



**Two Days Training Programme on**

**“Operation, Maintenance, Protection and CBM of Power Transformer”**

**30-31 Aug 2019 at Kolkata**

**Objective:**

- To understand the various parts and critical elements of Power Transformer.
- To understand the operation and application of Power Transformer.
- To understand the maintenance, troubleshooting & Protection of Transformer
- To understand do’s & don’ts of Power Transformer
- Everything about transformer

Day	Topic	Subtopic
Day 1	SR	<b>Contents</b>
		<b>Principle of Working and Operation</b>
	1.1	Power/Distribution Transformer Construction & purpose details
	1.2	Function of all parts of Power Transformer
	1.3	Measuring Devices; Vector groups & Connections (Star & Delta)
	1.4	2/3 winding Transformer; Name Plate reading & connections
		<b>Operations (Do`s and Don`ts)</b>
	2.1	% Impedance; Efficiency; Losses; Regulation
	2.2	Transformer Testing: Oil; Silica; Winding; Heating; Cooling etc.
	2.3	Transformer Installation, commissioning: Do`s and Don`ts
	2.4	Parallel operation & Load sharing, Tap Changer
		<b>Maintenance (Fault Detection &amp; maint. Practices)</b>
	3.1	Various Fault Detection & regular testing of Transformer
	3.2	Maintenance, Data keeping,
	3.3	IR, PI, Dielectric absorption, High Pot, Tan delta, DC winding
3.4	resistance, s/c , TTR, Magnetic Balance Tests.	
3.5	Harmonics; Voltage Fluctuation control and Effects	
Day 2		<b>Faults &amp; Protection</b>
	4.1	Scheduled and unscheduled Maintenance of Transformer.



# Centre For Industrial Solutions and Advanced Training

AN ISO 9001:2015 CERTIFIED

(Technical- Electrical/Mechanical/Automation/Chemical, Behavioral & Soft Skill, Safety, Business Excellence, Safety & Energy Audit)

“A complete Training Solution Under One roof”

4.2	Faults in Transformer; Faults while making Connections
4.3	Protection of Transformer & Relay Setting
4.4	Protection of Transformer: Over Load, Over current, S/C,
4.5	Earthing failure, Differential Protection, REF, BR CB & relays.
<b>Failure Analysis</b>	
5.1	Failure Analysis: FMEA and other
5.2	Thermography; Conditioning Monitoring & Life improvement techniques
5.3	NDT; RLA; Many case studies.
5.4	Post Test, Assessment and Feedback
5.5	Certification

**Outcome of Program:** One should be able to know about Operation, Maintenance, Protection and condition monitoring of transformer. Best Maintenance Practices.

**Target Group:** JE/SE/GET/Executive/AM

**Certification:** Every successful participant will be awarded a course completion certificate.

**Delivery Methodology (Strategy):**

- Introduction and Objective Setting
- Pre and Post Test,
- Knowledge Presentations,
- Assignments & Exercise,
- Case Studies, Discussion and Interaction
- Feedback and Assessment
- Delivery 9:30 AM to 17:30 PM

\*\*\*\*\*

**Registration:**

**Dates of the program:** 30-31 Aug 2019@Kolkata, WB.

**Participation fees:** INR 22500/- per delegate (Excluding GST@18%; Training program includes training material hard copies, Tea, Lunch & snack, excluding lodging and Boarding)

**Payment:** ECS/NEFT/DD in favor of “Centre for Industrial Solutions and Advanced Training” Payable at Nagpur, Maharashtra, India. Account No: 0509102000003353

Web: [www.cisat.co.in](http://www.cisat.co.in); Email: [vikas@cisat.co.in](mailto:vikas@cisat.co.in); Contact: +91- 7709012815 (Branches: Thane/Pune/Nagpur/Bhilai/Vapi/Wardha)

**(Your partner for Industrial solution & Empowerment of Human Capital)**



## Centre For Industrial Solutions and Advanced Training

AN ISO 9001:2015 CERTIFIED

(Technical- Electrical/Mechanical/Automation/Chemical, Behavioral & Soft Skill, Safety, Business Excellence, Safety & Energy Audit)

“A complete Training Solution Under One roof”

Bank: IDBI, Wardha- 442001, MS, India; IFSC Code: IBKL0000509; Swift Code  
IBKLINBB007; MICR Code 442259001. (GST Code:27ABBPW5589J1ZV; SAC Code 99-  
9293; State Code 27; PAN No: ABBPW5589J)

**Venue:** The Lindsay, Lindsay Street, New Market, Kolkata, WB.

**For Registration please do contact to,**

We prefer on line Registration through our web [www.cisat.co.in](http://www.cisat.co.in).

Vikas +91-8669546332; 7709012815; [vikas@cisat.co.in](mailto:vikas@cisat.co.in); [cisat.nagpur@gmail.com](mailto:cisat.nagpur@gmail.com); or  
[rupali@cisat.co.in](mailto:rupali@cisat.co.in).

**Contact for any In-house Training Program at your plant or location.**

---

**Centre For Industrial Solution and Advanced Training**

Web: [www.cisat.co.in](http://www.cisat.co.in); Email: [cisat.nagpur@gmail.com](mailto:cisat.nagpur@gmail.com) ; Contact: +91- 7709012815; 8669546332

Web: [www.cisat.co.in](http://www.cisat.co.in); Email: [vikas@cisat.co.in](mailto:vikas@cisat.co.in) ; Contact: +91- 7709012815 (Branches: Thane/Pune/Nagpur/Bhilai/Vapi/Wardha)

**(Your partner for Industrial solution & Empowerment of Human Capital)**