

## **REC Institute of Power Management & Training**

(Formerly Central Institute for Rural Electrification)

**A Premier Institute of** 



### **About REC**

REC a government of India central public sector organisation was established in 1969 to take ahead the cherished dream of government to establish a strong foundation of robust power sector to strengthen the emerging economy. During the time of severe drought, the leaders sought to reduce the dependency of agriculture on monsoons by energizing agricultural pump sets for optimized irrigation. Thereafter, we have ventured into newer paths and expanded our horizons to emerge today, as a leader in providing financial assistance to the power sector in all segments, be it Generation, Transmission and Distribution.

As a Navaratna company under the administrative control of the ministry of Power, we have been rated 'Excellent' in terms of the MoUs signed with the Government for 24 consecutive years. We found our business with market borrowings of various maturities, including bonds and term loans apart from foreign borrowings, on our own. Domestically, we hold the highest credit rating from CRISIL, ICR, IRRPL and CARE and internationally we are rated at par with the sovereign ratings. Under the discerning leadership of highly qualified and experienced professionals, which has effectively harnessed the individual talents of all our employees, we have maintained consistent profit margins and paid dividends each year since fiscal 1998. We have thus propelled ourselves to a net worth of over Rs. 34,000 Crore.

We take due cognizance of the fact that we owe our stupendous success to our customers, the unflinching commitment of our employees and our countrywide presence through 25 offices which ensures easy accessibility. Having bolstered our share in the country's total power capacity, we are poised to help build a sound infrastructure to provide affordable, accessible and sustainable power.

### **About RECIPMT**

REC Institute of Power Management and Training (RECIPMT) established under the aegis of REC Ltd a CPSE under Government of India is a premier Power Sector Training Institute, recognised by Central Electricity Authority (CEA). RECIPMT is dedicatedly working for human resource development of power sector for more than last four decades. During the last four decades, RECIPMT has organized training programmes and workshops on Technical, Management, Finance & Accounts, HR, Information Technology and Energy Conservations relating to Power Generation, Transmission, Distribution and Renewable Sector.

RECIPMT is the nodal agency for coordination and implementation of the National Training Programmes for C&D Employees across the country, under Deen Dayal Upadhyay Gram Jyothi Yojana (DDUGJY) of Ministry of Power, Gol. Till 31st March 2020, RECIPMT organised training for 2,49,107 C&D categories of employees of various power utilities. RECIPMT has also organised 41016 no of training of power distribution franchisees during the 11th plan.

RECIPMT is also organising training programmes for the Executives of International Power Sector Organisations. So far, trained 1683 executives from 98 countries by organising 102 batches of training to International Power Sector Executives. The duration of trainings varies from 4-12 weeks. Upto March 2020, the Institute has organized 2358 training programmes and 51,000 Engineers/ Managers from various Power Utilities, like Generation, Transmission & Distribution Companies, Electricity Departments, Rural Electric Cooperatives, Regulatory Commissions, Rural Development Agencies, Banks, CPUs, etc., participated in the programmes.

#### **VISION**

To reach, educate, inspire, nurture, enlighten and energize power engineers/managers and strive for quality improvement in human resources for achieving higher productivity.

#### **MISSION**

To build an institution of global excellence for human resources development of power sector to share its experience, expertise, and enlighten the managerial personnel of power utilities.



# MESSAGE FROM CHAIRMAN AND MANAGING DIRECTOR

Achieving the objective of providing 24x7 "Power for All" by 2022 and to raise the country's per capita consumption from 1181 kwh to the level of world average at 2430 kwh, India needs huge investments in the backbone power sector. Sustainable and environmentally friendly generation mix and improving the sector efficiency is the need of an hour. This is in line with the commitment given voluntarily by India to the international community to reduce the emissions to the level prevailing in 2003 and reduce it further by 5% by 2030.

To mitigate these challenges, the Government of India has taken up several initiatives including diversification of fuel resources for power generation, like contemplating 40% of power generation through renewable energy sources by 2025, improving the efficiencies and operational standards of entire gamut of power sector to be on par with developed countries. Special initiatives for reduction of AT & C losses including pilferage and supplying quality power by improved metering infrastructure with central funding. Further, Ujwal Discom Assurance Yojana (UDAY) has been introduced in order to reduce the debt burden of Discoms and thereby improving their financial health facilitating better investments in the power sector linked with achieving certain system standards. The ongoing reforms in the area of tariff, amendments in electricity act, development of real-time market are aiming to strengthen the DISCOMs, the weakest link in the power chain Smart grid concept is being promoted to squarely meet the growing urbanization and changed aspirations of public seeking cleaner power.

To achieve the above aspirations, the power sector needs to be toned up in all its areas with special focus on nurturing and developing human resource competencies to match the emerging needs. Human Resource with right attitudes and aplomb is an important asset of power sector to adopt new technologies, without which the goals set will remain an unfulfilled.

With its four decades of experience, RECIPMT has been always in the forefront in organizing training programmes to enhance the knowledge and update the skills of the manpower. It has always lived up to the aspirations of power utilities by making training truly rewarding, leading to enhanced productivity. This Year, in COVID Scenario, every organization is struggling with unique challenges of working and learning with social distancing. Though e-learning cannot fully replace legacy of classroom learning, RECIPMT has also introduced this year a blend of class room and internet based learning programme to the values customers so that in spite of challenges learning will continue. Hope RECIPMT will uphold its tradition in the year 2020 - 2021 also.

