

DIPLOMA IN ELECTRICAL ENGINEERING LAB FACILITIES

S.no.	Course Code	Name of Course
1	N1DI201B	BASIC ELECTRICAL ENGG.
2	N1DI303B	BASIC ELECTRONICS ENGINEERING
3	N1DI305C	ELECTRICAL MACHINE-I
4	N1DI402B	ELECTRICAL & ELECTRONICS INSTRUMENTATION
5	NDF409C	ELECTRICAL DESIGN, DRAWING AND ESTIMATION
6	N1DI407B	INDUSTRIAL ELECTRONICS AND CONTROL
7	N1DI406L	PLC, MICRO CONTROLLER & SCADA LAB
8	N1DI504B	ELECTRICAL MACHINES-II
9	N1DF523B	INTRODUCTION TO ELECTRIC GENERATION SYSTEMS
10	N1DI511C	INSTALLATION, MAINTENANCE AND REPAIR OF ELECTRICAL MACHINES
11	N1DF521L	APPLICATIONS OF COMPUTER SOFTWARE IN ELECTRICAL ENGINEERING LAB
12	N1DA601L	PROJECT

The Department of Electrical Engineering is credited with state-of-the-art laboratories, i.e., basic electrical engineering, electrical machines, power electronics, installation, maintenance & repair of electrical machines, electrical design, drawing and estimation, electrical measurements, control and instrumentation, and the electrical and electronics workshop. The department is also well equipped with a number of PCs and workstations hosting several software packages and linked through a local area network. Internet services are available to all students and faculty.

BASIC ELECTRICAL ENGINEERING- LAB

1. Brief Description of the Lab

This lab is common for Diploma 1st year students of Electrical Engineering and Electronics Commutation engineering discipline. In this lab the students is expected to learn the critiques of basic knowledge about Electrical Engineering through demonstration and practice. After completion of this course, the students will be able practical understanding of ohms law ,kvl,kcl etc.

2. Equipment Used in the lab

Ohm's law training kit, series and parallel training kit, resistors, connectors, Kirchhoff's Current law training kit, Kirchhoff voltage law training kit.

3. Photograph



ELECTRICAL MACHINE -LAB

1. Brief Description of the Lab

In this lab students are introduced to various types of machines and their characteristics through practical experience. All types of DC Machines, single-phase and three-phase squirrel cage and slip ring induction motors, single-phase and three-phase transformers, suitable starters and loading arrangements for machines, Kirloskar made DC motor- 3 phase Alternator set and measuring instruments of all types needed for laboratory experiments are available. Each machine is provided with a workbench having well-designed movable connecting panels made from thick phylum sheets (with attractive printing on it). Other major equipment includes general-purpose rotating electrical machines & test benches, a variety of single phase & 3 phase transformers, synchronous / DC machine sets, and variable-frequency inverters.

2. Equipment Used in the Lab

AC machine, DC machine,

3. Photograph





BASIC ELECTRONICS ENGINEERING LAB

1. Brief Description of the Lab

The lab provides practical exposure to fundamental electronic components, devices, and circuits. It helps students learn testing, measurement, circuit assembly, and analysis, bridging theory with real-world applications.

2. Equipment Used:

- Digital & Analog Multimeters
- CRO / DSO (Oscilloscopes)
- Function Generators
- Regulated DC Power Supplies
- Resistors, Capacitors, Inductors
- Diodes, Transistors, LEDs, ICs
- Breadboards, Wires, Soldering Kits
- Decade R, L, C Boxes & Trainer Kits

3. Photograph





ELECTRICAL & ELECTRONICS INSTRUMENTATION LAB

1. Brief Description of the Lab

This lab is in the curriculum of Third semester of Polytechnic (Diploma). 2nd year students of Electrical engineering discipline. In this lab the students are expected to learn the critiques of basic of Electrical Measurements and Measuring Instruments. In this lab students know about the significance of Electrical Measurements and Measuring Instruments. Understand the applications of different AC & DC bridges in the measurement systems. The transformer for high current & voltage measurement.

