Centre of Experiential Learning (CEL) Lab

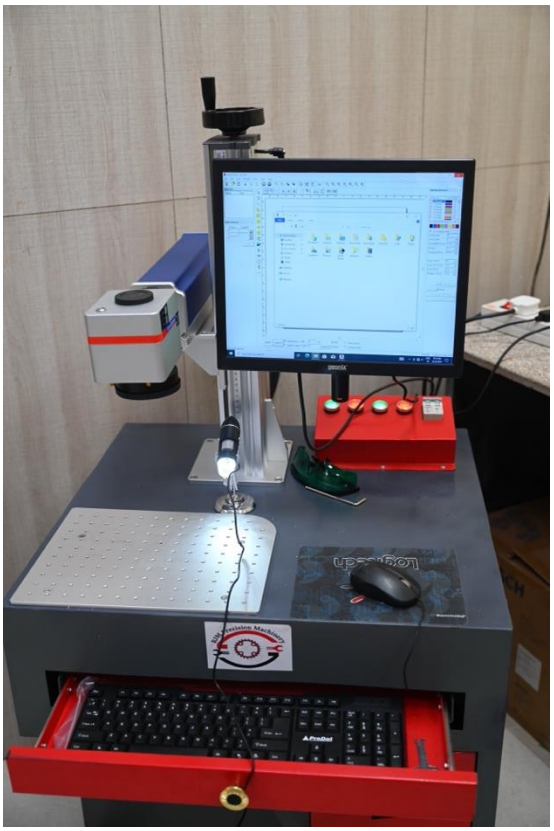
Faculty & Staff:

Sr. No.	Name	Designation
1.	Dr. M. A. Rizvi	Coordinator - CEL
2.	Dr. Ajay Shankar	Chief Technical Officer (CTO)
3.	Dr. Sanjay Mishra	Research Assistant
4.	Mr. Rakesh Sharma	Mechanic
5.	Mr. Bhaskar Balpande	CNC Operator
6.	Mr. Sudeb Kumar Nath	Multi Skill Attendant

Drone

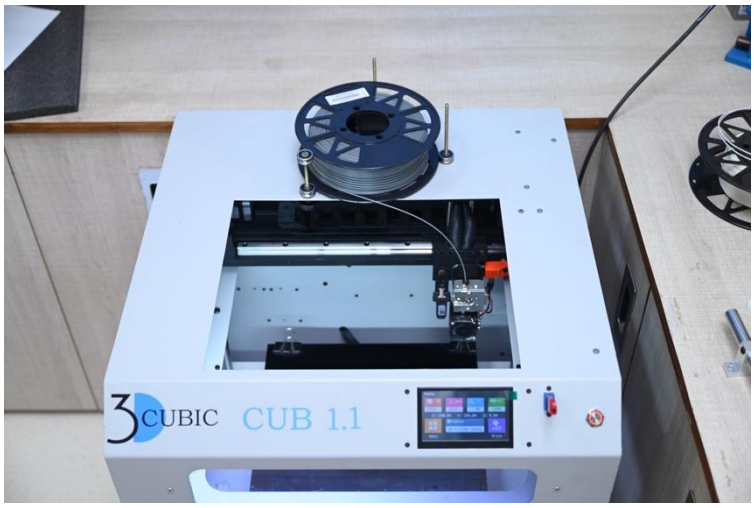
A drone, also known as an unmanned aerial vehicle (UAV), is a flying device that can be remotely controlled or operate autonomously using onboard sensors and GPS. Drones come in various sizes and configurations, ranging from small consumer models to large, sophisticated systems used for military, commercial, and industrial applications. They are commonly equipped with cameras, sensors, or other payloads and are used for aerial photography, surveillance, mapping, agriculture, delivery, and environmental monitoring.

Laser Marking Machine



A laser marking machine is a device used to create permanent marks, engravings, or inscriptions on a variety of materials, such as metals, plastics, ceramics, and glass, using a focused laser beam. The machine operates by directing the laser to remove material or alter the surface, creating precise, high-contrast marks like logos, serial numbers, barcodes, or decorative patterns.