Shri Sanjeev Kumar Gupta Chairman & Managing Director, REC Ltd.



### FROM THE DESK OF DIRECTOR

Power is the harbinger of progress and capable of changing the fortunes of any country. Realizing the same, Electricity Act 2003, an instrument of reforms in the power sector, laid path of progress for providing power supply of quality, Continuity and Reliability. Meeting the demand in full at affordable price for 24x7 supply to nation is in the way. The off shoots of Electricity Act 2003, the National Electricity Policy have made adequate provisions to realize the objective in steps in a comparatively short period, availing private participation and funding. In this process, several policies and practices followed till then were revised drastically, for effective and faster realization of the objective.

Government of India has brought in several schemes like RGGVY, RAPDRP, IPDS, DDUGJY, SAUBHAGYA, etc., for electrification of 100% villages including rural houses, strengthening the rural and urban area networks and loss reduction and UDAY scheme towards relieving DISCOMs of their loan burden with interest there on so that utilities can make higher investments in system strengthening and partly funded them, making it easier for utilities to implement them without any hassles. This helped in achieving 100% village electrification and household electrification. But the sector has miles to go towards "sustainable 24x7 energy for all" from "connection for all" The sector is focusing on unfulfilled targets like T&D loss reduction to 15.5% from the present 21.5%, besides raising the system standards to the level of advanced countries, enhancing system efficiencies and meeting the changing consumer aspirations, adopting global technologies and appliances. Normal generation plans with commensurate budget and special plans to ensure 40% of power generation through green energy are devised to reduce pollution and rate of fossil fuel consumption in the country.

Inter-connecting transmission schemes are planned for early completion at competitive prices. Policies are announced and funding is provided for encouraging DSM and energy conservation measures to reduce demand considerably. Though these initiatives will help in meeting the likely power demand, long-term supply-side measures such as advanced technologies in renewable power integration and enhancing generation efficiencies of all modes will be important consideration. Since most of these problems are technical oriented and lasting since many years, resolving them is of a very tall order requiring comprehensive state of the art technologies to be adopted for economical and faster solution, with a special emphasis on skill development of the operating personnel, through subject specific training programmes, motivation and positive attitudes.

RECIPMT has etched for itself a niche being in forefront in fulfilling the skill development needs of the power sector with remarkable module selectivity based on the needs of the times and their periodical up-gradation all of which have been well received by the utilities time and again. We are very happy to bring out its annual training calendar for the financial year 2020-21 in its endeavor to remain at the top among similar organizations. Hope RECIPMT will enhance its patronage.

Santosh Kumar Sahu Director, RECIPMT

### PROGRAMME CATEGORIES - 2020 - 2021

### 1. National Regular Programmes

National Regular Training Programmes are organized by RECIPMT for executives working in national power sector utilities on state of art topics and also area of interest of power utilities. These Training programmes are organized on both technical and non-technical topics covering advance areas related to power sector such as, Power Generation, Transmission, Distribution, Renewable sources, Finance, Management, HR and other important topics related to power sector. This year considering the Covid-19 Pandemic Scenario, in addition to in campus class room Training programmes RECIPMT has introduced some online webinars.

#### A. On Line Webinars for National Power Sector Executives

SI. No	Name of the Programmes	Contents	No. of Days/ Dates
1	SOLAR POWER GENERATION - GRID ENABLING AND BALANCING	Solar Power Generation Technologies, Standalone and Grid connected systems, Rooftop PV and MW size PV systems, Erection, Testing and Commissioning - Operation and maintenance aspects of solar PV systems, issues in grid enabling and grid balancing, performance of solar PV systems	2 days/ 19-20 Nov 2020
2	DISASTER MANAGEMENT - SAFETY ASPECTS	Types of Disasters, Disaster Management Plan, Organizational best practices, Restoration systems, Procedures for Safety and Development of Manuals, and Guidelines, Accident Prevention methods; Safe practices, Safety Audits & First Aid Practices.	2 days/ 26-27 Nov 2020
3	DISTRIBUTION TRANSFORMERS - OPERATION & MAINTENANCE AND FAILURE MINIMIZATION	Design and Manufacturing of Distribution Transformers, Erection, Testing and Commissioning of Distribution Transformers, Transformer Oil Characteristics, Filtration and Reclamation Techniques, Maintenance and Protection of Distribution Transformers, and Failure Analysis	
4	SMART METERING TECHNOLOGIES & APPLICATIONS	Smart metering practices in power distribution utilities, Regulations & Standards, Installation methods, Reduction of losses, Energy Management, need and benefits, renewable era and need of smart meters	
5		O & M of Switching Equipment, Protection Equipment, Control Equipment and Transformers in power distribution system - O&M of Distribution Substation and Lines, Code of Practice in Operations, Work permits, line clear procedure, Maintenance of log books, Records, etc., Distribution Automation & SCADA and Concept of Intelligent Substations	2 days/ 18-19 Dec 2020
6	TARIFF POLICY AND SUBMISSION OF ARRS & REGULATORY COMPLIANCES	Provisions on Tariff in EA 2003 and Tariff policy and Structures Submission of ARRs by Power Companies; Tariff proposal in PPAs, fixation of tariff for Generation, Transmission and Distribution (retail tariff); Role of Regulators	
7	LABOUR LAWS - PROCEDURES IN DEALING WITH COURT CASES	Basic Concepts & Sources of Law - Procedural and Substantial Law; Jurisdiction of Courts; - Alternate Dispute Mechanism - Lok Adalats - Types of Writs - Labour Laws - ESI, EPF and Contract Labour Act, Employees' Compensation Act - Procedure to be Followed & Pursuance Required.	2 days/ 07-08 Jan 2021