2. Equipment Used in the Lab

CT & PT, AC & DC bridges, Kelvin Bridge, Maxwell's Bridge, Wien's Bridge. etc

3. Photograph





INSTALLATION, MAINTENANCE AND REPAIR OF ELECTRICAL MACHINES

1. Brief Description of the Lab

This Lab Is In the Curriculum of the Fifth Semester of the Polytechnic (Diploma). 3rd-Year Students of Electrical Engineering Discipline. In This Lab The Students Is Expected To Learn The Basic Of **Installation, Maintenance And Repair Of Electrical Machines**. In This Lab Students Know About Significance of the **Installation, Maintenance and Repair of Electrical Machines**. Understand The Applications Of **Installation, Maintenance And Repair Of Electrical Machines**.

2. Equipment Used in the lab

AC machine, DC machines, electrical machines e.g. electric iron, washing machines geyser, submersible, pumps, coolers etc

3. Photograph





ELECTRICAL DESIGN, DRAWING AND ESTIMATION LAB

1. Brief Description of the

This lab is in the curriculum of fifth semester of polytechnic (diploma). 3rd year students of electrical engineering discipline. In this lab the students is expected to learn the basic of **electrical design, drawing and estimation**. In this lab students know about significance of **electrical design, drawing and estimation**. Understand the applications of **electrical design, drawing and estimation**.

2. Equipment Used in the lab

Different types of wires, pipes, switches, socket etc

3. Photograph



INTRODUCTION TO ELECTRIC GENERATION SYSTEMS -LAB

This laboratory provides students with practical exposure to the fundamental concepts of **electric power generation systems**. It covers the study, testing, and operation of various conventional and non-conventional energy conversion methods. Students learn how electrical energy is generated from mechanical, thermal, and renewable energy sources



IOT APPLICATION -LAB

This lab has been set up to fulfil the objectives of skilling the students in IoT and embedded system design utilising state-of-the-art hardware boards and software as per industry standards. And also enhance research activities in different areas of IoT, like smart homes, smart villages, smart grids, smart agriculture, and industry 4.0. And wearable IoT devices, etc.