3D Printer



A 3D filament printer is a type of 3D printer that creates objects by melting and extruding thermoplastic filament through a heated nozzle. The printer builds the object layer by layer, following a digital 3D model, until the final shape is achieved. Common filament materials include PLA, ABS, PETG, and TPU, each offering different properties like strength, flexibility, and temperature resistance. 3D filament printers are widely used in prototyping, manufacturing, education, and hobbyist projects for creating custom parts, models, and functional objects.

Electrical Testing Setup

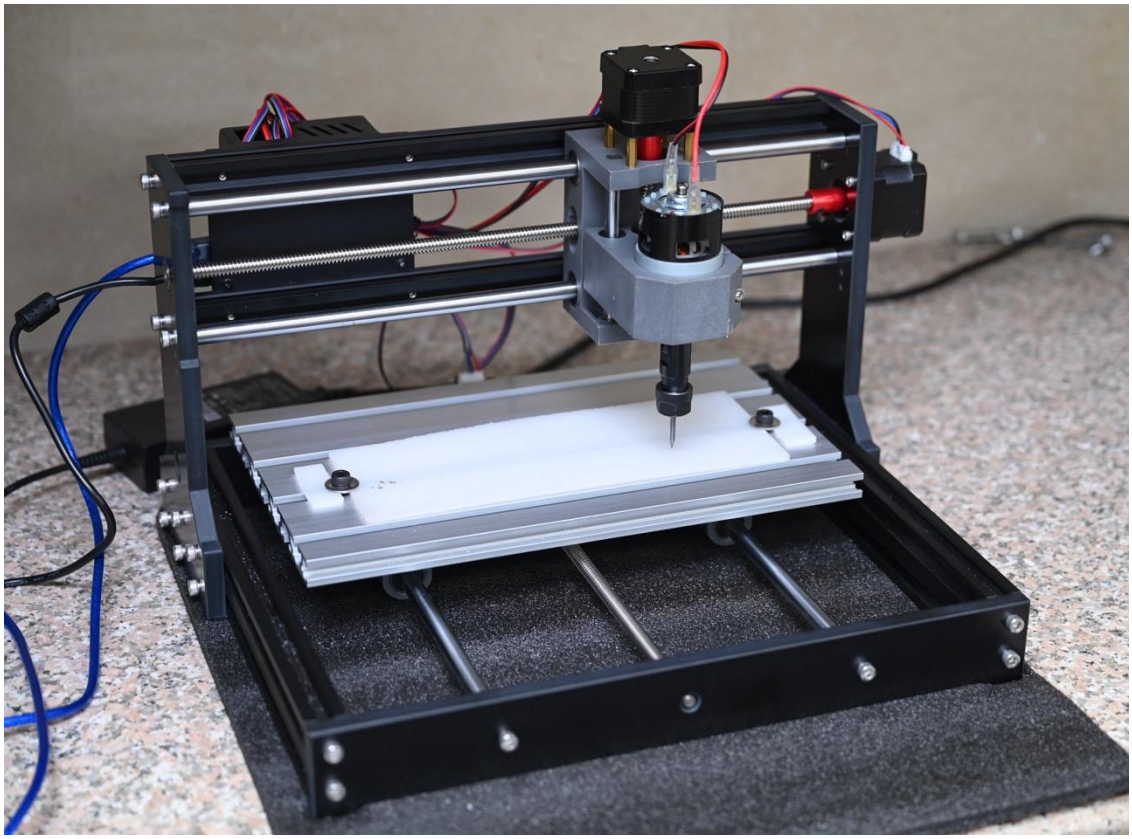
We have the below instruments for electrical testing setup

1. Function Generator
2. Soldering Station
3. Spectrum Analyser
4. Variac
5. Clamp meter

Grinding Machine

A grinding machine is a power tool used for grinding, which is a type of machining that employs an abrasive wheel as the cutting tool. It is used to remove material from a workpiece, typically to improve surface finish or achieve precise dimensions. Grinding machines come in various types, such as surface grinders, cylindrical grinders, and centerless grinders, each designed for specific grinding tasks. These machines are widely used in manufacturing, metalworking, and other industries for applications like sharpening, finishing, and shaping hard materials like metals, ceramics, and composites.