## **B.** Class Room Training Programmes for National Power Sector Executives

S. No	Name of the Programme	Contents	No. of Days/Dates
1	DESIGN, CONSTRUCTION & QUALITY CONTROL OF EHV SUBSTATIONS	Transmission Planning - Design of EHV Substation - Bus-Bar Arrangement - Foundation Laying & Erection of Sub-Station Structures - Erection of Power Transformer and Switchgears including Testing & Commissioning - Earthing of EHV Sub-Station - Protection Systems - Sub-Station Automation	5 days/
2	POWER PURCHASE AGREEMENT AND TARIFF RELATED ISSUES	Undertaking and obligations of the developer and Power Utility; Acceptance test procedure; Sale and purchase of energy; Tariffs, Force majeure, Buy-out clause, Dispute Settlement Mechanism, Arbitration & Reconciliation; Role of Regulatory Commissions; PPA for Renewable, Power Market, Negotiating PPAs-Front Loading & Project Based Security.	4 days/ 19-22 Jan 2021
3	MATERIAL MANAGEMENT, PROCUREMENT PROCEDURES & e-PROCUREMENT	Materials Management - An Overview - JIT, Lean Inventory models, transportation models, ESI, Vendor managed inventory, CPFR value analysis - Purchasing system - Vendor rating and development - Forecasting, strategic sourcing, Logistics, Inventory and Stores Management - Agile Manufacturing - Logistics: 3PL, 4PL - Contract Management and Managing Risk - Spare Parts Management - e-procurement & GeM.	-
4	DISTRIBUTION LOSSES MINIMISATION AND SMART METERING AND ADVANCE PRACTICES	Distribution Losses, Methods of Detection of Pilferage and Malpractices, Analysis of commercial and technical losses, Measures for arresting pilferage of electricity, Administrative, legal and technical measures for minimization of theft of electricity, Assessment and Penal Provisions - Electricity Act Provisions, Vigilance Operations & Case studies.	4 days/ 09-12 Feb 2021
5	POWER FACTOR IMPROVEMENT AND REACTIVE POWER MANAGEMENT	Effect of Reactive Power - Correction Methodology - Erection, O&M and fault analysis of Shunt Capacitor and Series Capacitors - 11 KV and LT Switched Capacitors - Capacitors Bank Formation, Neutral Grounding - Erection, Commissioning, O&M, Protection of Reactors - Factory Testing of Capacitors - FACT and Static Var Compensation & Case studies	23-26 Feb 2021
6	POWER TRANSFORMER - TESTING, COMMISSIONING, PROTECTION & MAINTENANCE	Insulation resistance measurement, winding resistance measurement, magnetic current test, magnetic balance test, vector group confirmation, short circuit test and differential stability, ref stability test, etc., Conditions leading to faults, protective relays, differential protection, overcurrent protection, ground fault protection, monitors for protection.	2021

7 **DESIGN, TECHNICAL** SPECIFICATIONS, & COMMISSIONING OF **DISTRIBUTION SUB-STATION AND LINES** 

Design, Technical specifications, Construction, standards Testing & Commissioning of Sub-**CONSTRUCTION, TESTING** station (Indoor & Out door) - Earthing practices in a substation - Protection in a Sub-station - Battery and Battery Chargers

5 days/ 15-19 Mar 2021

8 PROTECTION SYSTEM **IN EHV SUB-STATIONS & LINES** 

Fundamentals of protection and Code of **5 days/**Practice – Design, Selection, & Installation of **22-26 Mar** Instrument Transformers - Protection aspects of EHV sub-stations - Transmission line protections, Transformer and Reactive Protection - AC/DC logics - Transmission lines protection - Distance protection schemes for long and short lines.

2021













## 2. Specialized Programmes

RECIPMT also Proposes to organize training programmes on the specific requirement of the power utilities on following area with special emphasis for senior executives from power sector organizations to address recent issues and challenges associated with power sector.

