



Chairman, EICT Academy &
Director MNIT Jaipur
Prof. Narayana Prasad Padhy

Coordinator, EICT Academy
Dr. Satyasai Jagannath Nanda, ECE

Chief Investigator, EICT Academy
Prof. Vineet Sahula, ECE

Co-Chief Investigators, EICT Academy
Prof. Lava Bhargava, ECE
Prof. Pilli Emmanuel Shubhakar, CSE
Dr. Ravi Kumar Maddila, ECE

Objective (Electronics & ICT Academy-Phase II)

- 1) To conduct specialized FDPs for faculty/mentor training in line with the vision of MeitY by promoting emerging areas of technology and other high-priority areas that are pillars of both the "Make in India" and the "Digital India" programs.
- 2) To promote synergy and collaboration with industry, academia, universities and other institutions of learning, especially in emerging technology areas.
- 3) To support the National Policy on Electronics 2019 (NPE 2019) which envisions positioning India as a global hub for ESDM sector, including MeitY Schemes/policies such as Programme for Semiconductors and Display Fab Ecosystem; India AI; National Programme on AI, Production Linked Incentive Scheme for IT Hardware & Large-Scale Electronics Manufacturing; EMC; SPECs; Chips to System (C2S); etc.
- 4) To promote standardization of FDPs through Joint Faculty Development Programmes.
- 5) To support the vision of the National Education Policy (NEP 2020), which mandates that Indian educators go through at least 50 hours in professional development programmes per year.
- 6) To design, develop & deliver specialised FDPs on emerging technologies/ niche areas/ specialised modules for specific research areas for Faculty in Higher Education Institutions (HEI), besides FDPs on multi-disciplinary areas connected with ICT tools and technologies and other digital hybrid domains, covering a wide spectrum of engineering and non-engineering colleges, polytechnics, ITIs, and PGT educators.

Online Programme

Advanced Smart Grid

19th Jan - 14th Feb 2026

Faculty Development Programme
Electronics & ICT Academy under aegis
of



Ministry of Electronics and
Information Technology
Government of India

meity.gov.in/content/schemes-projects

An intensive 40 Hours Training Programme in online mode is being organized for faculty and doctoral students of engineering and technological institutions. It is also open to working professionals from the industry/organizations. The main theme of the training program will be oriented around exploring the state-of-the-art methods of advanced smart grids. **The programme will run from 5:00 PM to 7:00 PM daily (except Sunday).**

Experts/Speakers-

Prof. N. P. Padhy, Director MNIT Jaipur & Professor (HAG), IIT Roorkee

Programme Modules:

Module 1: Introduction to power distribution networks, Difference between power transmission and distribution networks, the architecture of distribution networks, Impacts of DERs on distribution grids & its hosting capacity assessment, Operational challenges associated with DER-integrated distribution networks
Module 2: Introduction to distribution network load flow and sparsity quantification, Graphical load flow analysis of DER-integrated distribution networks, Load flow analysis with different load models, Three-phase power flow with unbalanced DER penetration, Example of load flow solution in OpenDSS platform
Module 3: Introduction to reliability analysis, Probabilistic failure analysis of network components, Reliability metrics, Value of loss load calculation, System reliability enhancement technologies
Module 4: Concept of distribution system operator (DSO), Bidding mechanism for DSOs, Ancillary support from distribution grids to transmission networks, T&D market mechanism, Case study demonstration on T&D interaction
Module 5: Overview of advanced distribution management systems (ADMS), Smart Meters and Advanced Metering Infrastructure (AMI), Operation of distribution phasor measurement units (d-pmu), Distribution network restoration mechanism
Module 6: Operation and control of DC Microgrid, AC Microgrid and AC/DC hybrid Microgrid, Hierarchical control techniques in hybrid AC-DC microgrid, Demand side management of smart grid, Demand Response Analysis of smart grid, Design of Smart Grid and Practical Smart Grid, Case Study Simulation and case study of AC Microgrid, DC Microgrid, AC-DC Hybrid microgrid
Module 7: Demonstration of solar power generation, wind power generation, Battery Management System, EV charging system, grid-connected DC microgrid, energy management in microgrid, PHIL experimentation for symmetric and asymmetric fault analysis of grid-connected DFIG wind turbine, ancillary support from virtual synchronous generator, peak energy management using energy storage system

Principal Coordinators:

Prof. N. P. Padhy, MNIT Jaipur	Dr. Man Mohan Garg, MNIT Jaipur 88405 45438 (M), fdp.academy@mnit.ac.in
IITK	IITR
IIITDMJ	NITP
	NITW

Registration:

Registration is open to faculty, working professionals, industry persons, doctoral, postgraduate and graduate students from India and the rest of the world. Participants will be admitted on first-come, first-served basis. Register online at [\(http://online.mnit.ac.in/eict/\)](http://online.mnit.ac.in/eict/)



Registration Fee:

Mode of programme	Academia (faculty/Students): India/SAARC/Africa	Others: India/SAARC/Africa	Rest of the world
Online	Rs. 500/-	Rs. 1500/-	US \$ 60/-

(A) Fee once paid will not be refunded back.

(B) The fee covers online participation in the programme, tutorial notes and examination, certification charges etc.

(C) The registration amount may be paid through online mode-UPI/Cards/SWIFT, provided at the registration portal.

(D) Detailed schedule will be shared after receiving registration form. For queries, email us at fdp.academy@mnit.ac.in