KCG COLLEGE OF TECHNOLOGY

Department of Electrical and Electronics Engineering

Details of Laboratory

Electrical Machines Laboratory (341 sq. m)

The students will get an exposure to the operation of D.C machines, transformers, synchronous machines and induction motors and to impart them with experimental skills.

List of Major Equipments:

1. Single Phase Auto Transformer
2. Three Phase Auto Transformer
3. Single Phase Transformer
4. Three Phase Transformer
5. Coil Winding Machine
6. Earth Megger
7. Insulation Megger
8. 15 Way Control Panel
9. Oil Testing Kit (230 V)
10. DC Shunt Motor Generator Set
11. DC Compound Motor Generator Set
12. DC Series Motor with Loading Arrangement
13. DC Shunt Motor with Loading Arrangement
14. DC Compound Motor Loading Arrangement
15. DC Shunt Motor
16. Slip Ring Induction Motor with Loading Arrangement
17. Squirrel Cage Induction Motor with Loading Arrangement
18. Single Phase Capacitor Start Induction Motor with Loading Arrangement
19. Induction Motor Coupled with DC Compound Generator
20. DC Shunt Motor Coupled with Alternator
21. Synchronous Motor
22. Variable Voltage Variable Frequency Control Circuit Kit
23. Measuring Instruments

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Electronics and Devices Laboratory (170.45 sq. m)

The main objective of this laboratory is to have hands on experience on various electronic devices.

List of Major Equipments:

1. Cathode Ray Oscilloscope
2. Function Generator
3. Storage Oscilloscope
4. Diodes, Transistors, Thyristor
5. Regulated Power Supply
6. Measuring Instruments

Power Electronics Laboratory (170.45 sq. m)

The characteristics of switching devices and its applications in rectifier inverter, chopper and resonant converter are studied. Student learns how to apply the electronic devices for conversion, control and conditioning of power. It also gives an idea of different types of power semiconductor devices and their switching characteristics.

List of Major Equipments:

1. Single & Three Phase PWM Inverter
2. Chopper Module
3. AC Voltage Controller
4. Switched Mode Power Supply
5. Half & Fully Controlled Converter
6. LCR Meter
7. Step up & Step down Chopper
8. Storage Oscilloscope

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Control & Instrumentation Laboratory (170.45 sq. m)

To expose the students to the principle of control engineering with specialized equipments like Servo motor, Synchros and Compensators. To enhance the practical knowledge in simulation of first and second order systems. To study the various characteristic of DC and AC Bridges and analyse the performance of instrumentation circuits.

List of Major Equipments:

1. Synchro Transmitter Receiver
2. PC Based PID Controller
3. AC Position Servo Trainer Kit
4. AC Servo Motor Controller
5. Lead Lag Network Stimulator
6. Speed Measurement of DC Motor
7. DC Motor Based Position Controller
8. Analog PID Controller
9. First and Second Order OP-AMP Simulator
10. Pressure Process Analyzer
11. PC Based Temperature Control System
12. Synchroscope
13. 20 MHz Cathode Ray Oscilloscope
14. Digital Storage Oscilloscope
15. Linear Voltage Differential Transformer Kit
16. Transducers
17. DC and AC Bridges
18. Measuring Instruments

Power System Simulation Laboratory (80 sq. m)

The main aim of this laboratory is to help the students to acquire software development skills and to experience in the usage of standard packages necessary for analysis and simulation of power system required for its planning, operation and control.

List of Major Equipments:

1. Personal Computer Systems
2. Softwares like MATLAB, AUPOWER
3. Printers

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Department of Electrical and Electronics Engineering

Engineering Practices Laboratory (158 sq. m)

The aim of this lab is to provide the students with the basic knowledge about electrical and electronic equipments.

List of Major Equipments:

1. Energy meter
2. Megger
3. Cathode Ray Oscilloscope
4. Function Generator
5. Logic Gates Trainer Kit
6. Auto Transformer
7. Passive Elements

Power Electronics and Drives Laboratory (232.14 sq. m)

To cater to the needs of post graduate students and research scholars, this laboratory is designed with latest equipments in the field of power electronics and drives.

List of Major Equipments:

1. Stepper Motor and its Control
2. Converter Modules
3. Inverter Modules
4. BLDC Motor and its Drive
5. Switched Reluctance Motor and its Drive
6. AC & DC Motor and its Control
7. UPS Training Module
8. UPS Data Acquisition System
9. Switched Mode Power Supply
10. Digital Storage Oscilloscope
11. LCR Meter

KCG COLLEGE OF TECHNOLOGY

Department of Electrical and Electronics Engineering

Research Laboratory (232.14 sq. m)

The Department is approved as a recognised research centre for doing Ph.D. and M.S. (By Research) programmes by Anna University. The infrastructure and lab facilities are upgraded from time to time and provide adequate opportunities for students and researchers to learn and innovate. This laboratory cater to the needs of researchers for pursuing research with the latest state to art equipments with an objective to be a vibrant research centre involved in creating an academic environment that is suitable for sustainable research activities and to have industrial tie-up for collaborative research in emerging areas, to deliver the latest research in the field as well as share expertise from wind and solar power projects in industry.

The key facilities of the Research Laboratory are:

1. MATLAB / SIMULINK Software
2. LabVIEW Software
3. ETAP 14.1.0 (R & D Version) Software
4. AU Power Lab Software
5. dSPACE Control Work Station
6. AC & DC Motor and its Control
7. Stepper Motor and its Control
8. BLDC Motor and its Control
9. Voltage and Current Sensor Signal Conditioner
10. Storage Oscilloscopes
11. LCR Meter
12. Clamp Meters
13. Converter / Inverter Modules
14. DC and AC Machines
15. UPS Training Module
16. UPS Data Acquisition System