

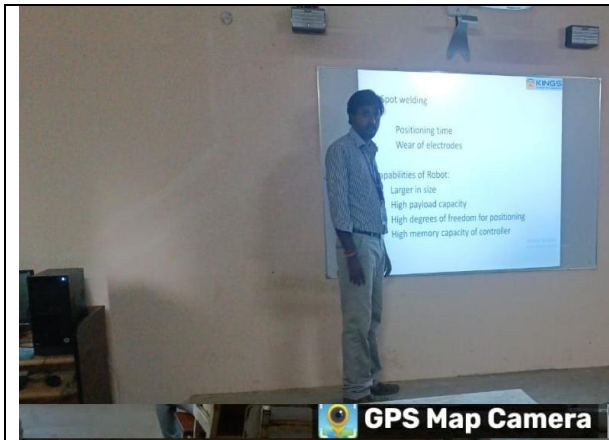
**DEPARTMENT OF MECHANICAL ENGINEERING
ACADEMIC YEAR 2023-24 (ODD)
INTERNAL STAFF SEMINAR REPORT**

Date& time : 04.11.2023 & 12.30 P.M.
Venue : Department Smart Classroom
Topic : Seminar on “Recent Trends in Welding Technology”
Resource person : Mr. M. Sakthivel
Assistant Professor,
Mechanical Engineering,
Kings College of Engineering-Punalkulam.

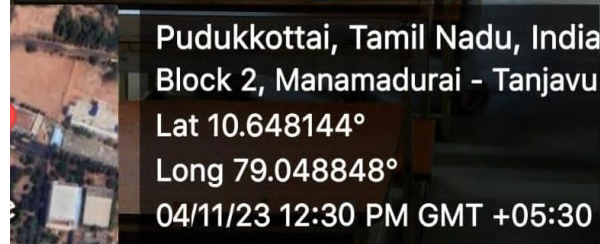
On behalf of the Department of Mechanical Engineering organized an Internal Seminar on “Recent Trends in Welding Technology” for faculty members of the Mechanical Department on 04.11.2023 at smart class room. The main objective of the internal seminar is to provide exposure to our faculty members on various research areas in welding and metallurgy.

The Following Points were Discussed During the Session:

- One of the newest advancements in welding involves the use of laser technology to instantly melt metal and fuse two pieces together.
- The laser beam is extremely accurate and enables fine welding even when dealing with extremely intricate parts.
- Laser welding is said to be as much as 10 times faster than typical MIG welding. At the same time, it doesn't require high heat or multiple passes.
- This makes it efficient for high-precision manufacturing processes such as those demanded by the medical and automotive industries.
- Industries are finding that robots are a highly cost-effective solution, especially in mass production since they are capable of working efficiently without human error.
- Robotic welding is best suited for short welds with repeatable and predictable tasks so that they don't have to be reprogrammed constantly.



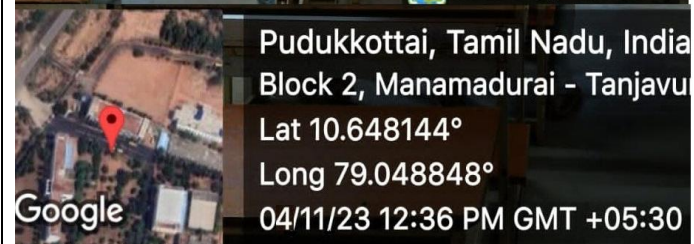
GPS Map Camera



Snapshots of the Session



GPS Map Camera



Snapshots of the Session

Chapters Discussed:

- Metallurgical Properties Changing During Welding.
- Benefits and Limitations.
- ResearchScopes in Welding Techniques.

Outcomes:

Upon listing of this seminar the participants can able to

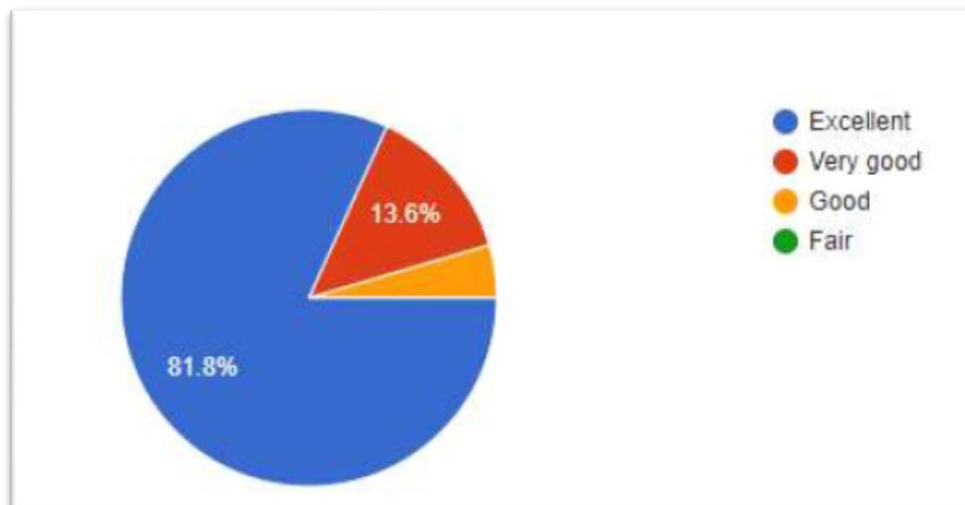
- Understand the various types of welding techniques.
- Understand the parameters of a specified welding procedure.
- Able to understand the concept of welding metallurgy.

References:

1. Shixiong Wu et al." Microstructure and Mechanical Properties of Superficial Surface and Subsurface Layers in the Cutting of Hardened Steel Under Cryogenic Cooling" - Journal of Materials Processing Technology, Volume 422, September 2022, 118165.
2. Gang HeeGu, et al. "Current Trends in Welding process and material improvement in effectiveness" - Materials & Design, Volume 133, September 2022, 112289.
3. W.H. Peng, et al."Effects of WC Grain Size on Surface Hardening of WC-10Co Cemented Carbides by Pulsed Electron Beam Irradiation" - Vacuum, Volume 217, January 2021, 112614.

4. Ziwei Qin et all. "Strain-Hardening, Impact Protective and Self-Healing Supramolecular Polyurethane Nanocomposites Enabled by Quadruple H-Bonding, Disulfide Bonds and Nanoparticles" - Chemical Engineering Journal, Volume 337, 10 July 2022, 143434.
5. Jun Liuet all. "Current Trend in Welding Process and Material" - Advances in Industrial and Manufacturing Engineering - 3, May 2022, 100006.

Feedback Analysis:



[Signature]
Staff Incharge 09/11/23

T. Pankaj
HOD/MECH 06/12/23

J. Kumar
Principal 06/12/2023