



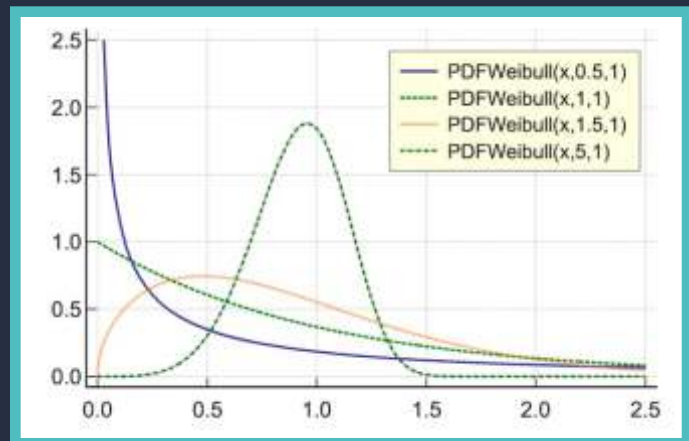
3 Day Certification Program on  
**RELIABILITY**  
**ENGINEERING**

23, 24 & 25 July 2025 | Virtual

The Indian manufacturing sector has witnessed multiple headwinds over the past 2~3 years, in the form of safety related regulatory changes, supply chain challenges, commodity inflation etc. Amidst such tough market conditions the Industry has exhibited remarkable resilience as evident by the export and domestic growth both in terms of value and volume in the last several quarters. In this VUCA situation, the Indian Product manufacturers are continuously adopting several strategies to ensure growth and distinguish themselves from the competition

Reliability Engineering, a globally practiced methodology, is extensively applied to the Product Design, development, Testing, Manufacturing and in Maintenance stages so that the product performs its specified functions under specific operating conditions for the stipulated period of time, successfully.

We at CII Institute of Quality, in our continued commitment to satisfy the rising application needs of the Indian Industry, are organizing an 3 Day Certification Program in Reliability Engineering



**This three day course is specifically designed to introduce the concepts of Reliability Engineering, and facilitate in transferring the theoretical principles into actual shop floor reality by application, through case studies and group discussions.**

# FACULTY



## Sivanarul Selvan P

- Mr. Sivanarul Selvan P, is engaged in consulting and training services, with over 34 + years of functional expertise.
- Actively involved in hands – on assignments to global majors in Automotive, Aerospace, Process Engineering, Pharmaceuticals, Food Processing, Tool & Die manufacturing, Heavy Engineering, Medical, Railways etc.
- Is a leading authority in application of Reliability Engineering, EMC ~ EMI, EMC ~ Testing, Functional Safety, Reliability Testing and DOE.
- Extensive domain expertise in FMEA / FTA / Warranty Analysis & RE Life Tests ~ ALT / HALT / HASS / MEOST.
- Associated with TUV ~ Rheinland as a Principal Consultant, in Product Certification, Training and Consulting.

## Course Content

### Product Design & Development

- Reliability expectations from Customer perspective.
- Item / Product reliability calculations
- Warranty Analysis / Weibull / Lognormal
- Failure forecasts and Predictions
- System level Reliability
- RAMS ~ Calculations
- Reliability Growth
- Reliability Validation / Determination tests.
- Engineering Change Tests Substantiation

### KEY TAKEAWAYS

- To quickly perform system level Reliability and Availability calculations ~ Current condition
- Identify the gaps between market expectations and performance of the Product in the field
- Methods to reduce Warranty returns
- Advance preparation for spare parts
- To improve the current Product Reliability to global levels of expectations.
- To quickly analyse the system or the Process Line for understanding the Probability of occurrence of an undesirable event.

### Maintenance Planning

- Predicting the maintainability percentage
- Life Cycle Costing
- Optimal Parts Replacement Interval
- Life data Analysis
- Failure rate / Repair rate
- Failure Analysis
- Scheduled and Un scheduled maintenance

### KEY TAKEAWAYS

- Concept of Weibull, Log normal, etc distributions
- Application to practical problem solving.
- Resources allocation in advance for the Planned Maintenance activities based on scientific calculations.
- To conduct the Life data Analysis through Weibull techniques.
- To quickly device the suitable failure analysis / root cause analysis with systematic approach
- To understand the method to reduce the MEAN TIME BETWEEN Maintenance ~ MTBM Activities.
- Understand the difference between the Condition Monitoring techniques and the Hazard rate.

# Investment

**CII Member INR 14,000 + 18% GST / Delegate**

**Non Member INR 15,000 + 18% GST / Delegate**

- Pre registration is mandatory
- Certificate will be issued for all participants



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