

Centre for Industrial Solution and Advanced Training

# **TRAINING PROGRAM ON HT/LT MOTOR & POWER TRANSFORMER: O&M, FAULTS AND PROTECTION, CONDITION MONITORING TECHNIQUES**

23-24 August 2017, Nagpur





2 Day`s Training program on

HT/LT Motor & Power Transformer: O&M, Faults and Protection, Condition Monitoring techniques

23-24 August 2017, Nagpur

Objective:

- To understand the various parts and critical elements of Electrical Motor.
To understand the operation and application of Electrical Motor.
To understand the maintenance, troubleshooting & Protection of Motor
To understand do`s & don`ts of Drive; Rating & Failure analysis.

Table with 2 columns: SR and Contents. Sections include Basic Theory, Operations, Maintenance, Faults & Protection, and Failure Analysis.

Methodology: Presentation, Case Study, Model display, Site Visit and Practical.

- Outcome of Program: One should be able to know about Operation, Maintenance and condition monitoring of Electrical Motor.



### Training program on “Operation, Maintenance & Protection of Power Transformer”

#### 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

SR	Contents
<b>Basic Theory</b>	
1.1	Transformer Theory: Operation & Construction
1.2	Function of all parts of Power Transformer: Tank, Bushing etc
1.3	Measuring Devices; Vector group
1.4	2/3 winding Transformer; Name Plate reading
<b>Operations</b>	
2.1	% Impedance; Efficiency; Losses; Regulation
2.2	Transformer Testing: Oil; Silica; Winding; Heating; Cooling etc.
2.3	Transformer Installation, commissioning
2.4	Parallel operation & Load sharing, Tap Changer
<b>Maintenance</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 resistance, s/c , TTR, Magnetic Balance Tests.
3.4	Harmonics; Voltage Fluctuation control and Effects
<b>Faults &amp; Protection</b>	
4.1	Scheduled and unscheduled Maintenance of Transformer.
4.2	Faults in Transformer
4.3	Protection of Transformer
4.4	Protection of Transformer: Over Load, Over current, S/C, Earthing failure, Differential Protection, REF, BR CB & relays.
<b>Failure Analysis</b>	
5.1	Failure Analysis: FMEA and other
5.2	Thermography; Conditioning Monitoring
5.3	NDT; RLA
5.4	Conditioning Monitoring

- Methodology:** Presentation, Case Study, Model display, Site Visit and Practical.

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

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



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

## Centre For Industrial Solution and Advanced Training

AN ISO 9001:2015 CERTIFIED

“A complete Training Solution Under One roof”

### Training Facility:

CISAT has International level Training Centre Located in a learning atmosphere at Butibori, Nagpur (Maharashtra Region), India. It is equipped with training facility for up to 40 participants fully air conditioned, LCD Projector, Audio-video, White Board and all facility required for natural activities. It also has facility for Lodging and Boarding in a campus.

CISAT have facilities for practical's on various topics such as,

1. Testing of Electrical Equipment's
2. Electrical Drives
3. PLC (Allen Bradley/Siemens)
4. SCADA (Allen Bradley/Siemens)
5. Instrumentation (Sensors, Transducers, Meters etc)
6. Computer Lab with required software support
7. Electronics KITS for Experiments'.

We have support for various Industries for onsite Training as well Industrial visits as required.

### About Nagpur:

Nagpur, situated in a central part of India is a historical city. It is the second greenest city of India and a winter capital of Maharashtra. Nagpur is famous for its oranges, hence called as Orange City. Lots of places are of interest and visit. It is rich with natural gift and surrounded by Forest, Rivers, Dams and hill station like Chikhaldara. It has three Tiger reserves Pench, Navegaon and Tadoba within a limit of 150 KMs.

Nagpur itself rich in terms of picnic spots like Futala Lake, Gandhisagar Lake, Maharajbagh Zoo, Various historical temples, Fort, botanical Garden, Raman Science Park, etc.

\*\*\*\*\*

### Registration Details:

**Dates of the program:** 23-24 August 2017 (2 Days).

**Participation fees:** Rs. 18000/- Per participant (ST extra, Inclusive of Lunch, snacks & Tea, Course material, hard or Soft, Excluding Lodging and Boarding).

**Payment:** ECS/NEFT/DD in favor of “Centre for Industrial Solution and Advanced Training”  
Payable at Nagpur, Maharashtra, India. Account No: 0509102000003353 Bank: IDBI, Wardha-442001, MS, India; IFSC Code: IBKL0000509; Swift Code IBKLINBB007; MICR Code 000259000.

**Venue:** KEC, International Training Centre, Butibori, Nagpur, Maharashtra, India

**For Registration, please do contact to,**

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

Mrs. Rupali - 00-91-7709012815; [vikas@cisat.co.in](mailto:vikas@cisat.co.in); [cisat.nagpur@gmail.com](mailto:cisat.nagpur@gmail.com);

Mahendra Dhande- 9168326662

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/Wardha)

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