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**RELIABILITY CENTERED
MAINTENANCE**

RCM - BASIC
TRAINING CODE - 1310



Arrelic
Your Reliability Partner.



29th June 2017, 8:00 AM



HOTEL SWOSTI PREMIUM,
Bhubaneswar, India

ARRELIC INSTITUTE

06
Specific
Domain

75
Training
Modules

40+
Global
Experts

38
Locations
in India

15
Global
Locations

10+
Associations

Arrelic Institute is focussed to equip both industry professionals and college graduates with the skills and knowledge required for bridging the desire stare of workforce which industry needs to compete globally.

Arrelic Institute provides over 75 different types of customized training program ranging from Reliability Engineering, Asset Management, Best Practice, Operation & Maintenance, Predictive Maintenance, NDT, Predictive Analytics, Quality, Risk & Safety.

Arrelic Institute conducts public training's and workshops in 38 locations across India and 15 International locations.

We are working for large corporate house from 15 different types of industries ranging from Airlines, Automobiles, Cement, Defence Manufacturing, FMCG, Glass, Marine, Metals, Mining, Oil & Gas, Power, Pulp & Paper, Facility Management and Fertilizer.

ARRELIC PUBLIC TRAINING AT VARIOUS LOCATIONS IN INDIA



East India

1. Bhubaneswar, Odisha
2. Jaipur, Odisha
3. Balasore, Odisha
4. Jharsuguda, Odisha
5. Rourkela, Odisha
6. Kolkata, West Bengal
7. Durgapur, West Bengal
8. Jamshedpur, Jharkhand
9. Ranchi, Jharkhand

Central India

10. Indore, Madhya Pradesh
11. Jabalpur, Madhya Pradesh
12. Raipur, Chhattisgarh
13. Raigarh, Chhattisgarh
14. Bhilai, Chhattisgarh

Western India

15. Pune, Maharashtra
16. Mumbai, Maharashtra
17. Aurangabad, Maharashtra
18. Nashik, Maharashtra
19. Nagpur, Maharashtra
20. Ahmedabad, Gujarat
21. Vadodara, Gujarat
22. Surat, Gujarat
23. Rajkot, Gujarat
24. Kutch, Gujarat

North India

32. Manesar, Haryana
33. Greater Noida, Uttar Pradesh
34. Kanpur, Uttar Pradesh
35. Jaipur, Rajasthan
36. Haridwar, Uttarakhand
37. Rudrapur, Uttarakhand

South India

25. Hyderabad, Telangana
26. Vishakhapatnam, Andhra
27. Chennai, Tamil Nadu
28. Salem, Tamil Nadu
29. Sripierumbudur, Tamil Nadu
30. Hospet, Karnataka
31. Kochi, Kerala

Northeast India

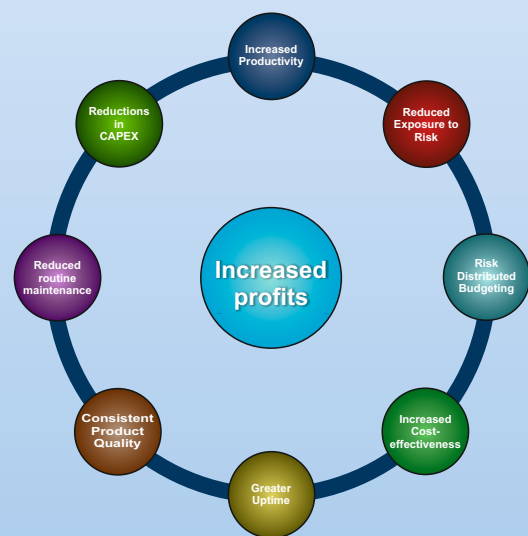
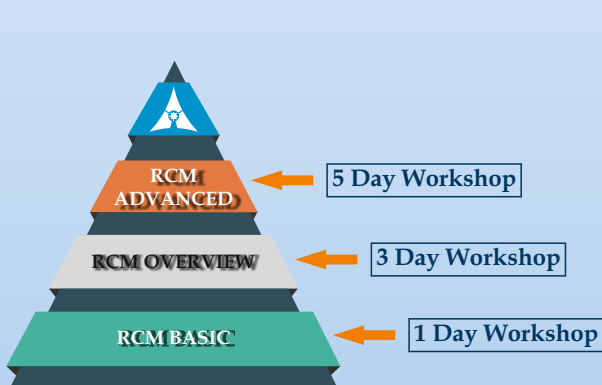
38. Guwahati, Assam

RCM - INTRODUCTION

Reliability centered maintenance (RCM) is a corporate-level maintenance strategy that is implemented to optimize the maintenance program of a company or facility. The final result of an RCM program is the implementation of a specific maintenance strategy on each of the assets of the facility. The maintenance strategies are optimized so that the productivity of the plant is maintained using cost-effective maintenance techniques.