S. No	Name of the Programme	Brief Contents	No. of Days
1	Project Management of Power Distribution System	Project Formulation – Life Cycle, PERT/CPM, Budgeting Risk Analysis - Preparation of DPR - Technical and Financial Appraisal methods - Construction Standards, Specifications and Best practices - Procurement Methods including e-tendering, and Reverse Auction, Contract/bid closure; Project implementation –Sourcing of funds – TQM - Drafting quality plan, Management and Documentation - Monitoring and Project Evaluation techniques.	4 days
2	CERC Tariff Regulations Vs Financial Viability - Issues & Challenges	Electricity Act, 2003 on tariff fixation & basic tariff design - Tariff Policy and Amendments - Approach to tariff fixation - CERC Tariff regulations and Amendments, Draft CERC Tariff Regulation 19-24 - Deviations from CERC tariff Regulations 14-19, CERC tariff regulations for RE Plants - Competitive Bidding, Guidelines & Case Studies - SERC regulations and guidelines for ARR submission, costing and pricing approach for tariff fixation - Case studies of tariff fixation - Tariff fixation for a Generation Plant under PPA route.	4 days
3	Solar & Wind Power and Integration with Grid - Issues & Challenges	Solar & Wind Power Projects - CEA Technical Standards for Connectivity to the Grid - Technical & Economic impact of Renewable Integration - IEGC (Grid code) & DSM - Power System Flexibility - Grid parity & Green the Grid Challenges - Technical Standards for Connectivity to the Grid	4 days
4	Turnaround of DISCOMs - Issues and Challenges	AT & C Losses, Effective Revenue management - Energy Audit, Annual Revenue Requirement (ARR) & Tariff issues - Reducing Power Procurement cost through Strategic Procurement - Financial Restructuring - Managing Non-Open access consumer, Creating Vibrant Workplace, etc.	4 days
5	Ind AS (IFRS) Adoption in Power Sector	Benefits of Ind AS Adoption - Framework based understanding of Ind AS - Conceptual difference between Ind AS and existing accounting standards - Implementation issues in Indian Power Sector - Component accounting - Regulatory assets and liabilities - Financial instrument - First time adoption - a roadmap for successful adoption - Key learning from IFRS implementation.	4 days

### 3. Customized/MOU Programmes

RECIPMT conducts Customized Training Programmes on the subjects, based on the interest of the power utilities. RECIPMT also designs programmes on the specific requirement of the power utilities by entering into MoUs and conducts the same either at RECIPMT premises or at the premises of the utilities. **Further, RECIPMT also conducts Induction Training Programmes for newly recruited employees as part of MoU signing.** In past RECIPMT has organized Induction Training programs for Many state utilities. Duration and topics mentioned below are indicative (Organised earlier) however they may be merges or modified as per requirement of client organization.

S. No.	Technical Programme	Duration
1	Distribution Loss Reduction - Pilferage of Electricity - Issues, Challenges and Remedial Measures	5 days
2	Technical  Specifications, Construction  Standards  for  Distribution  Systems	5 days
3	Concept to Commissioning of Solar Power Projects	5 days
4	Earthing Practices and Safety Measures in Electrical Installations	5 days
5	Design, Construction and O $\&$ M of Distribution Sub-Station $\&$ Lines of Distribution Substations $\&$ Lines	5 days
6	Power Transformers Testing, Commissioning O&M and Condition Monitoring practices	5 days
7	Operation, Maintenance and Protection Aspects of Distribution Transformers	5 days
8	Power System Protections	4 days
9	Design and O&M of Gas Insulated and Indoor Sub-stations	4 days
10	Erection, Testing, Commissioning of Distribution Sub-Station and Lines	4 days
11	Power Factor Improvement and Reactive Power Management	4 days
12	Underground Cables - Design, Laying, Testing & Fault Detection	4 days
13	Latest Trends in Metering, Billing and Collection	4 days
S. No.	Management and Non-Technical Programme	Duration
1	Ind AS (IFRS) Adoption in Power Sector	5 days
2	Finance for Non-Finance Executives	5 days
3	Best Practices in HR Management of Power Utilities	5 days
4	Implementation of Goods and Services Tax (GST)	4 days
5	Open Access, Power Trading & ABT	4 days
6	Tariff Policy and Submission of ARR - Regulatory Compliance	4 days
7	Power Trading & Energy Exchange	4 days
8	Companies Act 2013 and Corporate Governance	4 days
9	General Management, Motivation, Team Work & Leadership Skills	4 days
10	Personality Development, Communication & Stress Management	3 days

### 4. In-House Training Programmes For REC Employees

RECIPMT proposes to organise following training programmes for Executives of REC Ltd. However, RECIPMT may organise these training programme for other power sector organisations as per requirement.

Out of following five training programmes as per requirement two webinars and three class room training programmes are proposed to be organized on following topics.

S. No	Name of the Programme	Brief Contents	No. of Days	Dates
1	WEBINAR: Purchase Procedures and e-procurement through GEM	Purchasing system- Purchase Procedures - Tender Document Development - Vendor Rating and Vendor development - Contract Management and Managing Risk - e-procurement - GEM Portal - Hands on Experience on GEM portal & Tender Wizard	3	07-09 Dec 2020
2	Managing Change in Power Sector	Managing Change in Power Sector - Issues & Challenges, New Initiatives of Government of India - DDUGJY, Saubhagya, 24x7 Electricity, etc Transformational Leadership -Building Effective Teams - Managerial Communication Building Effective Interpersonal Relations-How to manage	3	21-23 Dec 2020
3	WEBINAR: Concept to Commissioning of Solar Power Plant including O&M	Renewable Policies & Solar Missions, Opportunities and challenges, Renewable grid parity and integration, Basics of Solar PV Technology (different configuration like Grid connected Rooftop) Module, Inverter & Structure, Standards & Design Selection with PV System, Testing & Commissioning, O&M	3	11-13 Jan 2021
4	Loan Documentation	Sanction Letter; Loan documentation – Alternate securities, Loan agreement/ Bulk hypothecation deed/Tripartite Escrow Agreement/Bulk Guarantee deed/ Board resolutions and checklist for documentation; Procedure for hypothecation of assets – Types of mortgage, Procedure for valuation of assets; Due diligence verification of Escrow cover; Filing of charge/creation of charges with ROC, etc.		15-17 Feb 2021
5	Leadership and Communication Skills	Role of Leader, Understanding of Team, Leadership styles and methods, Effective Leader and their attributes; Performance Management, Setting Objectives; Relationship Management; Self-Appraisal; Creating enthusiasm and motivation - Presentation Skills - Role Play - Group discussions, etc.	3	03-05 Mar 2021

