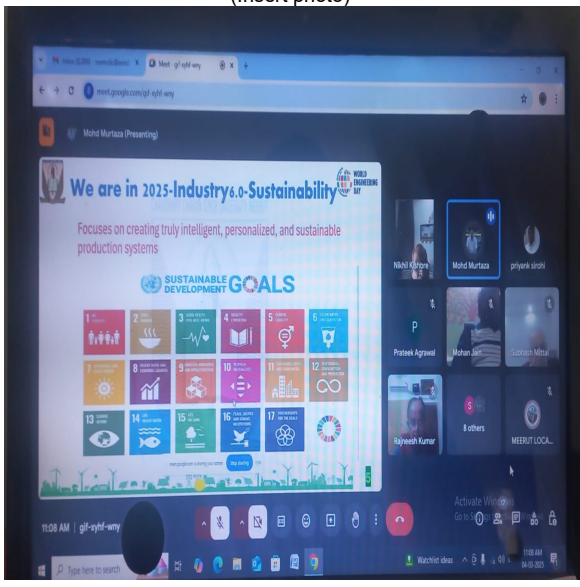
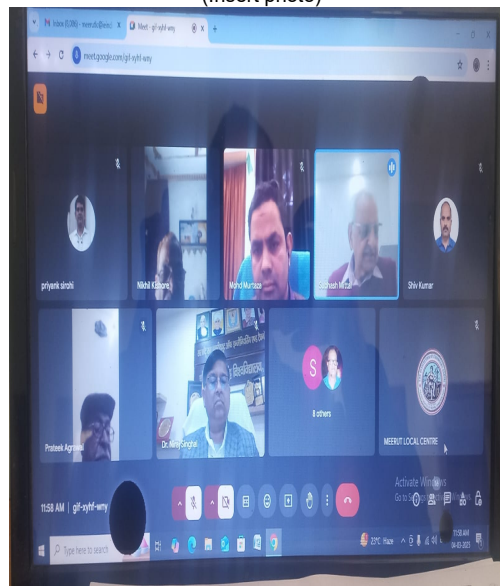


TECHNICAL ACTIVITY CARRIED OUT BY CENTRES / OVERSEAS CHAPTERS

Name of Centre / Overseas Chapter:		Meerut Local Centre
Title of Activity:	World Engineering Day for Sustainable Development	
Activity under Divisional Board (delete which are not applicable):	Statutory Day	
Date:	04-03-2025	Venue: Online on Google Meet

(Insert photo)	(Insert photo)
	
Title of photo : Screenshot of the Webinar	Title of photo: Screenshot of the Webinar

Brief Report

The Meerut Local Centre conducted a technical activity to celebrate World Engineering Day for Sustainable Development on 4th March 2025. The webinar was presided by Er. R.P. Agrawal, Chairman, IE (I) LC Meerut. The event was convened online by Er. Nikhil Kishore, Joint Secretary, and featured two keynote speakers: Er. Mohd. Murtaza, Assistant Professor of Electronics Engineering, and Mr. Priyank Sirohi, Assistant Professor in the Department of Information Technology, SCRIET, Meerut.

Er. Nikhil Kishore opened the session by explaining the significance of World Engineering Day, highlighting its role in promoting engineers' contributions to sustainable development. He explained that this day, proclaimed by UNESCO in November 2019 during its 40th General Conference, is celebrated worldwide on 4th March each year since 2020. The theme for 2025 was 'Unleashing the Power of Engineers to Advance the Sustainable Development Goals'. The theme underscored the importance of engineering in addressing global challenges and promoting sustainable development.

Er. R.P. Agrawal welcomed the participants and emphasized the role of engineers in enhancing public welfare, health, and safety while minimizing resource consumption. Following this, Er. Nikhil Kishore invited Er. Mohd. Murtaza to deliver his presentation titled "Evaluation of Site for Renewable Energy Power Plants Using MCDM Technology in the Context of Sustainable Energy Development in India."

Er. Murtaza discussed the 17 Sustainable Development Goals (SDGs) established by the UN, focusing on SDG-7, which addresses affordable and clean energy. He highlighted India's progress in the renewable energy sector and described how Multi-Criteria Decision-Making (MCDM) techniques can effectively evaluate potential sites for renewable energy plants. He explained the six main stages of this technique:

Formation of alternatives.

Criteria selection.

Data normalization.

Criteria weighting.

Alternative evaluation.

Result validation.

He mentioned that researchers identified 39 criteria and sub-criteria for site selection, including dust levels, which significantly affect solar panel efficiency. Mr. Murtaza presented case studies focusing on Uttar Pradesh and India, concluding that solar energy is the most suitable renewable energy source for both regions.

Next, Er. Nikhil Kishore invited Er. Priyank Sirohi to present his talk on "Machine Learning in Predictive Maintenance, Smart Infrastructure, and Reinforcement Learning for Complex Engineering Problems."

Er. Sirohi explained how machine learning supports predictive maintenance by analyzing sensor data such as temperature, vibration, and pressure to predict equipment failures, reducing downtime and maintenance costs. He discussed how ML can detect deviations from normal conditions to predict equipment lifespans and enable proactive maintenance. Techniques such as supervised learning, unsupervised learning, and time series analysis play a crucial role in this process. Er. Sirohi also highlighted how ML optimizes infrastructure management in areas like traffic control, energy management, and structural health monitoring using methods such as time series forecasting, computer vision, and deep learning. Additionally, he explained the significance of Reinforcement Learning (RL) in

complex engineering challenges, where RL helps develop intelligent agents that can learn optimal control strategies in dynamic environments. RL applications include autonomous systems, process optimization, and robotic control, improving automation efficiency and adaptability.

The session concluded with remarks from Er. Neeraj Singhal, Director of SCRIET, Meerut, who emphasized the significance of World Engineering Day and the contributions of engineers to sustainable development. Finally, Er. S.C. Mittal, Hony. Secretary delivered the vote of thanks, expressing gratitude to the speakers and participants for their valuable contributions.