

## **J.C. Bose University hosts FDP on Sustainable Electrical Systems and Smart Technologies**

The Department of Electrical Engineering of J. C Bose University of Science and Technology, YMCA, Faridabad has organized a ‘one-week Faculty Development Program’ (FDP) on “Operation and Control of Electrical System towards Sustainability and Reliability”, an initiative under the IEEE Smart Cities Ambassadors Program.

Prof. Bhim Singh, an eminent Professor from IIT Delhi, was Chief Guest in the inaugural session of the Program, and the session was presided over by Prof. Sushil Kumar Tomar, Vice-Chancellor of the University.

In his inaugural address, Prof. Tomar underscored the FDP’s significance in fostering synergy between academia and industry. He said that equipping faculty with cutting-edge expertise in sustainable energy systems and smart technologies is not just an investment in education but it is a catalyst for India’s transformation into a global leader in resilient, eco-conscious infrastructure. He further stressed that such initiatives empower universities to mold engineers capable of addressing 21st century energy challenges while driving sustainable innovation.

The Chairperson of the Department of Electrical Engineering, Prof. Anju Gupta, and Prof. Rajesh Kumar Ahuja welcomed the Chief Guest Prof. Bhim Singh. Prof. Ahuja gave a brief introduction about the Program. He apprised that the FDP is aimed to enhance the skills and knowledge of faculty members, with a focus on emerging trends such as smart grids, power electronics, renewable energy, AI integration in electrical systems, and IoT applications. The FDP is being convened by Dr. Sakshi Kalra and Dr. Abhinav Saxena.

Now, briefing about the five-day FDP on Operation and Control of Electrical Systems towards Sustainability and Reliability from 3rd to 7th March 2025 which was divided into various sessions, delivered by eminent professors’ from prestigious institutes.

On 3<sup>rd</sup> March 2025, Prof. Bhim Singh, Emeritus Prof. IIT Delhi, delivered a keynote lecture on ‘Electric Vehicle, an Emerging Technology’ and discussed concepts used in Electric Vehicle Technology.

Further, Dr. Arunesh Kumar Singh, Assistant Professor, Department of Electrical Engineering of Jamia Millia Islamia, New Delhi, delivered an expert talk on Analysis of Equilibrium Point of Nonlinear Dynamic System Using Dynamic Pole Motors Approach. He discussed how the dynamic pole motors approach involves studying the stability and behaviour of equilibrium states through pole placement techniques, providing insights into stability, bifurcations, and control strategies.

On 4<sup>th</sup> March 2025, Prof. Rajesh Dubey from Central University Haryana delivered a session on “Engineering Aspects of speech signal: Human & Machine interaction”, followed by Dr. Rajat Kumar from Dayalbagh Educational Institute, Agra, who provided expert insights into power quality improvement of the electrical integrated system. Further, Dr. Rajat also discussed about the various methods for the power quality improvement.

Thereafter, Dr. Abhinav Saxena, Assistant Professor, J.C Bose university, YMCA delivered his expert insight about the charge controlling and regenerative action of electric vehicle system using artificial machine and machine learning.

On 5<sup>th</sup> March 2025, A lecture on detailed insight and controlling aspects of the Electric Vehicles given by Prof. Ashish Srivastava from Skill Vishwakarma University,

Further, Dr. Omveer Singh from Gautam Buddha University discussed Automatic Generation Control of the electrical system. Additionally, Dr. Pradeep Dhimri addressed on sustainability and engineering in the Education.

On 6<sup>th</sup> March 2025, Dr. Abhinav Saxena, Assistant Professor, J.C Bose university, YMCA, conducted the Lab session and hands-on practical sessions on the electric vehicle. Participants were trained on simulation and hardware concepts involved in Electric Vehicle Technology, enhancing their practical understanding of the subject.

On 7<sup>th</sup> March 2025, Dr. Rishabh Verma from SLIET Longowal spoke on demand side management (DSM) on the electric vehicle-based system. Further, He provides expert insights about the challenges of electric vehicle system which is meet by the DSM based system. In the second half, Prof. Ujjwal Kumar from NIT Delhi, who delivered a lecture on high voltage testing and reliability of the electrical system.

