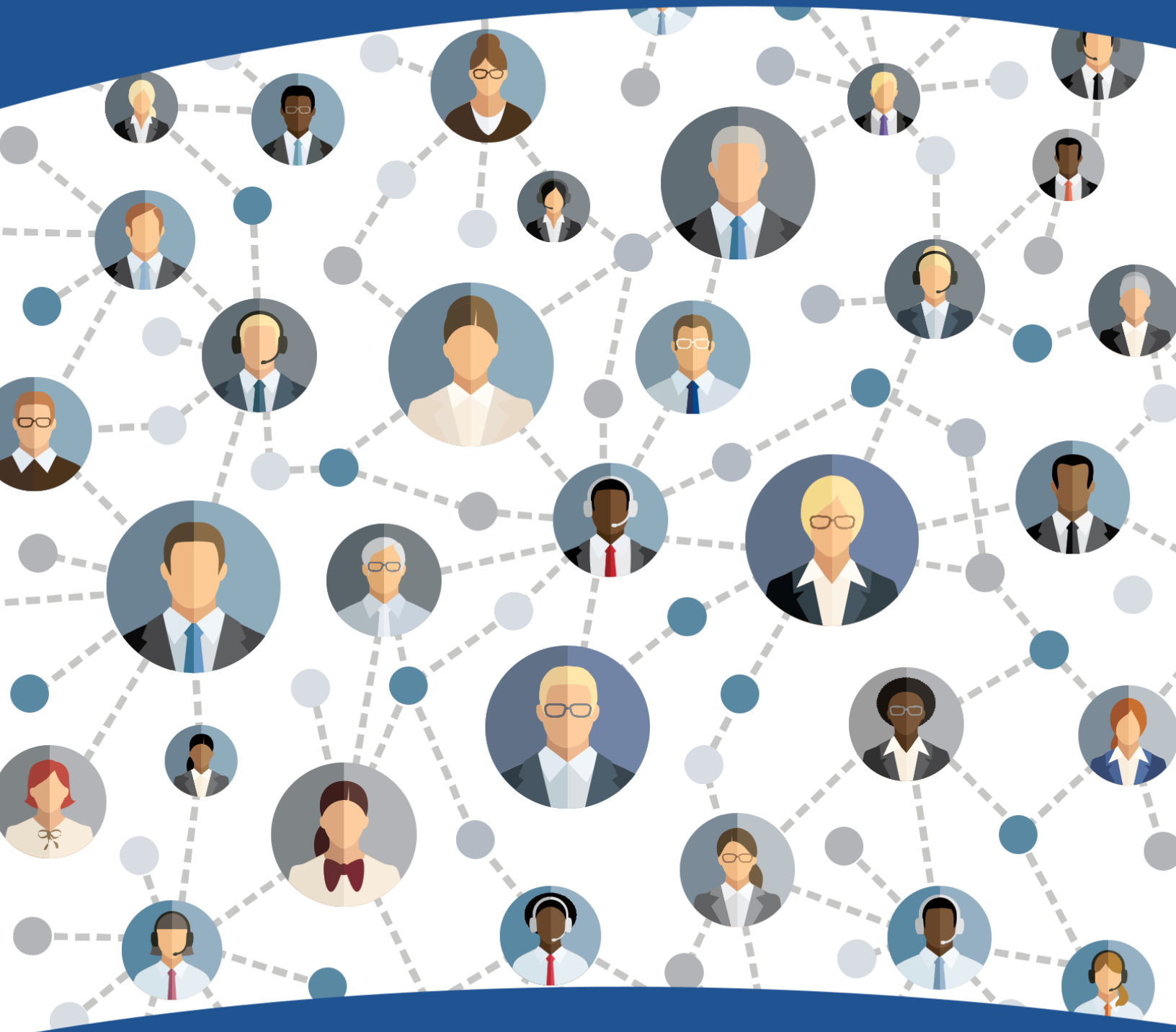

WINNER OF THE AWARD FOR THE BEST TRAINING INSTITUTE IN THE GULF

# Certificate in Maintenance Management (in Arabic)

## Why Attend

- This course explains the key aspects and advanced stages of maintenance. Participants will be able to implement advanced management techniques in areas such as planning and scheduling, cost control, reliability and asset lifecycle planning. Furthermore, the course will explain the technologies designed to improve the effectiveness of maintenance management activities; to ensure that the equipment performs its required functions, works reliably, and supports an organization's objectives.
- The course also focuses on modern methods and techniques, and on the most important aspects of maintenance management; such as the organization of maintenance resources, selection of appropriate maintenance work, failure analysis, development and implementation of the maintenance plan, planning and control of spare parts, and computerization of maintenance planning and measurement processes.