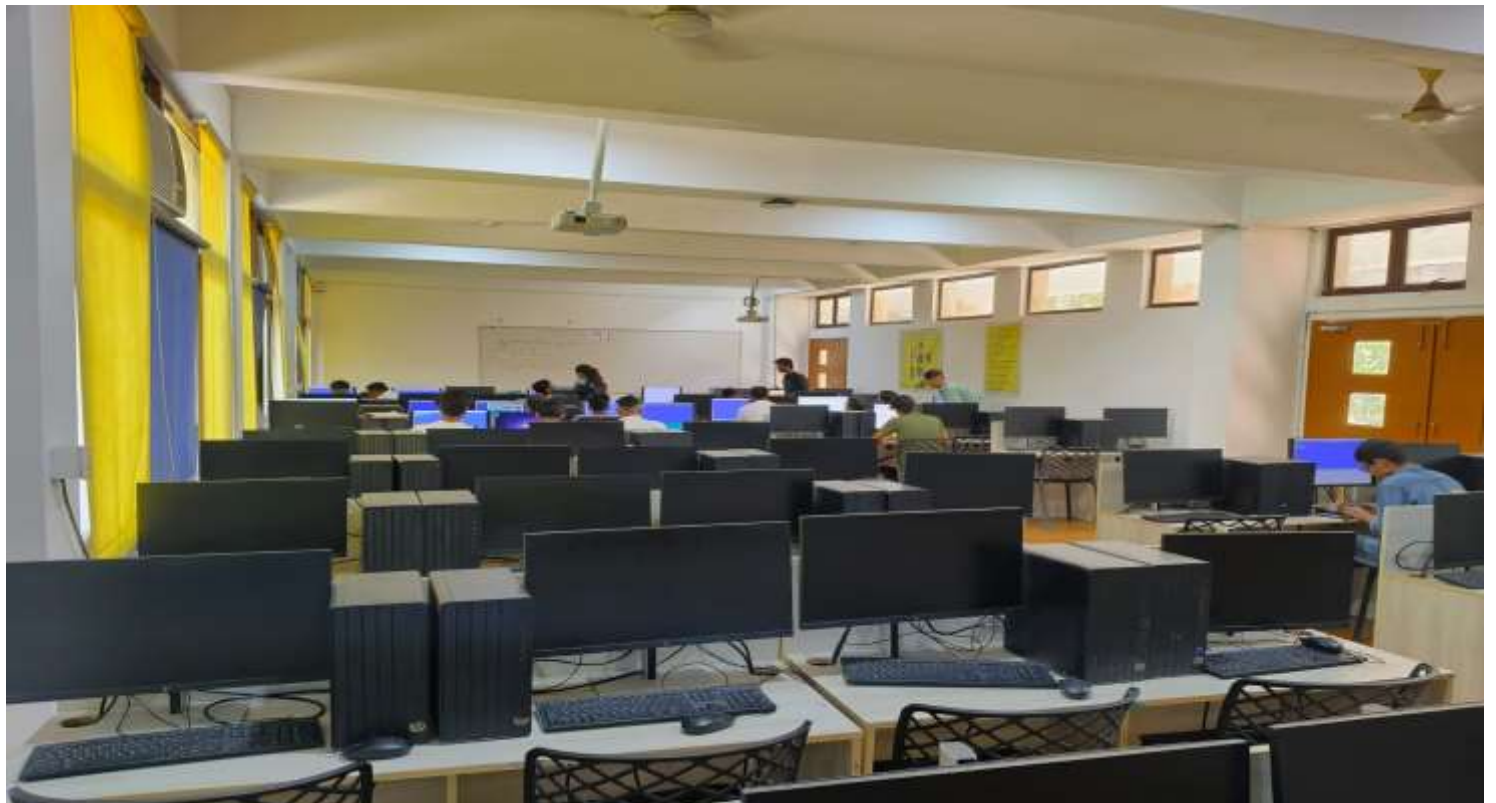
INDUSTRIAL ELECTRONICS AND CONTROL LAB

The Power Electronics lab is well-equipped with several kinds of experimental setups to help students comprehend the principles of rectifiers, choppers, inverters, AC voltage controllers, and cyclo converters. Along with SCR triggering and commutation circuit experimental kits, the lab has them. Applications for thyristors, TRIACs, etc. include power converter design and speed control of AC and DC motors.