### 5. Programmes Sponsored by REC Ltd. for Power Utilities

Every year, RECIPMT organizes training programmes sponsored by REC Ltd on different aspects related to power sector, Last year, we have organized 50 training programmes on "BEHAVIOURAL SKILLS" for executives of power sector utilities which were fully sponsored by REC Ltd. The programmes are aimed towards capacity building of executives of power sector. This year following two training programmes are proposed to be organized at utility or at RECIPMT premises which will be sponsorship of REC Ltd.

## 5.1 Sustainability of Power Utilities (For Senior and Middle Executives)

S.No	Name of the Programme	Brief Contents	No. of Days
1	Sustainability of Power Utilities	Sustainability of Power Sector- Over view of Power Sector, Latest Policies, New initiatives, Funding Mechanisms; Electricity Act Amendments (Draft EA amendment of 2018, proposed amendment in 2020), Tariff Reform, smart metering, impact of e- vehicles and mobility, Real time Market and Renewable Integration impact of these policies on business of power utilities and way forward for sustainable power sector in the time to come	1

## **5.2 Electrical Safety Practices (For Middle and Junior Executives)**

Safety is of prime important for any sector and many power utilities are struggling to adopt best safety practices at work places in Indian Scenario. RECIPMT proposes to organize training programmes on "ELECTRICAL SAFETY PRACTICES" for technical and non-technical executives of Indian Power Sector Utilities. These training programmes are proposed to be sponsored by REC Ltd. and organized at utility premises or at Institute premises (RECIPMT, Hyderabad) under mutual requirement/MOU basis. Preference will be given to leading clients of REC Ltd. for allocation of training programmes.

S.No	Name of the Programme	Brief Contents	No. of Days
1	Electrical Safety Practices	Safe working practices in power sector, CEA Safety Regulations 2010, IE Rules, safety code for erection, operation & maintenance, Causes and Prevention of Accidents - Safety Tools - Electrical Safety Practices, line clearances and permits - Importance of Earthing - Step Potential, Ground Potential raise, Touch Potential, Transfer Potential - safeguards - Methods of measuring & reducing Earth Resistance, Fire Safety - Prevention of Fire in Electrical Substations - Safety Audit - First Aid Practices in cases of Electrical Accidents - CPR - Artificial Respiration, etc Case Studies	3

## 6. National Training Programmes for C&D Categories of Employees (Sponsored by Ministry of Power, Gol under DDUGJY)

RECIPMT proposes to organise following module of training programme for C&D workers of power distribution utilities under **RECIPMT banner or utility banner**. These training programmes are sponsored by Ministry of Power (MoP) and allocated to different utilities based on ministry guidelines and utility requirements.

S. No.	Name of the	Brief Contents	No. of
	Programme		Days
1	Lineman Training Programme	Basics of Electricity; Electricity Act 2003; Functions of Distribution Company – Duties & Responsibilities of Linemen; Service Connection, DDUGJY, IPDS; Types of Cables, Transformer Erection, Commissioning & Maintenance, Construction of Line; Line Inspection & Maintenance; Earthing; Metering, Billing & Collection, Power Factor Improvement, Field Visit to 33/I1 KV Substation and Metering & Transformer Shed, Theft of Electricity & Vigilance, Safety; Customer Relation Management	4 days
2	Energy Metering and Billing (Variant-2)	Power Sector Scenario in India; Electricity Act 2003, Basics of Electricity and AT&C Losses - Meters and their uses, Energy Metering, Billing & Collection, Consumer Indexing - Tariff Structure, Prevention of Theft of Energy Conservation of Energy - Customer Relation Management - Field visit to Meter Testing Laboratory.	2 days
3	Energy Metering and Billing (Variant-3)	Power Sector Scenario in India; Electricity Act 2003, Basics of Electricity and AT&C Losses - Meters and their uses, Energy Metering, Advanced Metering - Time - of - Day Metering, Meter Reading Instruments, Tele - Metering, Prepayment Meters, Spot Billing CEA Metering Code, Energy Accounting and Auditing; Billing & Collection, Consumer Indexing - Tariff Structure, Prevention of Theft of Energy Conservation of Energy- Field visit to Meter Testing Laboratory.	3 days
4	ment Stores Ac-	Functions of Electricity Distribution Company - Electricity Act 2003, DDUGJY, IPDS, Procurement contracts & CVC Guidelines, Systems & Procedures for Works Execution, RTI Act, Motivation & Interpersonal Relations, Consumer Service and Care; Consumer Indexing, Energy Accounting and Auditing, Tariffs & Revenue Management, Stores Management, Financial accounting & budgetary control, Service Regulations - Staff welfare activities, Establishment & Staff Payment, etc.	3 days
5		Basics of Electricity, Electricity parameters, provisions related to safety and Safety Measures, Accidents - Causes and Prevention of Accidents, - Demonstration of usage of safety equipment, Earthing Practices in Electrical Installations, Fire prevention & Firefighting equipment, First Aid Practices, Disaster Management - Field visit to 33/11 KV substation.	2 days
6	IT Skills	Introduction to Office Automation, Computer Operating system, Trouble Shooting of Systems, Ms-Word, Hand on experience on MS-Word, Ms-Excel, Hand on experience on MS-Excel, Internet & Email - Internet safety.	3 days
7	tenance of Distribution Transformers,	Basics of Electricity, Transformers-Operating principles, various parts and their functions, Features & Types of Distribution transformers - Transformer Oil Characteristics: Filtration and reclamation techniques, Erection, testing and commissioning of distribution transformers, Earthing of distribution transformers, Distribution transformers specifications; protective devices and maintenance, Failure of Distribution transformers - causes and remedial measures; Field visits.	3 days

