



Online FDP Programme on Electricity Markets & System Operation

Jan 19- Jan 31, 2026



**Chairman, EICT Academy &
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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.

The electricity sector is rapidly transitioning from regulated utilities to competitive market-based systems, where efficiency and reliability depend on sound market design and real-time system operation.

This 40-hour course provides a practical and analytical understanding of how electricity markets function and how system operators ensure secure and economic grid operation. Participants will learn the fundamentals of market design, price formation, economic dispatch, congestion management, and etc, along with the integration of renewables and storage through hands-on simulations using MATLAB and GAMS

Designed for faculty, PG students, researchers, and power industry professionals, the course bridges economic principles and power system engineering to prepare participants for the evolving energy landscape.

The programme will be run 3 hours/day on week days and 5 hours on Saturday
Programme Modules:

Module 1: Fundamentals of Electricity Markets: Traditional power sector organization, motivations for restructuring and models, Market structures, Role of ISOs, Regulators and other entities, Economic principle of deregulation.

Module 2: Market Mechanisms & Pricing: Day-ahead & real-time markets, market equilibrium and market clearing price formation, Locational Marginal Pricing (LMP), Pricing of energy and network

Module 3: Power System Operation & Scheduling: Economic dispatch, Unit commitment, Optimal power flow, Security constrained scheduling.

Module 4: System operation in Competitive Markets: Renewable Integration and uncertainty, real-time dispatch, balancing mechanism, transmission congestion management, price based OPF, Demand response & storage

Module 5: Emerging Trends in Power Markets: Global and national practices, Smart grids & digitalization, Cyber security of smart grid, Peer-to-peer electricity trading, AI & blockchain in system operation

Programme Coordinator:

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Registration:

Registration is open to faculty, working professionals, industry persons, doctoral, postgraduate and graduate students from India and rest of the world. Participants will be admitted on first-come first-served basis. Register online at-

(<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 - NEFT / 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

MNIT Jaipur one of the oldest NITs, the institute has a rich heritage of sixty years producing world class engineers, managers, architects and scientists. Ranked 42nd nationally in the NIRF ranking-2025 (Engineering), the institute offers learning opportunities for undergraduate, postgraduate students, and researchers in various domains. Having a lush green campus of over 317 acres within the heart of the pink city, close to Jaipur International Airport, the campus offers a safe and lively environment. A world class teaching infrastructure, state-of-art laboratories welcome you at the campus. The institute has a vision to impart education of international standards and conduct research at the cutting edge of technology.