There are four principles that are critical for a reliability centered maintenance program.

1. The primary objective is to preserve system function
2. Identify failure modes that can affect the system function
3. Prioritize the failure modes
4. Select applicable and effective tasks to control the failure modes



Training Options

ONSITE Course:

This is a training course held at your company facility for your internal participants only. The course fees are per course and instructor travel costs are extra.

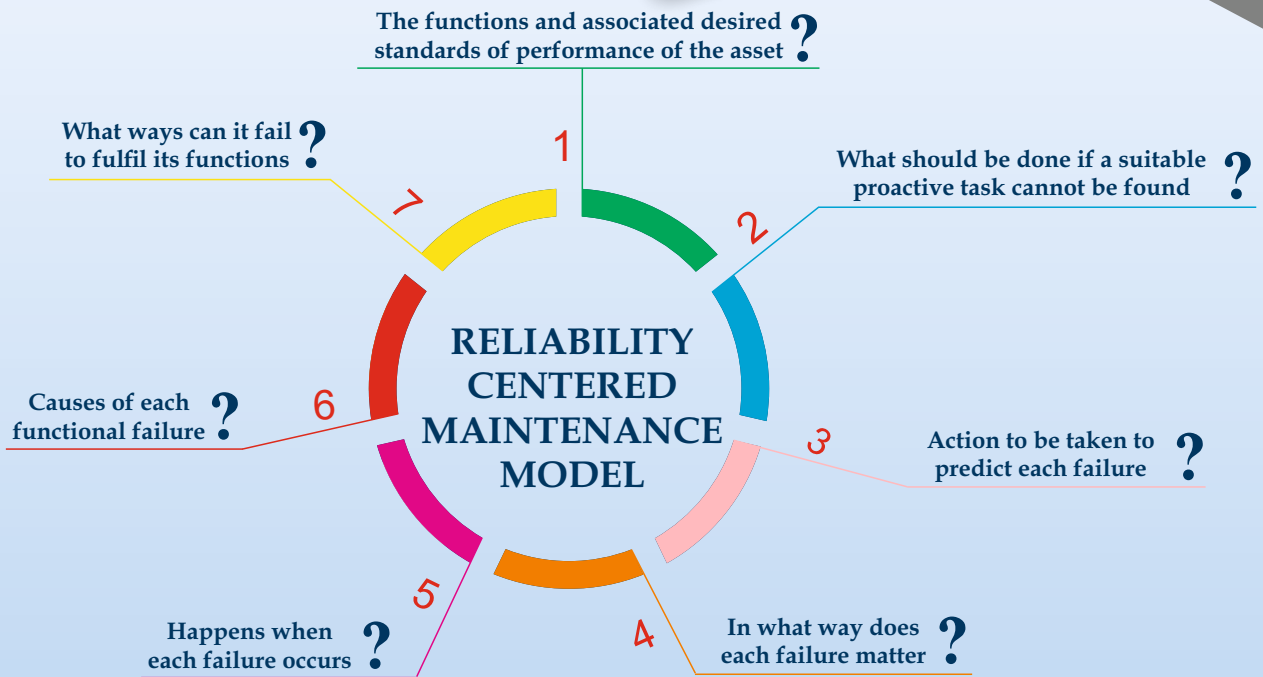
HOSTED Course:

This is a training course held at your company facility for your internal participants and other external participants approved by your company. The course fees are per course and instructor travel costs are extra. All external participants are charged a per person fee which is used to proportionately reduce the host company course fee.