### Life at RECIPMT

A beautiful and lush green campus of RECIPMT is spread over an area of around 14.3 acres fully equipped with facilities for meeting training needs of our valued Clients.

It is located on the National Highway No.44, at Aramgarh X Roads, Shivarampally, Hyderabad which is about 16 Kms away from the new Rajiv Gandhi International Airport, Shamshabad.



Landscape - Hostel



Conference Hall

### **Demonstration Facilities**

RECIPMT has developed an Energy Park equipped with 40kwp Rooftop Solar PV System, 1kwp Solar Street Lights, 5kwp Solar Water Pumping System and HVDS Resource Centre along with HVDS System for demonstration.



**Distribution systems Laboratory** 



Roof-Top Solar PV System

### **Recreation Facilities**

Indoor games like Table Tennis, Chess and Caroms are available. Jogging Track of 1 km length, Badminton court and mini Gym are also available.







Mini-Gym Tennis Caroms

### Classrooms

State of the art class rooms with advanced training facilities are available. The Institute has latest teaching aids as well as full-fledged Computer lab and Wi-Fi facility. It also has an air-conditioned Conference Hall with a seating capacity of 70 members.



#### **Class Rooms**



### Library

RECIPMT Library is one of the specialized centers with about 5000 books and reference materials on the subjects like generation, transmission & distribution, energy efficiency and conservation, construction standards and specifications, management and information technology, electricity rules and laws, reforms and restructuring in power sector, etc. It subscribes to renowned journals on energy and power sector which caters to the information needs of the participants, in house faculty and guest faculties.





Library

### Hostel

RECIPMT has got 36 air-conditioned rooms, 2 VIP Suits and air-conditioned dining hall. All the rooms are provided with solar hot water facility & LED TV. The Hostel is equipped with Wi-Fi facility.





Dining Hall

**Hostel Room** 



**Hostel Building** 

## **Faculty Members - Internal**

S. No.	Name with Designation	Specialization
1	Santosh Kumar Sahu, Director	30 years of experience across Power Generation, Transmission & Distribution Sector, Financing and Disaster Management, Ex-CEO of Facor Power and Ex-Director (Fin) of OHPC & GEDCO
2	G. Shankar, Additional Director	22 years of experience in Power Distribution Sector which includes ICT Applications, Customer Management & Distribution Franchising
3	Dr. R. Mohd. Nafi, GM	22 years of experience in Power Sector & Rural Electrification
4	Aparup Paul, Faculty (DGM)	19 years of experience in the area of Production, O $\&$ M of Thermal Power Plants and Energy Conservation.
5	Sudhir S Chopade, Faculty (DGM)	19 years of experience in teaching and power plant training, Special interest includes Condition monitoring of HV equipment.
6	TSC Bosh, Executive Director	DDUGJY, Rural Electrification, Quality Assurance, Monitoring and Evaluation, Distribution Management
7	G S Bhati, Executive Director	DDUGJY, Rural Electrification, Quality Assurance, Distribution Management
8	VK Singh, Executive Director	Generation Projects - Financing and Appraisal
9	Fuzail Ahmed, Executive Director	Project Monitoring and Power Plant Familiarization; O&M of Transmission System; Construction and Quality Control Mechanism
10	RP Vaishnaw, Executive Director	Internal Auditing; Financing of Power Projects, Risk Management
11	JS Amitabh, Executive Director	Companies Act, 2013; CSR, Corporate Governance
12	G Veer Mahender, CGM	Entity Appraisal, Project Appraisal, Power Trading, Project Planning & Development, Development Economics and Strategic Management
13	Salil Kumar, CGM	Vigilance for Organizational Excellence; Public/e-procurement; Preventive Vigilance
14	Taruna Gupta, CGM	Investments, Merchant Banking, Resource Mobilization, Internal Audit, International Cooperation & Development, CSR
15	N. Venkatesan, CGM	23 years of experience in Project Formulation, Appraisal & Monitoring of Power Projects
16	N.K. Maurya, CGM	Financial Accounting, Auditing, Cost Accounting, Cost Auditing, Internal Audit, CERC-Tariff Fixation related topics
17	P.S. Hariharan, CGM	Project Investigation and Appraisal - Project Financing - Generation projects
18	Saurabh Rastogi, CGM	Financing of Renewable Energy Projects (Wind Solar/Biomass/Small Hydro)
19	S. Muralidharan, CGM	Corporate Taxation, Asset Liability Management & Loan Recovery
20	R Anbalagan, CGM	Entity Appraisal System for State and Private Sector Power Utilities - Critical Evaluation of Borrowers/Promoters
21	APS Manocha, CGM	Project Financing, Loan Documentation and Litigations
22	D.B. Londhe, Sr GM	Hydroelectric Power Generation includes survey, investigation, construction, testing, commissioning, operation & maintenance
23	A. Veluchamy, Sr.GM	Project Financing, Project Appraisals, AT&C Loss Reduction, Infrastructure Project Management & Fixation of Tariff
24	Ch V Lakshmana Charyulu, GM	19 years of experience in project financing, appraisal, monitoring and financial analysis

