

Your gateway to  
Excellence

**EDUCATION &  
CERTIFICATION**  
HANDBOOK



الجمعية الخليجية للصيانة والأتمتة  
Gulf Society For Maintenance & Reliability



## ABOUT US

### VISION

To be recognized maintenance and reliability partners in the gulf region



### MISSION

To provide an interactive platform for achieving excellence in  
Maintenance, Reliability and Asset Management through:

Sharing Knowledge

Exchanging Best practices

Providing Training

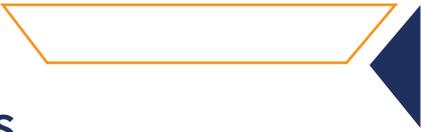
Facilitating Professional Certification



## INTRODUCTION

The Gulf Society for Maintenance & Reliability (GSMR) has come a long way since its formation in 2010. GSMR has made its presence felt not only in the Arabian Gulf, but also internationally in perpetuating its mission to create a platform to share knowledge and network with maintenance, reliability and asset management professionals within the GCC countries and the whole world. All GCC national oil companies as well as major industrial companies contributed to the success of GSMR. Great strides have been made and GSMR is the proud organizer of the biennial MAINTCON conference that attracts the largest gathering of maintenance, reliability and asset management professionals and vendors in the Middle East. Strategic alliances have been built between GSMR and GCC Engineering societies as well as worldwide maintenance counterparts through the Global Forum for Maintenance and Asset Management (GFMAM). A culture of certification and continuous learning is fostered with the adoption of the Certified Maintenance and Reliability Professional (CMRP) and Certified Asset Management Assessor (CAMA) International Certification as well as various technical exchanges and training programs. The momentum of progress is accelerating and GSMR is committed to continue its role to promote excellence in maintenance, reliability and asset management in the Arabian Gulf.





# PROGRAMS

## SMRP BODY OF KNOWLEDGE BY GSMR

### Introduction:

This is a four day workshop designed to discuss and elaborate on the Society of Maintenance & Reliability Professional (SMRP) Pillars of the Body of Knowledge to help the candidates come to terms with these Pillars. There are five pillars in the maintenance and reliability Body of Knowledge for professionals: Business and Management, Manufacturing Process Reliability, Equipment Reliability, Organization and Leadership, and Work Management. The critical knowledge, skills and abilities under each of these pillars will be discussed in details.

Practice questions will be also reviewed and discussed in an interactive group discussion to help participants get a sense of what the exam is like. In addition, recommended readings will be covered in the workshop.

### Objectives:

- Familiarize the candidates with SMRP (Society of Maintenance and Reliability Professionals) Body of Knowledge Pillars with applications in real-life situations
- Discuss a method of study approach
- How to prepare for CMRP exam

Candidates have an opportunity to share thoughts on CMRP approach with Certified Maintenance and Reliability Professionals, and gain from their experiences.

### Course Outline:

- **Pillar 1:** Business and Management- Going through the 1st pillar of the BOK and discuss the requirements for a successful pass of the exam of each of them. Discuss the topic in more detail with reference to Gulati's book.
- **Pillar 2:** Manufacturing Process Reliability- Going through the 2nd pillar of the BOK and discuss the requirements for a successful pass of the exam of each of them. Discuss the topic in more detail with reference to Gulati's book.
- **Pillar 3:** Equipment Reliability- Going through the 3rd pillar of the BOK and discuss the requirements for a successful pass of the exam of each of them. Discuss the topic in more detail with reference to Gulati's book.
- **Pillar 4:** Organization & Leadership- Going through the 4th pillar of the BOK and discuss the requirements for a successful pass of the exam of each of them. Discuss the topic in more detail with reference to Gulati's book.
- **Pillar 5:** Work Management- Going through the 5th pillar of the BOK and discuss the requirements for a successful pass of the exam of each of them. Discuss the topic in more detail with reference to Gulati's book.

The workshop is recommended for all M&R Engineers who aspire to become internationally recognized M&R Professionals.

