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Report of Seminar session "Environmental Impact Analysis in Power Industry and Control Strategies"

Organized by

Department of Civil Engineering & IQAC Cell

Dr. Sudhir Chandra Sur Institute of Technology and Sports Complex

In Collaboration with Department of Renewable Energy Engineering, MAKAUT

Title: Seminar session "Environmental Impact Analysis in Power Industry and Control Strategies"

Speaker & Designation: Dr. Ananta Kumar Das, Professor & HOD, Department of Renewable Energy Engineering, Maulana Abul Kalam Azad University of Technology (MAKAUT)

Number of Participants: 60 Number of students from the Department of CE, AUE and EE

Date & Time: 01.04.2026, 11.30 AM onwards

Venue: C.V.Raman Auditorium, SurTech Campus

Objective: The primary objective of this seminar was to provide an academic platform for students to understand the complex relationship between energy production and environmental preservation by evaluating Environmental Impact Analysis (EIA) frameworks specifically tailored for the Power Industry. The session aimed to identify primary pollutants such as SO_x, NO_x, and particulate matter ($PM_{2.5}$ and PM_{10}) generated by conventional power plants while discussing advanced Control Strategies and technological interventions to mitigate the Carbon Footprint of energy generation. Furthermore, the event sought to foster interdisciplinary collaboration between Civil, Automobile, and Electrical Engineering students regarding Sustainable Development and the integration of green technologies.

Additionally, the workshop intended to enhance industry-academia collaboration by bringing professionals and experts together on a common platform to exchange knowledge and real-world experiences.

Brief Description: On April 1, 2026, the Department of Civil Engineering and the IQAC Cell of Dr. Sudhir Chandra Sur Institute of Technology and Sports Complex, in collaboration with the Department of Renewable Energy Engineering, MAKAUT, organized a seminar titled "Environmental Impact Analysis in Power Industry and Control Strategies". The event commenced at 11:30 AM in the C.V. Raman Auditorium.

The keynote speaker, Dr. Ananta Kumar Das, Professor & HOD at MAKAUT, delivered an extensive lecture focusing on the lifecycle assessment of power projects. He elaborated on the transition from fossil-fuel-based systems to Renewable Energy sources and the engineering challenges associated with this shift. The discussion covered the mechanical and chemical

processes involved in Flue Gas Desulfurization (FGD) and the implementation of Electrostatic Precipitators (ESP) to control industrial emissions.

The seminar saw active participation from 50 students representing the Departments of Civil Engineering, Automobile Engineering, and Electrical Engineering. The interdisciplinary nature of the audience allowed for a diverse Q&A session, touching upon structural requirements for green power plants and emission standards in the automotive-power nexus.

Outcome: The seminar concluded with several key takeaways for the participants:

- Technical Proficiency: Students gained a deeper understanding of the quantitative methods used to measure environmental degradation caused by power generation.
- Awareness of Regulations: Participants were briefed on the latest Environmental Protection Agency (EPA) and national regulatory standards for industrial discharge.
- Strategic Insight: The session successfully highlighted the importance of integrating Pollution Control technologies at the design phase of engineering projects rather than as an afterthought.
- Career Orientation: By interacting with Dr. Das, students identified potential research and career paths within the Green Energy sector and environmental consultancy.

Please find the glimpses of the event -

Seminar session "Environmental Impact Analysis in Power Industry and Control Strategies" on 01.04.2026