

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

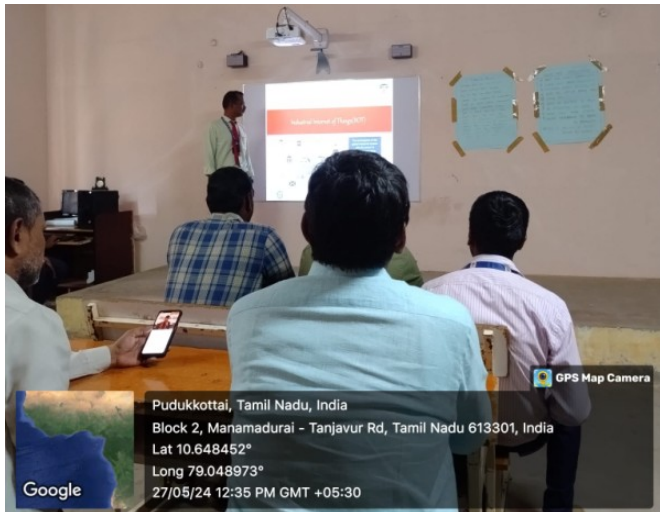
Date& time : 27.05.2024 & 12.30 P.M.
Venue : Smart Classroom, Mechanical Department, Block II
Topic : Seminar on “Advanced Machining Processes”
Resource person : Dr. R. Shankar
Associate Professor,
Mechanical Engineering,
Kings College of Engineering-Punalkulam.

On behalf of the Department of Mechanical Engineering organized an Internal Seminar on “Advanced Machining Processes” for faculty members of the Mechanical Department on 27.05.2024 at smart class room Mechanical department, Block II. The main objective of the internal seminar is to provide exposure to our faculty members on various research areas in materials and metallurgy.

THE FOLLOWING POINTS WERE DISCUSSED DURING THE SESSION:

- Advanced Machining processes are the material-removing processes different from conventional machining processes, in which a well-guided wedge-shaped tool removes the material in the form of chips by producing contact stresses. There are a variety of ways in which material is removed using these processes.
- During this seminar, various machining process are explained in detail. Chemical Machining, Electrical Discharge Machining & Electron Beam Machining .
- Chemical machining is the material removal process for the production of desired shapes and dimensions. It is done by selective or overall removal of material by a controlled chemical attack with acids or alkalies.
- Electrical Discharge machining is the process of metal removal from the work surface due to an erosion of metal caused by electric spark discharge between the two electrodes tool (cathode) and the work (Anode).

- Electron-beam machining (EBM) is a process where high-velocity electrons concentrated into a narrow beam that are directed towards the work piece, creating heat and vaporizing the material. EBM can be used for very precise cutting or boring of a wide variety of metals.



Snapshots of the Session

CHAPTERS DISCUSSED:

- Chemical Machining Process
- Electrical Discharge Machining Process
- Electron Beam Machining Process

OUTCOMES:

Upon listing of this seminar the participants can able to

- Understand the various types of Chemical Machining Process..
- Understand the machining method of Electrical Discharge Machining Process
- Able to understand the characteristics of Electron Beam Machining Process..

REFERENCES:

1. W.H. Peng, et all. "Effects of WC Grain Size on Surface Hardening of WC-10 Co Cemented
2. Alting, Leo. (1982). Manufacturing Engineering Processes. Marcel Dekker, New York.
3. Amstead, B.H; et. al. (1987). Manufacturing Processes. John-Wiley and Sons, New York.
4. Armarego, E.J.A. and Brown, R.H. (1969), Machining of Metals. Prentice Hall, NJ.
5. Ashby, M.F; (1992). Materials Selection in Mechanical Design. Pergamon, New York.
6. Avitzur, B. (1983). Handbook of Metal Forming Processes. Wiley-Interscience, New York.

FEEDBACK ANALYSIS:



Staff Incharge

HOD/MECH

Principal