### Duration: 4 days





# PROGRAMS

## PLANNING & SCHEDULING FOR EFFECTIVE MAINTENANCE

### Introduction:

The Maintenance Planning and Scheduling Workshop is a four day workshop that addresses all aspects of the maintenance work management process in major industrial sites. The Maintenance Planning and Scheduling workshop will provide participants with a clear understanding of the strategic role that planning and scheduling plays in today's industrial organizations. Pre-workshop and Post-workshop exams will reinforce retention of the lessons learnt.

### Objectives:

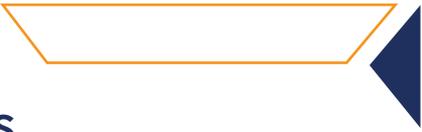
- Clarifying the roles and responsibilities related to
- Maintenance Planning & Scheduling elements of the work management process
- Overcoming challenges and barriers to success
- Using communication skills for effective maintenance planning and scheduling
- Benefiting from operating in a planned vs. firefighting environment
- Using planning as a strategic tool for moving from a reactive to a proactive environment
- Aggressive identification of defects to improve reliability
- Assessing work prioritization
- Planning work orders
- Managing backlog
- Supporting the scheduling process

### Course Outline:

- Concepts and Elements required to achieve good planning process
- CMMS/EAM (Enterprise Asset Management)
- Roles and responsibilities – who is responsible for and who actually does what
- Planning – this is the core of the three day program. Participants will be taught how to plan, how to incorporate standardization,
- Scheduling for Zone Maintenance
- Materials Management
- Communications
- Metrics / KPI

The workshop is recommended for Maintenance Planners, Schedulers, Supervisors, Superintendents and Operational Supervisors.

**Duration: 4 days**



# PROGRAMS

## ASSET MAINTENANCE WORK PROCESS (AMWP)

### Introduction:

AMWP (Asset Maintenance Work Process) Workshop is an integrated and comprehensive methodology to help manufacturing plants to consistently make and execute the highest value decisions about Maintenance of Physical Assets. It is a 4 day workshop that covers the elements of the AMWP with interactive sessions, exercises, tests, role play, and real life examples to enhance the level of knowledge, reinforce team building, improve communication, and provide better understanding of the role that each can play to improve the reliability of the equipment, and help achieve the high performance goals of the organization.

In the workshop the following areas are discussed with good level of interaction between the presenter and the participants, with real life examples, and tests to reinforce the learning, and get the buy in of the participants on the expected benefits of the implementation of AMWP, and the adaptation of a Proactive Culture:

### Objectives:

- Introduction of the journey towards the establishment of the AMWP
- Explanations of the values that are expected to be gained from the implementation of a comprehensive, consistent, and integrated AMWP
- Data integrity and CMMS
- Roles & Responsibilities
- Explanations of the 6 steps elements that constitute AMWP, which are as follows:
  - a. Identify & prioritize the maintenance task
  - b. Planning the maintenance activities
  - c. Scheduling
  - d. Work execution
  - e. Verification & work close out
  - f. Analysis & KPI's

In addition, AMWP Best Practices handouts will be distributed to the participants.

The workshop is recommended for the Maintenance Managers, Production Managers, Superintendents, Supervisors, Planners, and Engineers.

### Duration: 4 Days





# PROGRAMS

## PRINCIPLES AND PRACTICES OF PREDICTIVE MAINTENANCE

### Introduction:

This is a four day workshop and it provides essential knowledge required for embarking on a program to enhance maintenance performance through early identification of potential failures to eliminate and minimize equipment breakdowns.

The workshop will discuss the various technologies available in the market to help with the efforts of early detection of failures, and how to integrate their applications with the activities required for achieving excellence through the implementation of Best in Class Maintenance Work Process. Work control, planning, and scheduling will be covered. Better utilization of Computerized Maintenance Management Systems (CMMS) will also be covered in this workshop.

A pre and post seminar self-assessment will be given to indicate delegate's competency improvements.