## **Faculty Members - External**

In addition to in-house faculties, RECIPMT as empanelled subject experts from different areas of Power Sector from all over India. The below list is only indicative.

Name of Guest Faculty	Specialization Specialization
SK Deo	Thermal Power Generation
C Sriprakash	Operation & Maintenance of Thermal Power Plants
B. Jagadesh Prasad	Design of Hydro Power Plants
SV Ramana	Operation, Maintenance & Protection in Hydro Power Stations
KV Nageshwar Rao	R & M of Thermal Power Plants
K Venkata Rao	Operation of Thermal Power Plants and Trouble Shooting Aspects
D Sudharsan	O&M of Civil Works in Hydro Power Plants
M Gopala Rao	Power Transformer Operation and its Specification - Shunt Reactors
A Saiprasad Sarma	Availability based Tariff, Bus-bar arrangements and Reactive Power Compensation
J Dakshina Murthy	Protection in Transmission & Distribution and Reactive Power Compensation
S Ganesh Babu	Sub-Station Operation & Maintenance & Distribution Automation
G Mahesh Kumar	Power Transformers, Technical Loss Reduction & Power Factor Improvement
L Parthasarathi	
Dr. HS Kalsi	Generation and Transmission Planning & Load Flow Studies
	Circuit Breaker technologies & Erection and Testing
C Venkateswarulu	Protection System in Generation and Transmission
M Srinivasulu	Hot line Maintenance of Transmission Lines & Sub-Stations
P Gopalakrishna	Sub-station Automation and Protection of Transmission lines
G Satyanarayana	Design, Erection and Commissioning of Gas Power Stations
S C Satyanarayana	O&M Shunt Reactors and Serious Capacitors
Y Pandhari Pande	Power Transformer Protection and Motor & Generator Protection
P Suryaprakash	Transmission Tower Design and Testing
P Srinivasa Rao	EHV Underground cables
Dr. G Mohan Rao	Gas Insulated Sub-stations
N Vijay Kumar	EHT Lines - Survey, Erection, Testing and Commissioning
K Murali Krishna	Transmission Lines & Sub-Stations
V Balaji	Billing and Settlement Code of Open Access & ABT - Payment Mechanism
B Neelakantam	Transformer & Bus-Bar Protection & Fault Level Calculation
Ch Narasimha Murthy	Technical Specification, Construction Standards and Load Forecasting
V Sudhakar	Load Forecast Techniques & Distribution System Planning
L RadhaKrishna	Energy Accounting & Audit and GIS and GPS Application in Distribution
P Narender Kumar	SCADA, Protection Aspects, Technical Loss Reduction, Sub-station Equipment
E M Chakravarthy	Metering Technologies, Protection in Distribution & SCADA
S Sunil Kumar	AT&C Losses, Metering Technologies, Billing and Collection
YS Rao	Theft & Pilferage of Electricity
Atanu Das Gupta	SCADA, Automation & Smart Grid
P Krishna Reddy	Metering, Billing & Collection of Distribution
Phanindra Kumar	GIS & GPS Applications in Distribution
ESS Sastry	Inverter Principles, Selection criterion for Grid Connected and off grid applications
N Ramchander	Solar Power Invertors & PV Systems
Guruswami Revana	Bio-Mass, Geo-Thermal, Tidal & Wind Power Generation
DK Astik	Ind AS Accounting Standards and IFRS
DV Someswara Rao	PPA, Competitive Bidding & Generation Tariff
K Hariprasad	Preparation of Annual Revenue Requirements & Retail Tariff Fixation
K Jagadesh Reddy	Capital Budgeting, Project Appraisal & Risk Analysis and Cost Management
N Chandu Kumar	Budgeting, Strategic Financial Management and Financial Appraisal
KS Srinivas	EPF, ESI, Employee Compensation and Contract Labour Act
AS Kumar	Customer Relation Management & Communication & Presentation Skill
C Vijayakumar	Motivating Self, Employee Motivation and Morale Development
Dr. Sandhya Tiwari	Business Communications, Managing Change & Building Organizational Culture
K Srinivas	Time Management, Leadership Qualities, Positive Thinking & Attitude
D Murlidhar	Communication Skills, Leadership, Behavioral skills