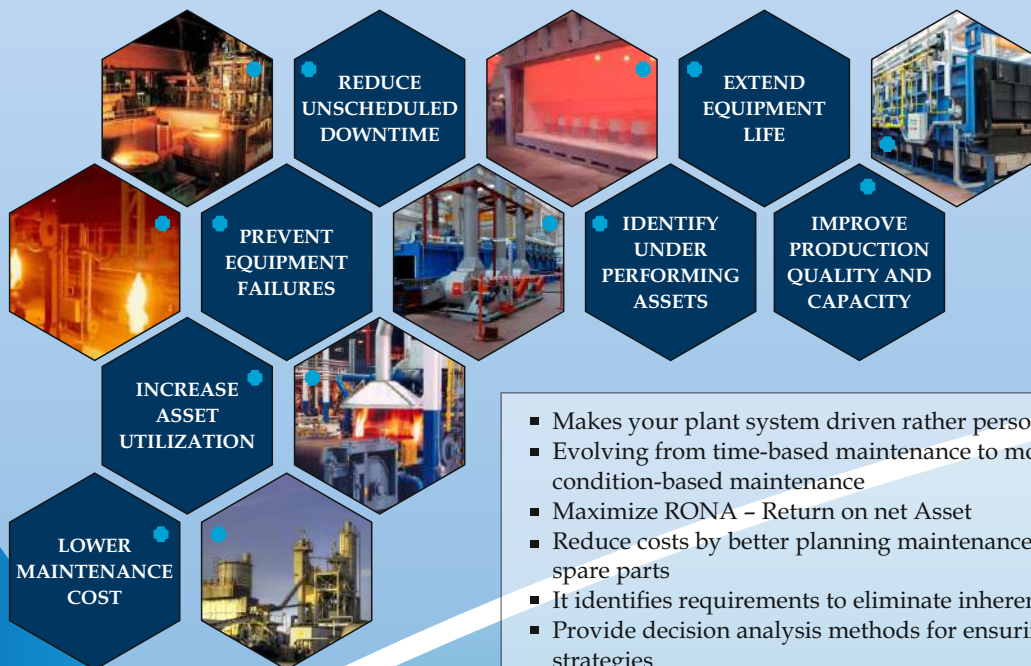
PUBLIC Course:

This course is typically hosted by The Arrelic Network at a location of their choice and is open to all participants. Public courses are held in locations around the world. The course fees are charged per person. Instructor travel costs and facility costs are included. Participant travel costs are not included.

SEVEN QUESTION THAT RCM ANSWERS



RCM: Key Benefit's



- Makes your plant system driven rather person driven
- Evolving from time-based maintenance to more efficient and proactive condition-based maintenance
- Maximize RONA - Return on net Asset
- Reduce costs by better planning maintenance by reducing overtime and cost of spare parts
- It identifies requirements to eliminate inherent machine issues
- Provide decision analysis methods for ensuring correct improvement strategies
- Continuous improvement to maintenance function
- Reduce breakdown by adopting predictive maintenance
- Standardize and optimizing the work plan
- Reduce unplanned downtime and increase availability and reliability
- Lower risks to your workforce and improve safety
- Learn from the past to improve future performance by capturing best practices

RCM PROGRAM

More about RCM

RCM is a methodical and organized process used to choose what must be done to guarantee that any physical resource, framework or process keeps on doing whatever its clients need it to do. It is taking into consideration the primary performance parameters of the asset, possible failure mode and consequence and lastly a suitable failure management policy.

With the rapid improvement of equipment technologies, varieties and the number of physical assets, higher expectations of the management for increased asset utilization combined with several internal and external challenges, Plant maintenance as a niche discipline has evolved with great expertise in the past twenty years.

In this operating scenario, the demands placed on the maintenance team has also increased manifold times for ensuring smooth functioning of the Equipment / Machineries. Newer techniques, tools and methodologies need to be integrated along with the daily maintenance practices.

With this program

- Understand different types of Failure Patterns and Maintenance types.
- Understand various aspects of Planned Maintenance activities along with practical insights on the implementation methods.
- Understand the framework of RCM (Reliability Centered Maintenance) principles.
- Integration of RCM, with the Planned Maintenance activities.
- Gain practical insights on the application of RCM as a tool for implementation.
- Method of conducting a FMECA for an Equipment or a critical machine.

Reliability centered maintenance (RCM) is a corporate-level maintenance strategy that is implemented to optimize the maintenance program of a company or facility. The final result of an RCM program is the implementation of a specific maintenance strategy on each of the assets of the facility. The maintenance strategies are optimized so that the productivity of the plant is maintained using cost-effective maintenance techniques.

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INDUSTRIES THAT CONCERN ABOUT

LOW PRODUCTIVITY



Conventional use of time-based approach for maintenance does not take into consideration the way assets are being utilized, their current condition and real world operating conditions.

HIGH DOWNTIME



Failure to curb unplanned downtime and lack of control over value chain processes lead to high costs, inefficiencies and poor compliance. These severely impacts the profit and industrial growth.

INADEQUATE ASSESS CONTROL



Industries lack the ability to interpret assets data and because of unavailability of proper predictive methods they are unable to predict equipment failures which leads to unplanned downtime.