### Objectives:

- Provide an overview on Maintenance management principles
- Organization's Expectations from Maintenance Managers
- Principles of Best in Class Maintenance Work Process
- Essential elements of maintenance work Planning & Scheduling
- Principles and Practices of Predictive Maintenance
- Optimization of Preventive and Predictive maintenance
- How to focus your resources on critical equipment
- How to work with contractors more effectively
- Develop organizational competence

### Course Outline:

- Key Terms and Definitions
- Maintenance strategies
- Reliability, Maintainability, and Availability
- Optimizing preventive and predictive maintenance
- The Bath Tub Curve
- MTBF
- Introduction to CBM/PdM Technologies
- Vibration Analysis
- Infrared Thermography
- Ultrasonic Testing
- Lubricant Analysis
- Electric Condition Monitoring
- Non-Destructive Testing

The workshop is recommended for Maintenance Managers, Superintendents, Reliability Engineers and Predictive Maintenance Engineers.

**Duration: 4 days**



# PROGRAMS

## RCA CERTIFICATION FOR MAINTENANCE & RELIABILITY APPLICATIONS

### Introduction:

In this five-day workshop plus three 1-day subsequent help sessions, the participant will learn how to conduct a systematic root cause analysis (RCA) as applied to maintenance and reliability. She/he will also demonstrate mastery of the method through applying it to a real project assigned to her/him by her/his management. To be certified, the participant is also required to pass a written exam.

The workshop starts with an overview of the various RCA methods such as the linear method (5 Whys), fault trees, fishbone, and the barrier analysis method. Then, the focus shifts to one systematic RCA method that should lead to the same root causes regardless of who uses the method. During the first week of training, the participants will be given a head start in their projects. Then, they will be given a couple of months to complete their projects during which, they will be offered three 1-day help sessions where participants will come for progress review and support in case they're facing difficulties in their projects. Upon successful completion of their projects and passing the written exam, they will be awarded their certificates.

### Objectives:

- Master a systematic method of conducting root cause analysis that should lead to the same root causes regardless of who uses the method.
- Learn to develop effective corrective actions to address the identified root causes of the problem being analyzed.
- Resolve real problems and achieve real cost avoidance as part of the certification program through working on real problems that the participant's employer is in need for them to be resolved.

### Course Outline:

- Defining RCA problems and their impacts on the business.
- Process mapping of RCA problems.
- Data gathering and listing potential immediate causes.
- Charting the gathered issues in a fault-tree format.
- Determining root causes and developing corrective actions
- Introduction to Six Sigma as a tool to improve time to repair (TTR) and thus improve the overall availability of plant equipment.

The workshop is recommended for all plant personnel leading or participating in plant incidents and failure investigations.

**Duration: 5 days + 3 one-day subsequent help sessions**



# PROGRAMS

## ROOT CAUSE ANALYSIS FOR MAINTENANCE & RELIABILITY APPLICATIONS

### Introduction:

In this four-day workshop, the participant will learn how to conduct a systematic root cause analysis (RCA) as applied to maintenance and reliability. The workshop starts with an overview of the various RCA methods such as the linear method (5 Whys), fault trees, fishbone, and the barrier analysis method. Then, the focus shifts to one systematic RCA method that should lead to the same root causes regardless of who uses the method.

### Objectives:

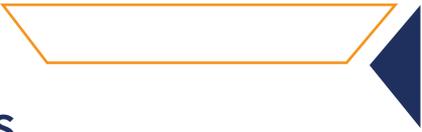
- Gain knowledge about the various RCA methods, their strengths and weaknesses, and when one is favored over the other.
- Master a systematic method of conducting root cause analysis that should lead to the same root causes regardless of who uses the method.
- Learn to develop effective corrective actions to address the identified root causes of the problem being analyzed.
- Learn the key success factors of an RCA program.
- Learn how to present the findings of an RCA study and the recommended corrective actions in a proper report and presentation formats.