### **How to Register**

- 1. Considering Post Covid Scenario, the course fee for National Regular programme on residential basis is Rs. 6500/day/ participant + 18% GST. The course fee for Non-Residential participant is Rs. 5500/day/ participant + 18% GST. It is proposed to offer 20% Discount for 2 nominations (₹5,200), 30% Discount for 3-4 participants (₹4,550) and 40% Discount for 5 & more participants (₹3,900) +18% GST.
- 2. The Programmes are mainly residential and conducted at RECIPMT Campus, Shivarampally, Hyderabad. However, Considering COVID-19 Scenario, we have announced few online WEBINARS.
- 3. Residential Fees includes boarding and lodging in addition to tuition fees, courseware & other facilities, field visit, etc. whereas Non-Residential fee excludes Boarding and Lodging.
- 4. The participants have to make their own transport arrangements to reach RECIPMT Campus.
- 5. Bulk orders and customised requirements from utilities are welcome in advance. We will be happy to discuss requirements and offer special discounts for such requirements on annual basis to utilities through special MOU mechanism on receiving request from utilities.
- 6. The Course fee may be paid in advance by banker's cheque or demand draft drawn in favour of "REC Institute of Power Management and Training" payable at Hyderabad. The course fees can also be paid by NEFT/RTGS. The Bank Details of RECIPMT are as follows:

Name of the Bank	HDFC Bank Ltd.
Account No.	00210350000930
IFS Code	HDFC 0000021
MICR No.	500240002
Branch & Address	Lakdikapul Branch, Hyderabad
PAN	AAACR4512R
GSTIN	36AAACR4512R3Z0

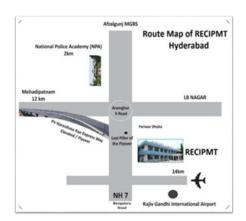
7. Names of the nominating officers may be sent to the Director, REC Institute of Power Management & Training (RECIPMT), Shivarampally, Aramghar X Roads, NPA Post, Hyderabad - 500052 along with the course fee. The nominations may also be send by E-mail: recipmt@gmail.com/recipmt@recl.in/recipmtrg@recl.in.

### How to reach the Institute

RECIPMT is well connected to Rajiv Gandhi International Airport and three major railway stations which are Secunderabad, Kachiguda and Hyderabad (Nampally).

RECIPMT is nearly 16 Km away from Airport as shown in map. Airport from ground level, radio cabs/ taxis are available 24 x7.

From Railway Station, pre-paid taxis/autos are available to reach the institute located at Aramghar X Roads on the National Highway No. 7 towards Shamshabd Airport.



### **About Hyderabad**

Hyderabad, the capital of Telangana State, is a picturesque sprawling city located about 1700 kms south of New Delhi, India's capital and nearly 800 kms to east of Mumbai, the business capital of India. It is situated at an elevation of 540 meters above the sea level and enjoys pleasant climate almost throughout the year. The City has many majestic historical monuments, mosques and marvelous minrests and palaces. The world famous monument Charminar – an imposing structure with 53 meters high – is an attraction of the city. On the western outskirts of the city, the historical Golconda Fort is located. The Salar Jung Museum, the world's largest oneman collection, displays around 35,000 antiques and art objects.

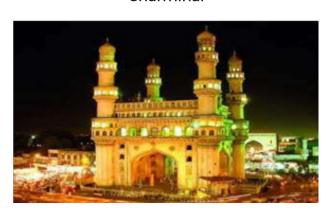
The ancient city of Hyderabad was ruled by Nizam who was fascinated for pearls and attracted traders/craftsmen to bring the best to this land. It is, therefore, is also known as pearl city. It is famous for Silver inlay work, popularly known as Bidri Ware. The Asia's biggest Film City i.e. Ramoji Film City is located about 30 kms away from city. The city also has one of the world's largest monolith statues of Lord Buddha, the incarnation of peace in the middle of Hussain Sagar Lake.

Magnificent Cyber Towers, housing IT companies symbolizes the grand entry of IT era in Hyderabad City.

Golkonda Fort



Charminar





For further information Please Contact: **Santosh Kumar Sahu**Director

## आरईसी इंस्टीटयूट ऑफ पावर मैनेजमेंट एंड ट्रेनिंग

(पूर्व सेंट्रल इंस्टीटयूट फॉर रुरल इलेक्ट्रीफिकेशन)

### REC INSTITUTE OF POWER MANAGEMENT AND TRAINING

(Formerly Central Institute for Rural Electrification)

शिवरामपल्ली, एनपीएपोस्ट, हैदराबाद / Shivarampally, NPA Post, Hyderabad-500052

दूरभाषः / Phone Nos.: 040-29880852, 29808583 हॉस्टल / Hostel:040-29807252

e-mail: recipmt@gmail.com, recipmt@recl.in, recipmtrg@recl.in

वेबसाइटः / Website : www.recipmt.com & www.recindia.com

मुख्य व्यावसायिक कार्यालयः आरईसी लिमिटेड, कोर-4, स्कोप कांप्लेक्स, 7, लोदी रोड, नई दिल्ली-110003 Regd. Office: REC Limited, Core-4, SCOPE Complex, 7, Lodi Road, New Delhi-110003

CIN: L40101DL1969GOI00509