## Course Methodology

- This course is based on open discussions, question and answer sessions, group exercises, activities, videos, case studies and presentations based on best practices and advanced principles.

## Course Objectives

### By the end of the course, participants will be able to:

- Achieve excellence in maintenance by understanding the key challenges and best practice of the maintenance organization
- Apply advanced maintenance management techniques and best practice
- Explain key maintenance strategies and the maintenance journey towards excellence
- Focus on maintenance planning and scheduling implementation as one of the most important tools for modern maintenance management
- Apply the methods and techniques for controlling maintenance and measuring maintenance productivity

## Target Audience

- This course is suitable for participants with several years of experience in maintenance. This includes Maintenance Managers, Maintenance Engineers, Maintenance Supervisors and Maintenance Planning Engineers. It is also suitable for professionals who work in the operations, engineering and procurement/materials departments and who wish to gain an understanding of how the quality of the maintenance function affects their department, and the end result of their organization.

## Target Competencies

- Maintenance Management and Excellence
- Maintenance Cost Optimization
- Maintenance Strategies and Philosophies
- Maintenance Planning and Scheduling
- Maintenance Control and Performance Measurement

### Understanding maintenance

- What is maintenance?
- Maintenance organization management
- Maintenance organization objectives, challenges and responsibilities
- Maintenance management restrictions
- Maintenance organization hierarchy design
- Maintenance strategy structure
- Maintenance management process
- Material and spare parts management
- Quality of leadership and supervision
- Incentives
- Education and training
- Management and business relationships

### Cost of maintenance

- Cost of asset lifecycle
- When operating costs are determined
- Total Cost of asset Ownership (TCO)
- Main types of maintenance costs
- Maintenance indicator: maintenance ratio of unit cost
- Direct and indirect maintenance costs

## Excellence in maintenance and key maintenance strategies

- Excellence in maintenance definition and how it can be achieved
- Key aspects of maintenance and main elements for maintenance excellence
- Methods of maintenance excellence assessment
- Key maintenance strategies
- Reactive Maintenance - Breakdown - Emergency
- Reactive maintenance as a strategy

## Preventive Maintenance

- Preventive Maintenance (PM) definition and examples
- Reasons for Preventive Maintenance
- Philosophy of Preventive Maintenance (The Basis of PM)
- Scope of Preventive Maintenance work
- Preventive Maintenance is not effective to prevent all failures
- Definition of infant mortality and bathtub curve
- New research results
- Understanding patterns of failures and breakdowns
- Risks of Preventive Maintenance program
- Cases where Preventive Maintenance program is appropriate
- Decision flowchart for Preventive Maintenance (PM)
- Optimum amount of Preventive Maintenance to do
- Effective Preventive Maintenance characteristics
- Successful Preventive Maintenance program
- Advantages and disadvantages of Preventive Maintenance

## Predictive Maintenance

- Predictive Maintenance (PdM) definition
- New technologies
- Condition monitoring philosophy
- Key parameters used to detect equipment failures before they occur
- Diagnostic techniques
- Predictive Maintenance techniques
- Applications of predictive inspection and testing techniques
- Reasons to apply Predictive Maintenance
- Effective Predictive Maintenance characteristics
- Condition monitoring and Predictive Maintenance techniques:
- Vibration analysis
- Ultrasound detection
- Infrared Thermography
- Oil Analysis - Moving Parts
- Predictive Maintenance: Advantages and Disadvantages
- The difference between Preventive and Predictive Maintenance
- Proactive Maintenance
- Definition and philosophy

## Defect elimination and optimal maintenance strategy selection tools

- Defect definition
- Sources of defects
- Defect elimination strategies
- Use Preventive Maintenance to detect defects
- The role of precision and accuracy in defect elimination
- Defect elimination process
- Asset Criticality Analysis as an example of optimal maintenance strategy selection tools
- Benefits of Criticality Analysis
- Roadmap for starting Criticality Analysis
- Critical assets ranking methodology
- Failure analysis
- Root Cause Analysis (RCA)
- Definition of RCA
- Methods of RCA
- Failure codes and types
- Implementation of failure codes in Computerized Maintenance Management System (CMMS)
- Failure Modes and Effects Analysis (FMEA) methods
- Consequences of failures

## Maintenance planning and scheduling as a key tool for advanced maintenance management

- Planning definition
- Maintenance planning and scheduling as a key to maintenance excellence
- Maintenance planning and scheduling function
- "World-class" maintenance productivity time
- Key objectives of maintenance planning and scheduling
- Reasons for maintenance planning
- Benefits of planning, scheduling and coordination
- Maintenance planning and scheduling process with roles and responsibilities
- Principles of maintenance planning
- The role of the maintenance planner
- Definition of scheduling and coordination
- Principles of maintenance scheduling
- The role of the maintenance scheduler
- Planning is a system to get the right work procedures
- Planning and scheduling workflow
- Planning is a process that needs control