HIGH MAINTENANCE COST



Increased competition, pressure to grow revenue & profit, tighter regulations, scarcity of raw material, fluctuation demand and obsolete technologies have impacted the way industries are being operated.

RCM - BASIC

10 KEY TAKEAWAYS

1	Known best practices in maintenance and reliability from around the world
2	Maintenance strategy development & reliability centered maintenance
3	Decreases likelihood of sudden machine breakdowns
4	Brings down expenses by taking out superfluous equipment maintenance
5	Focuses maintenance exercises around critical system parts
6	Improves component reliability
7	Designing Reliability
8	Reduce asset life cycle cost
9	Basic knowledge about Predictive Maintenance
10	M & R tools such as RCA, FMEA, FRCAS uses in RCM

ARRELIC EXPERTISE IN RCM

Assessment:

All assessments will be conducted during the course. Assessment tasks consist of e.g: quizzes, practical discussions, case studies, role plays, on-site exercises, hands-on.

Certificates:

Certificates will be awarded to the learners who completed and pass with at least 75% in the post assessments.

Course Language: English

Progress Reports:

Progress reports will be sent to the learner's employer indicating the progress made towards the training objective.

WHO SHOULD ATTEND

The course has been designed for
Maintenance Manager
Plant Engineering
Operational Staff
Maintenance Supervisor
Reliability Engineers
who require a high-level appreciation of Reliability Centered Maintenance (RCM).

BENEFIT'S OF ATTENDING

- Improved visibility and recognition within your current organization.
- Portable job skills and knowledge between plants and companies
- Assists in job promotion & Greater job effectiveness Improved on-the-job training and outside training effectiveness.

ELIGIBILITY CRITERIA

The RCM - Basic program is available to any operation, maintenance and reliability professional, regardless of education background or work experience.

For Student: B.Tech in Mechanical, Electrical, Instrument and Industrial Engineering.

PROGRAM TIMINGS

Registration will begin at 08.00 AM

Breakfast : 08:00 to 09:00

Lunch: 13:00 to 14:00

There will be two refreshment breaks at appropriate intervals.

COURSE OUTLINE

RELIABILITY CENTERED MAINTENANCE (RCM) - BASIC

An Overview

- ▶ Evolution of maintenance
- ▶ History of RCM
- ▶ Classical RCM
- ▶ RCM2
- ▶ Streamlined RCM

RCM for my organization

- ▶ Why RCM is different
- ▶ The new paradigms in maintaining assets
- ▶ What you should expect from RCM
- ▶ Who should do RCM

Project Initiation

- ▶ Planning and preparation
- ▶ Setting up review groups
- ▶ Selecting facilitators
- ▶ Selecting the systems for RCM analysis

Gathering & Breakdown of The Basic Information

- ▶ Defining functions and performance standards
- ▶ Defining failure - functional failure
- ▶ Establish root cause of failures - failure modes
- ▶ Identify what happens if failure occurs - failure effect
- ▶ What is the consequence of failure (cost, throughput, quality, safety, environment and customer)
- ▶ FMECA

Implementation

- ▶ Auditing the analysis
- ▶ Developing the maintenance program
- ▶ Continuous improvement
- ▶ KPI's to measure success

Practical Exercises

- ▶ Breakdown of plant into systems
- ▶ Completing a FMECA
- ▶ Selecting the appropriate tasks for different scenarios
- ▶ Developing the maintenance program - blue print



EXPERT TRAINERS



Mr. M. Sarvanan
CMRP, CRE

- Certified Maintenance and Reliability Professional (CMRP) and Certified Reliability Engineer (CRE)
- Bachelor of Technology in Mechanical Engineering have over 11 years of experience in the field of RCM, Reliability, Operation and Maintenance field.
- Hands on experience in RCM implementations over 100 systems and 7 locations.
- Worked in multiple industries such as Petrochemicals, oil and Gas sectors in Asia Pacific, Middle-East regions.



Mr. Deepak Sahoo
CRL, CMRP

- Certified Reliability Leader (CRL) , Certified Maintenance & Reliability Professional (CMRP), Six Sigma Black Belt, TPM facilitator and Lean Expert.
- Post Graduate in Engineering Management (RCM, TPM, CBM), Bachelor of Technology in Mechanical Engineering having 10+ years' experience in the field of Reliability
- Improvement, Operational Excellence and Asset Management domain.
- Worked in multiple industries such as Petrochemicals, Steel, Ferro-Alloys, FMCG, Facilities Management sectors in Asia Pacific, Middle-East, Eastern Europe and North Africa regions.

