

Centre for Industrial Solution and Advanced Training

# **TRAINING PROGRAM ON TESTING OF ELECTRICAL EQUIPMENT'S: O&M, TESTING, PROTECTION AND ADVANCED CONDITION BASED MONITORING AND SWITCHGEAR, PROTECTION**

**21-23 Jan 2019, Kolkata, India**





## 3 Days Training Program on **TRAINING PROGRAM ON TESTING OF ELECTRICAL EQUIPMENT'S: O&M, TESTING, PROTECTION AND ADVANCED CONDITION BASED MONITORING AND SWITCHGEAR, PROTECTION** 21-23 Jan 2019 at kolkata.

### Course Objective:

The participants will be well informed about Electrical equipments in Industries, substation, substation equipment's, design, Faults, O&M techniques, also learn about various diagnostic Testing methods like: Offline & Online testing and monitoring techniques, high level test like Motor Current and Torque Signature, Acoustic Emission, Surge Testing (IEEE522), Tan Delta & Capacitance Measurement, Partial Discharge Measurement, Dielectric Response Analysis. The latest VLF (Very Low Frequency) HIPOT will be discussed in comparison to DC HIPOT and AC HIPOT Testing as per IEEE 433. We will discuss about switchgear and protection system.

### Course Content:

#### 1. Power Cable:

- a. Fundamentals of cable construction.
- b. Commissioning testing / acceptance tests at site.
- c. Diagnostic testing
  - i. Insulation resistance test
  - ii. Polarization Index
  - iii. Tan delta and capacitance measurement
  - iv. Partial discharge Measurement
  - v. Low frequency testing; HIPOT Testing

#### 2. Power Transformers

- a. Fundamentals of Power transformers & Design.
- b. Various Acceptance tests for power Transformer.
- c. Various diagnostic testing online and offline
- d. O&M techniques, Online and offline testing and Condition based monitoring
- e. Transformer Protection

#### 3. Advanced CBM:

- f. Online testing for condition monitoring, methods and Advantages.
- g. Offline testing of electrical Equipment's
- h. Interpretation of the test Results

#### 4. Switchgear system (Circuit Breaker, Isolator, LA, Instrument Transformer (CVT, CT /PT), Relay, Control Panels)

#### 5. Various other CBM Techniques (Informative)

- a. Current Signature Analysis
- b. Thermography



# Centre For Industrial Solution and Advanced Training

AN ISO 9001:2008 CERTIFIED

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

“A complete Training Solution Under One roof”

- c. Vibration Analysis
  - d. eddy Current & Magnetic Particle
  - d. Case Studies & Discussion
6. Electrical Motor: O&M, Faults and Protection
7. Electrical Safety for High Voltage Applications.

## Who can attend:

Electrical / Manager / Supervisor, Application Engineer, Condition Monitoring Engineer, Design Engineer, Maintenance Engineer /Manager/Supervisor/Reliability Engineer/Manager/ Supervisor

**Prerequisite:** Basic knowledge of Electrical Equipment's and experience in maintenance will be helpful.

## Delivery Methodology:

- Introduction and Objective Setting
- Pre and Post Test,
- Knowledge Presentations,
- Assignments & Exercise,
- Hands on as available.
- Feedback and Assessment

## Registration Details:

**Dates of the program:** 21-23 Jan 2018 (3 Days).

**Participation fees:** INR 24000/- per delegate + GST@18% (Excluding Lodging and Boarding).

**Payment:** ECS/NEFT/DD in favor of “Centre for Industrial Solutions and Advanced Training” Payable at Nagpur, Maharashtra, India (For NEFT/ECS). Account No: 0509102000003353 Bank: IDBI, Wardha-442001, MS, India; IFSC Code: IBKL0000509; Swift Code IBKLINBBNGP; MICR Code 442259001.

**Venue:** Kolkata

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

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With Best Regards & Thanks,

Mrs. Rupali, Director - Business Development.

**Centre For Industrial Solution and Advanced Training**

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

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