## Examples of maintenance control systems

- Maintenance control definition
- Tools for an effective maintenance control system
- Work control
- Cost control
- Quality control
- Factory state control
- Computerized Maintenance Management System (CMMS)
- CMMS definition
- CMMS capabilities
- CMMS's main goals
- CMMS keys
- CMMS is a planning and control tool
- Work Management
- A unified maintenance management process
- Backlog definition and how to manage it
- CMMS implementation steps
- Evaluation of work performance

## Productivity of maintenance and performance measurement

- Measuring performance and maintenance productivity
- Maintenance best practices
- Types of Key Performance Indicators for Maintenance (KPIs)
- Examples of important KPIs
- Maintenance performance KPIs
- Benchmarking definition and objectives
- Comparing performance with the best in the world (benchmarking)

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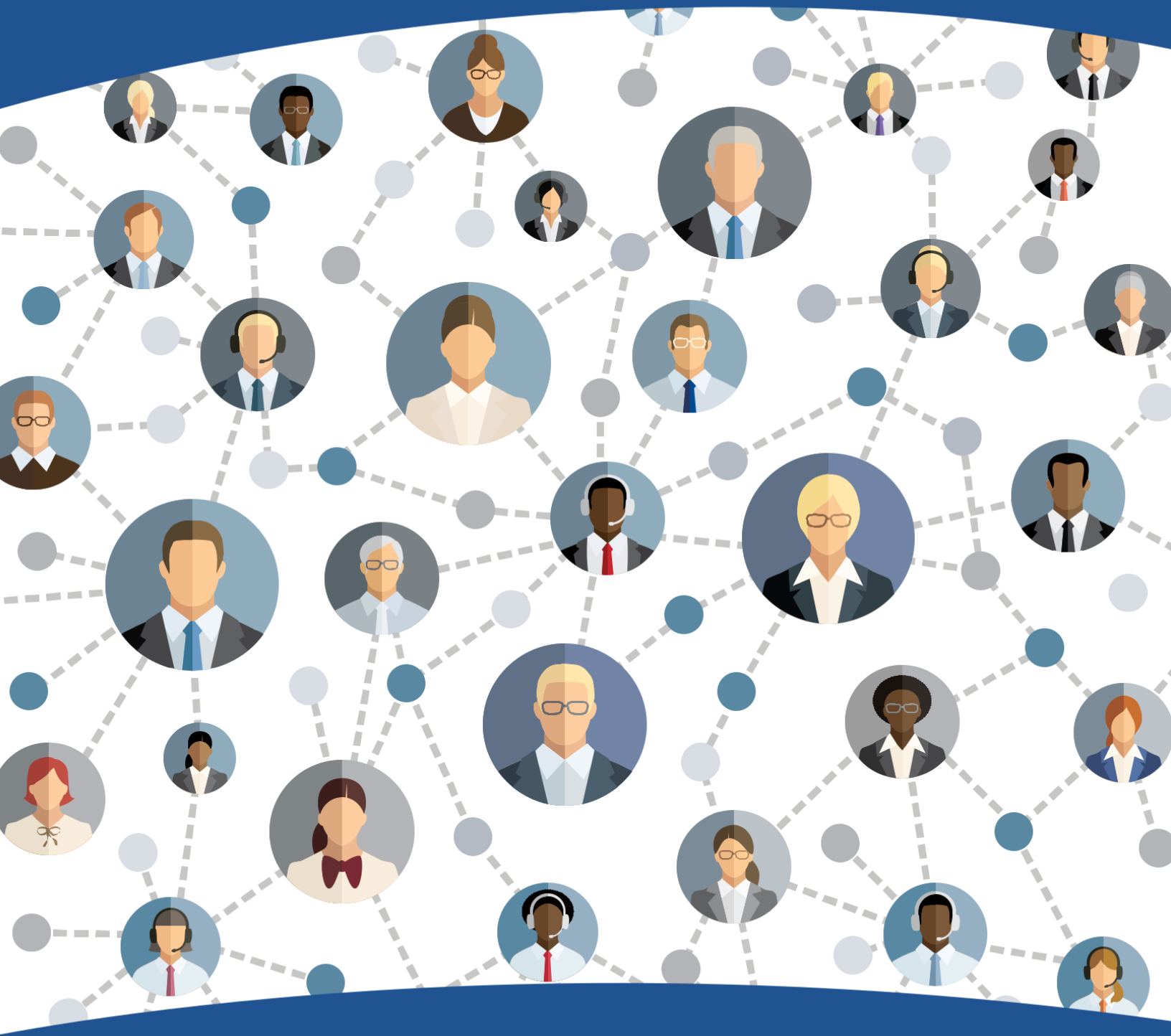

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