Arrellic Institute is associated with certified professionals in the filed of reliability engineering, asset management, best practices, operation and maintenace, predictive maintenance & IOT, big data and analytics.

RELIABILITY CENTERED MAINTENANCE - BASIC WORKSHOP

REGISTRATION FORM

NAME : _____

ORGANIZATION : _____ DEPARTMENT : _____

POSITION : _____ EMAIL : _____

ADDRESS : _____

MOBILE : _____

COURSE TITLE	DATE & VENUE	TIMING	FEE
RELIABILITY CENTERED MAINTENANCE - BASIC WORKSHOP	29th JUNE - 2017 HOTEL SWOSTI PREMIUM BHUBANESWAR, ODISHA INDIA	8:00 AM TO 6:00 PM	12,499 INR

PROMOS & DISCOUNTS

EARLY BIRD DISCOUNT UNTIL 26th June

- Individual discount 10% off
 - Group Registration of 4 25% off
 - Special student discount 30% off
 - Arrelic, ASQ, SMRP, GSMR 20% off
- Member * (on all future workshops)

NOTE: * Arrelic membership fee INR 2500/-

PAYMENT METHODS

- Payment by Cash
- Online Payment click [here](#)
- Cheque/Bank Draft
- By Credit/Debit Card
- By NEFT / RTGS / IMPS

ACCOUNT NAME:
ARRELIC RELIABILITY PRIVATE LIMITED

A/C NUMBER: 006105021542

IFSC CODE: ICIC0000061

BANK: ICICI Bank

BRANCH: Bhubaneswar Main Branch

5 WAYS TO REGISTER

- Online Click [here](#) to register.
- Mobile +91 8114 374 185
+91 8114 374 183
- Phone 0674 650 4477
- Email training@arrelic.com
- Visit our Office KIIT TBI, Campus - XI,
KIIT University, Patia,
Bhubaneswar, Odisha
India - 751024

TERMS & CONDITIONS

PAYMENT POLICY: Payment is due in full at the time of registration and it includes lunches, refreshments and detailed conference materials. Your registration will not be confirmed until payment is received and may be subject to cancellation.

CANCELLATION & SUBSTITUTIONS - You may substitute delegates at any time. Arrelic does not provide refunds for cancellations. For cancellations received in writing more than seven (7) days prior to the conference you will receive a 100% credit to be used at another Arrelic conference for up to one year from the date of issuance. For cancellations received seven (7) days or less prior to an event (including day 7), no credits will be issued. In the event that Arrelic cancels an event, delegate payments at the date of cancellation will be credited to a future Arrelic event. This credit will be available for up to one year from the date of issuance. In the event that Arrelic postpones an event, delegate payments at the postponement date will be credited towards the rescheduled date. If the delegate is unable to attend the rescheduled event, the delegate will receive a 100% credit representing payments made towards a future Arrelic event. This credit will be available for up to one year from the date of issuance. No refunds will be available for cancellations

or postponements. Arrelic is not responsible for any loss or damage as a result of a substitution, alteration or cancellation/postponement of an event. Arrelic shall assume no liability whatsoever in the event this conference is cancelled, rescheduled or postponed due to a fortuitous event, act of God, unforeseen occurrence or any other event that renders performance of this conference impracticable or impossible. For purposes of this clause, a fortuitous event shall include, but not be limited to: war, fire, labor strike, extreme weather or other emergencies.

PROGRAM CHANGES POLICY - Please note that speakers and topics were confirmed at the time of publishing; however, circumstances beyond the control of the organizers may necessitate substitutions, alterations or cancellations of the speakers and/or topics. As such, Arrelic reserves the right to alter or modify the advertised speakers and/or topics if necessary. Any substitutions or alterations will be updated on our web page as soon as possible.

YOUR DETAILS - Please email our Database Manager at training@arrelic.com and inform him/her of any incorrect details which will be amended accordingly.

DATE & LOCATION



Hotel Swosti Premium,
Bhubaneswar - India



29th June 2017
8:00 AM

Check the weather,
before you travel.



GETTING IN TOUCH

If you have any questions or would like further information on Reliability Centered Maintenance (RCM) please feel free to contact us.

+91 811 437 4185

+91 674 650 4477

training@arrelic.com

www.arrelic.com

Arrelic Reliability Pvt. Ltd.

KIIT-TBI, Campus - 11,
KIIT University, Patia, Bhubaneswar,
Odisha, India - 751024



Arrelic
Your Reliability Partner.



INTERNET OF THINGS



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PdMAAS - PREDICTIVE MAINTENANCE



CONSULTING SERVICES



TRAINING & DEVELOPMENT



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