Mini Laser Engraving and Cutting machine



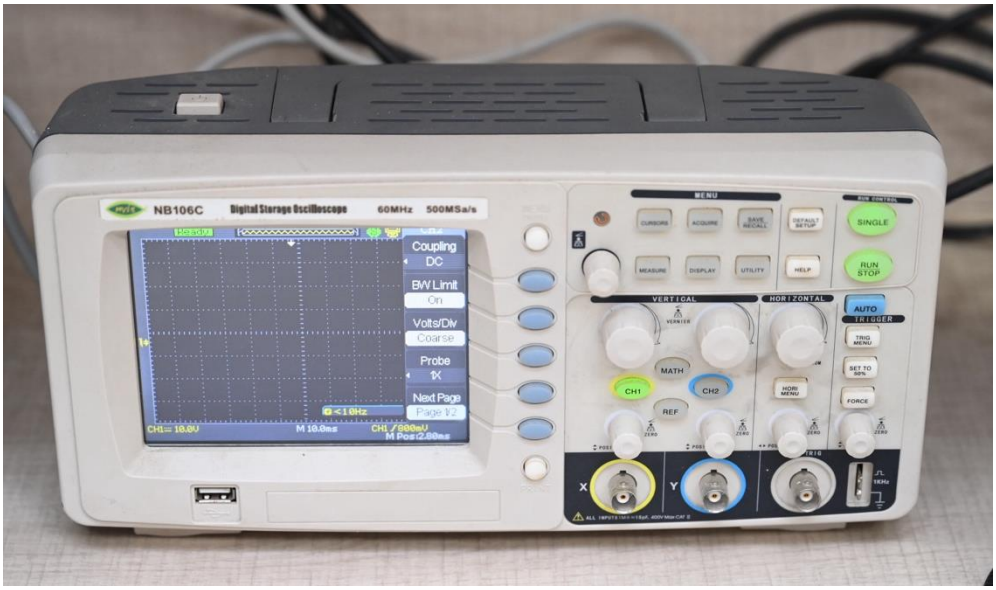
DC Power Supply

We have a dual-channel DC power supply which is an electronic device that provides two independent or linked DC voltage outputs, allowing users to power and test multiple circuits simultaneously. Each channel can be adjusted for voltage and current, offering flexible power delivery options. This type of power supply is commonly used in electronics laboratories, research and development, and educational settings to test components, prototype circuits, and troubleshoot electronic devices. The channels can be used separately or combined for higher voltage or current outputs, making them versatile tools for various applications.

Function Generator

A function generator is an electronic device that produces various waveforms, such as sine, square, triangle, and sawtooth signals, over a wide range of frequencies. It is commonly used in testing, designing, and troubleshooting electronic circuits. By allowing control over parameters like frequency, amplitude, and duty cycle, function generators serve as versatile tools for simulating different signal conditions in laboratory and industrial environments.

Digital Oscilloscope



A digital oscilloscope is an electronic test instrument that visualizes electrical signals as waveforms on a digital screen, typically in real time. It captures, analyzes, and displays the voltage signals over time, allowing users to measure parameters like amplitude, frequency, and noise. Digital oscilloscopes are equipped with features like advanced triggering, storage capabilities, and mathematical analysis tools, making them essential for diagnosing and troubleshooting circuits, testing components, and developing electronic devices.

Electronics Workbench

We have the below instruments in the workbench

1. Digital Oscilloscope
2. Function Generator
3. Soldering Station
4. Spectrum Analyser
5. Benchtop Multimeter

Measuring Tools

We have the below measuring tools

1. Digital Micrometer
2. Bore Gauge
3. Slip Gauge
4. Digital Micrometer
5. Digital Vernier Caliper
6. Height Gauge

Mechanical Tools

We have the below mechanical machines
1. Handheld Drilling machine
2. Jig Saw
3. Mitre Saw
4. Vertical Drilling machine
5. Angle Grinder