

Advanced Manufacturing Technology Laboratory (AMT Lab)

About the Laboratory

The **Advanced Manufacturing Technology (AMT) Laboratory** is a state-of-the-art facility dedicated to modern manufacturing and non-traditional machining technologies. The laboratory is equipped with advanced systems such as **Rotary Ultrasonic Machining (RUM)** and **CNC Wire Cut Electrical Discharge Machining (Wire EDM)**.

The RUM setup enables precision machining of hard, brittle, and non-metallic materials by combining ultrasonic vibrations with rotary motion, resulting in reduced cutting forces and superior surface quality. The Wire EDM system facilitates the accurate machining of electrically conductive materials through spark erosion, allowing the fabrication of intricate and high-precision components.

In addition to advanced machining facilities, the AMT Laboratory houses an **Advanced Manufacturing Lab** equipped with simulation software, including **Tecnomatix Plant Simulation**, **Tecnomatix Process Simulate**, **RobotExpert**, and other manufacturing simulation tools. These

Faculty In-Charge

Dr. Ravi Pratap Singh

Technical Staff

- **Mr. Gaurav Dhiman**
- **Mr. Vishal Singh**

Laboratory Courses

Course Code	Course Name	Programme
MEPC312	PT-II Lab	UG
PIPC206	PT-I Lab	UG
MME2C01	AMP Lab	PG

—	Research Work	PG, Ph.D.
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Major Equipment and Software

Equipment / Software	Quantity	Utilization
Rotary Ultrasonic Machining (RUM)	01	UG, PG, Ph.D.
CNC Wire Cut EDM (WEDM)	01	UG, PG, Ph.D.
Simulation Software	—	UG, PG, Ph.D.

Laboratory Photographs



Rotary Ultrasonic Machining (RUM) Set Up



CNC Wire Cut EDM (WEDM)