At the end, FDP valedictory ceremony and participants certificatory distribution has been done by Prof. Ujjwal Kumar, NIT Delhi.

The event has been ended with vote of thanks.

**AIM of the FDP:** The aim of the FDP is to educate the participants about the sustainable and reliable solution of the any electrical and other physical system. The sustainability is the current need of hour for the progression of the system. The integration of renewable energy sources like solar, wind etc. with the existing system helps to provide clean and green solution. In the FDP, Participants can also enhance their skills in the area of electric vehicle with the expert insights of our eminent speakers. The FDP also provides the opportunities to participants for the hands-on session of electric vehicle.

**Number of participants: 20**

**Outcome of FDP:**

Educating participants about reliable and sustainable solutions for electrical and other physical systems is the primary outcome of the FDP. The current imperative for the system's advancement is sustainability. A clean and environmentally friendly solution is provided by integrating renewable energy sources, such as solar, wind, etc., with the current system. With the help of our distinguished speakers, participants in the FDP can also improve their knowledge of electric vehicles. The hands-on session on electric vehicle shows the practical exposure of electric vehicle in terms of charging/discharging and regenerative braking action.

The following photos of the events have been attached.



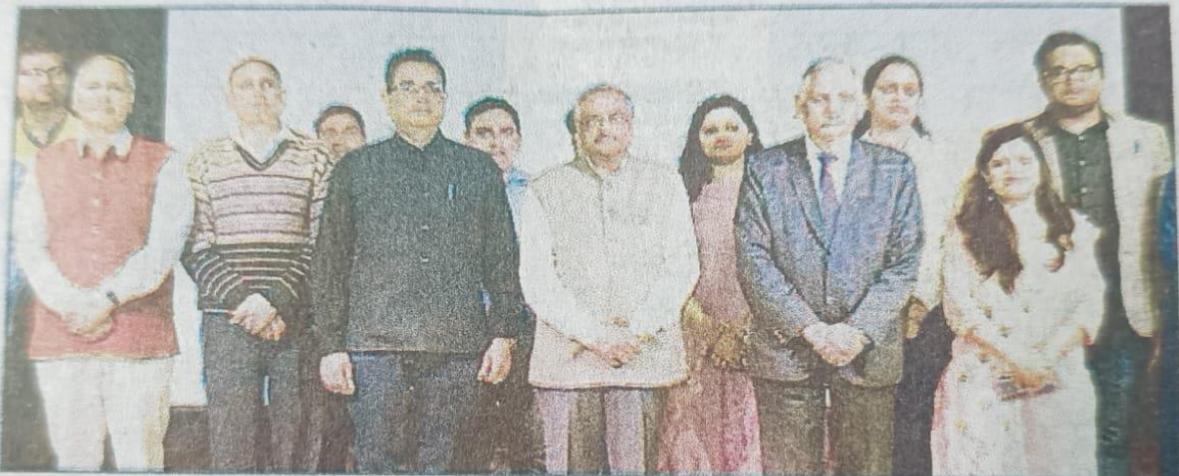








## फैकल्टी डिवेलपमेंट कार्यक्रम का आयोजन



■ **NBT न्यूज, फरीदाबाद :** जेसी बोस यूनिवर्सिटी के इलेक्ट्रिकल इंजीनियरिंग विभाग ने आईईईस्ट स्मार्ट सिटीज एम्बेसेडर कार्यक्रम के तहत विद्युत प्रणाली के संचालन व नियंत्रण पर एक सप्ताह का फैकल्टी डिवेलपमेंट कार्यक्रम का आयोजन किया जा रहा है। कुलपति ने कहा कि सस्टेनेबल एनर्जी सिस्टम्स व स्मार्ट टेक्नोलॉजी में अत्याधुनिक विशेषज्ञता के साथ स्टाफ सदस्या को प्रशिक्षित करना न केवल शैक्षणिक आवश्यकता है, बल्कि पर्यावरण के प्रति संवेदनशील ढांचागत विकास के रूप में परिवर्तन का मुख्य स्रोत है।