### Course Outline:

- Introduction about what RCA is and what RCA methods exist in the literature.
- Defining RCA problems and their impacts on the business.
- Process mapping of RCA problems.
- Data gathering and listing potential immediate causes.
- Charting the gathered issues in a fault-tree format.
- Determining root causes.
- Developing corrective actions
- Preparing proper RCA reports and presentations

The workshop is recommended for all plant personnel leading or participating in plant incidents and failure investigations.

**Duration: 4 days**



# PROGRAMS

## APPLIED MAINTENANCE MANAGEMENT

### Introduction:

The Applied Maintenance Management workshop is a four day workshop and it provides essential knowledge required for achieving excellence in maintenance management. Work control, planning, and scheduling will be covered. Better utilization of Computerized Maintenance Management Systems (CMMS) will be covered in this course. A pre and post workshop self-assessment will be given to indicate delegate's competency improvements.

### Objectives:

- World class maintenance standards and how to apply them
- Key Performance Indicators for your dashboard
- Essential elements of work planning & scheduling
- Optimization of Preventive and Predictive maintenance
- How to focus your resources on critical equipment
- How to work with contractors more effectively
- Develop organizational competence

### Course Outline:

- World Class Standards
- Maintenance strategies
- Expectations from Modern M&R Managers
- Planning and scheduling
- Optimizing preventive and predictive maintenance
- Identifying critical equipment
- Best use and utilization of CMMS
- Developing & Control of maintenance budgets
- Supplier certification
- Developing organizational competence
- Presenting your action plan

The workshop is recommended for Maintenance & Production Managers, Superintendents and Engineers.

### Duration: 4 days





# PROGRAMS

## MANAGING SHUTDOWN MAINTENANCE

### Introduction:

The Shutdown Planning and Management Workshop is a four day workshop that will define the purpose of and types of shutdowns. The workshop will also highlight the factors effecting shutdown duration in addition to some specific shutdown and post shutdown management techniques.

### Objectives:

- Shutdown scope development
- Shutdown roles and responsibilities
- Limits of authority and decision responsibility
- Shutdown budget development
- Planning process milestones
- Planning time line for projects requiring long lead time, materials or services

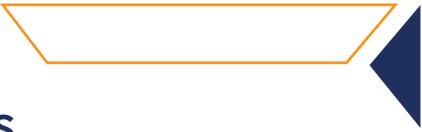
### Course Outline:

- Shutdown planning and management processes
- The 'must do' steps for an effective shutdown
- Roles and responsibilities that impact effective shutdowns
- A work identification process and prioritization that maximizes business performance
- To use a Work Breakout Structure and Critical Path to optimally schedule a shutdown
- To develop a detailed plan for the agreed shutdown scope of work
- A formal decision making process that enhances maintenance shutdown effectiveness
- To use effective project scheduling tools and processes
- To develop and implement shutdown reporting processes

The workshop is recommended for Maintenance & Production Managers, Shutdown Projects Engineers and Superintendents.

**Duration: 4 days**





# PROGRAMS

## BUSINESS DRIVEN RELIABILITY

### Introduction:

The Business Driven Reliability (BDR) Workshop is a four day workshop that will reflect on the M&R issues from a business perspective. It will provide an insight in best practices of the Maintenance Work process, and review the basic skills of the maintenance & Reliability Engineers and will provide participants with an understanding of Reliability Centered Maintenance (RCM) and Root Cause Analysis (RCA) techniques.

### Objectives:

- To develop an equipment criticality matrix for effective maintenance strategies
- The methods of conducting RCM to establish effective maintenance strategies
- A process for establishing an effective RCA Program to eliminate repeat failures
- A work identification process and prioritization that maximizes business performance
- The types of Predictive Maintenance technologies and their application
- Various statistical analysis techniques for reliability analysis
- A unique work management process for early defect detection
- Roles and responsibilities that impact reliability strategy effectiveness
- Establishment of reliability performance measures to track and guide reliability improvement
- The importance of aggressive work identification

### Course Outline:

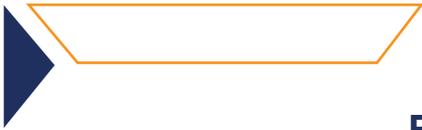
- The role of Reliability Engineers in industry
- Basic Reliability Engineer skills and tools
- An introduction to statistical analysis in reliability
- Familiarization with Condition Monitoring techniques
- Conducting RCM analysis to establish maintenance strategies
- Conducting RCA analysis to eliminate failures

The workshop will also highlight the role of Operations and Maintenance Management in establishing and managing an effective reliability program in their facilities.

