TECHNICAL ACTIVITY CARRIED OUT BY CENTRES / OVERSEAS CHAPTERS

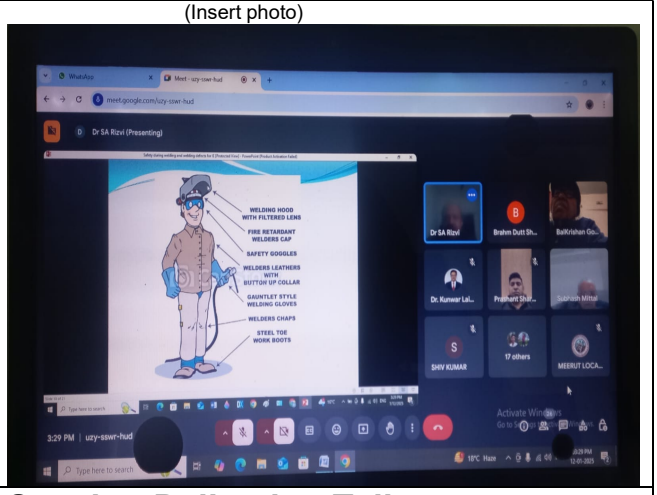
Name of Centre / Overseas Chapter:	Meerut Local Centre

Title of Activity:	Lecture Meeting		
Activity under Divisional Board (delete which are not applicable):	MC		
Date:	12-01-2025	Venue:	On google meet from own place

(Insert photo)

Audience in Lecture Meeting

(Insert photo)



Speaker Delivering Talk

Brief Report:

Safety During welding and welding defects

On January 12, 2025, a lecture meeting was organized by the Local Centre of the Institution of Engineers (India), Meerut on the webinar. The event was chaired by Er. R. P. Agrawal, Chairman, and convened by Dr. K. L. A. Khan, Dean IEC and Professor, Department of Mechanical Engineering KIET Group of Institutions. The lecture was delivered by Dr. S. A. Rizvi, Workshop Superintendent in the Faculty of Engineering & Technology, Jamia Millia Islamia, New Delhi.

At the outset, Er. R. P. Agrawal welcomed all members attending the webinar and granted permission to commence the lecture. Dr. Rizvi delivered a detailed presentation on welding, its safety hazards, defects, and remedies.

Welding Safety Hazards:
Dr. Rizvi elaborated on various welding safety hazards, which include:

Fire hazards, Metal splatter, Electric shock, Explosion hazards, Released gases And Radiant energy.

He further categorized welding defects into two types:

External Defects, Weld crack, Undercut Spatter, Porosity, Overlap and Crater formation.

Internal Defects:
Slag inclusion, Incomplete fusion, Necklace cracking and Incomplete penetration

Dr. Rizvi explained common welding defects, their causes, and suggested remedies:

Cracks:

Cause: Use of hydrogen in ferrous metals. Remedy: Preheat metal

Cause: Residual stress. Remedy: Ensure proper cooling

Porosity:

Cause: Longer arc. Remedy: Use proper arc length

Cause: Presence of moisture. Remedy: Remove moisture

Lack of Penetration:

Cause: Faster arc travel speed. Remedy: Adjust speed appropriately

Cause: Small root gap. Remedy: Maintain correct root gap

Spatter:

Cause: Excessive current. Remedy: Use moderate current

Cause: Damped electrode. Remedy: Use fresh or baked electrode

Slag Inclusion:

Cause: Improper slag removal. Remedy: Ensure complete slag removal

Cause: Long arc length. Remedy: Use proper arc length

Undercut:

Cause: Poor weld technique. Remedy: Use a multi-pass technique

Cause: Incorrect gas usage. Remedy: Select the correct shielding gas

Crater Formation:
To prevent crater formation, Dr. Rizvi advised maintaining the arc at the weld end to allow the crater to fill adequately.

The session concluded with an interactive question-and-answer session, where students actively participated and displayed keen interest in the subject. The lecture was well-received, and attendees appreciated the valuable insights that enhanced their technical knowledge. In conclusion, Er. S. C. Mittal, Hon. Secretary, presented a vote of thanks.