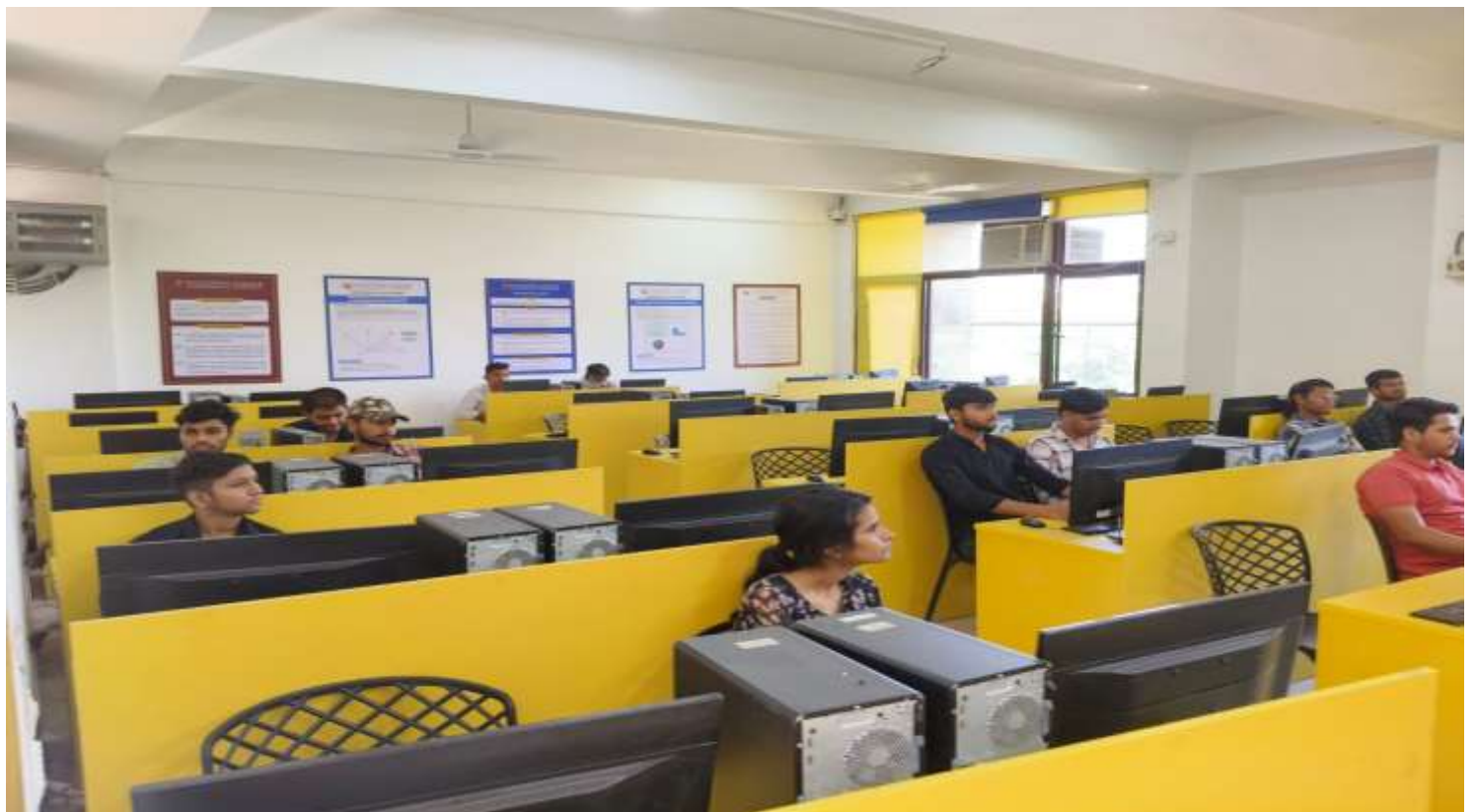
APPLICATIONS OF COMPUTER SOFTWARE IN ELECTRICAL ENGINEERING LAB

This lab is designed to train students in the use of computer-based tools and software for solving electrical engineering problems. It provides practical exposure to simulation, analysis, and design of electrical circuits, machines, and power systems. Students learn to model, simulate, and optimize systems using industry-standard software, bridging theoretical concepts with real-world applications.



PLC, MICRO CONTROLLER & SCADA LAB

The lab is established to provide hands-on training in **industrial automation and control systems**. It enables students to learn programming, interfacing, and operation of **Programmable Logic Controllers (PLC)**, **microcontrollers**, and **Supervisory Control and Data Acquisition (SCADA)** systems. Through practical experiments, students gain knowledge of automation, process control, embedded systems, and real-time monitoring, preparing them for applications in modern industries.



PROJECT

The **Project Lab** is established to encourage innovation, creativity, and practical problem-solving among students. It provides facilities and resources to design, develop, and test hardware and software-based projects in electronics, electrical, and interdisciplinary fields. The lab supports mini-projects, major projects, and industry-oriented work, enabling students to apply theoretical knowledge to real-life applications. It also promotes teamwork, research skills, and hands-on experience with modern tools and technologies.







