



Subir Chowdhury School of Quality and Reliability
Indian Institute of Technology (IIT) Kharagpur
West Bengal-721302

Three Days Training Program (05-07 March 2024) on Reliability Engineering for BHEL

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| 1. Purpose | <p>This training module is designed to empower individuals with the knowledge and tools needed to contribute to design and development of high-quality products within an organization. This, in turn, leads to improved customer satisfaction, reduced costs, and increased competitiveness in the marketplace.</p> <p>It enables trainee to understand the RAM requirements from the tender phase and how to address it across the life cycle of the product. The data plays an important role in all sort of the decision therefore data collection and modelling part has been added to make sure that trainee shall be able to understand and perform basic data analysis to address RAM requirements and to support the management in critical decision making.</p> |
| 2. Who should attend? | Engineers and Managers involved in the design & development, |
| 3. Who will deliver trainings? | Professors from SCSQR, IIT Kharagpur |
| 4. Mode of Training? | The training sessions will take place Offline at BHEL Premises. |

5. RAM Training Program Day Wise

Reliability Engineering					
Day	09:30 AM -11:00 AM	11:15 AM- 12:45 PM	2:00 PM- 3:30 PM	3:45 PM- 5:15 PM	5:30 PM – 6 PM
1	Reliability terms & terminologies (SKC)	Reliability Allocation Methods (SKC)	Distributions with applications in Reliability (RNR)	Distributions with applications in Reliability (RNR)	Discussions (SKC+RNR)
2	System Reliability Modelling I (SKC)	System Reliability Modelling II (SKC)	Reliability Prediction I (HG)	Reliability Prediction II (HG)	Discussions (SKC+RNR+HG)
3	FMEA / FMECA (RNR)	FMEA / FMECA (RNR)	Maintainability Analysis (HG)	Availability Analysis (HG)	Discussions (SKC+RNR+HG)

SKC: Prof Sanjay Kumar Chaturvedi; RNR: Prof Rajiv Nandan Rai; HG: Prof Heeralal Gargama

6. Expected expenditure and other information:

Training Days	Training hours per day	6.5
	Total number of days of training	03
	Total number of offline hours	19.5

A	Remuneration to trainers inclusive of their lecture slides (per hour)	10000
	Total remuneration to Trainers	195000

B		
	Certificates (Soft Copies)	10000
	Auditors' Fee	2000

C=A+B	Total for Overhead	207000
20% of C	IIT Overheads	41400
D	Total after Overheads	248400

18% of D	GST @ 18%	44712
	Total (D+GST)	293112

10% of Total	Co-Ordinator's Fee	29311.20
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	Total (INR)	322423.2
Say INR Three Lakhs and Twenty Two thousand		

- a. Participants: 20 for Three days' course. (Pl confirm this)
- b. Expected total budget: INR 322423 (INR Three Lakhs and Twenty-Two thousand) inclusive of expenses related to faculty + mandatory GST, IIT Overheads and other expenses.
- c. The course material will be in the form of soft copies of presentation slides.
- d. Participants attending the course for full duration will be provided a certificate from IIT Kharagpur under its continued education programme.
- e. Three (03) faculty members are planned to be involved to undertake this course (From 05-07 March) 2024 in Offline mode.
- f. Prof SKC and Prof RNR will reach on 04th of March and Leave on 08th of March. Prof HG will arrive on 5th March and will leave on 08th March.
- g. As discussed, Air Travel (to and fro) of Two faculty members, Fooding and Lodging for 03 days of Two faculty members and for two days of one faculty member will be borne by BHEL.