The workshop is recommended for Maintenance, Reliability and Production Managers, Superintendents and Reliability Engineers.

### Duration: 4 days





## PROGRAMS

### CERTIFIED MAINTENANCE & RELIABILITY PROFESSIONALS (CMRP) - EXAM

#### Introduction:

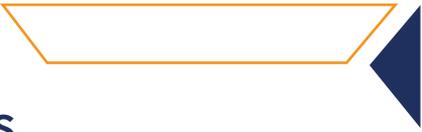
The Certified Maintenance & Reliability Professional (CMRP) program is the #1 leading credentialing program for certifying the knowledge, skills and abilities of maintenance and reliability (M&R ) professionals. The CMRP is accredited by the American National Standards Institute (ANSI), which follows ISO standards for its accreditation and processes. Examining more than just textbook information, the CMRP is a thorough examination of a broader scope of expertise measured against a universal standard. It was developed to assess professionals' aptitude within the five (5) pillars of the Maintenance and Reliability Body of Knowledge: Business Management, Equipment Reliability, Manufacturing Process Reliability, Organization and Leadership, and Work Management. Boost your confidence and authority by adding an internationally-recognized certification after your name.

#### Objectives:

- Better understanding and awareness of the increase in complexity of the Maintenance & Reliability (M&R) Professional work environment.
- International recognition and distinction of the M&R professional.
- Possibility for the professional to demonstrate knowledge & experience.
- Possibility for the employer to ascertain the desired standard for the leaders in the M&R profession.
- Establish uniformity and levels of required knowledge for the M&R professional.
- All round balanced approach Body of Knowledge for the M&R Professional.

**Duration: 2.5 Hours (Part of 1 day)**





# PROGRAMS

## CERTIFIED ASSET MANAGEMENT ASSESSOR (CAMA) - EXAM

### Introduction:

The Certified Asset Management Assessor (CAMA) program is one of the leading credential programs for certifying the knowledge, Competency & skills in Asset Management standards based on ISO 55001.

CAMA has been developed and is offered by the World Partners in Asset Management, a partnership of non-profit professional associations including the Asset Management Council (Australia), the Society of Maintenance and Reliability Professionals (USA), ABRAMAN (Brazil), IFRAMI (France) and PEMAC (Canada).

CAMA is globally recognized certification in compliance with ISO 55001, ISO 17021-5, ISO 19011. The focus is about maximizing the value of your physical assets through setting the standards and platform for Asset Management in profit and non-profit organizations such as government and semi-government agencies.

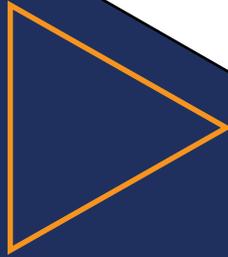
### Objectives:

- Better understanding of Asset Management Framework and Requirements in line with ISO 55000, ISO 55001, and ISO55002.
- Determines the minimum requirements for the Organization's Personnel competency and experience to develop and implement Asset Management Plans.
- Global recognition as Asset Management professional
- Qualify individuals to become an assessor for ISO 55001
- Establish the framework and requirements for organizations to develop and implement Asset management Plans to:
  - o Maximize the assets value.
  - o Improve Asset Reliability & Compliance.
  - o Ensure the best cost of ownership of the assets and maximize the asset life cycle.
  - o Higher customers and stakeholder's satisfaction.
  - o Enhance Data mining and assets information.
  - o Better decision Making based on entire life cycle of assets.
  - o Minimize the failures and safety incidents.

**Duration: 2 Hours (Part of 1 day)**







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