

## **Department of Electronics and Communication Engineering**

### **Electrical Machine and Instrumentation Laboratory**

Laboratory work is important part in engineering education. The Department of Electronics and Communication Engineering has well-equipped laboratories catering to the requirements of undergraduates, postgraduates and research scholars, **Electrical Machine and Instrumentation Laboratory** is one of them. This laboratory is intended specifically to meet the needs of modern and conventional courses in electrical machines and instrumentation. It is used at undergraduate level for the study of the characteristics and operation of different electrical machines such as single and three phase transformer, DC machines, single and three-phase induction machines, synchronous machines and fractional kW motors using state of the art teaching modules. It is also associated with different experiments on electrical and electronics measurements and instrumentation. The experiments that are covered in the laboratory include: characteristics of DC motors and DC generators (separate, series, shunt, and compound), determining the parameters and performance of single and three-phase transformers, determining the parameters and performance of LVDT, Lissajous pattern on CRO, wheat-stone bridge method for resistance measurement and finally the starting and control of single and three-phase induction motors.

#### **Major Equipments/Machines:**

- DC Generators (with 3 Phase AC Motor)
- Single-phase and Three-phase Induction Motors
- Synchronous Motor with spring-load arrangement
- Air cooled Single-phase and Three-phase Transformers
- Single-phase and Three-phase Auto-transformers
- Function Generators, CRO and Power Supply
- Universal Frequency Counter

#### **Measuring Instruments:**

Ammeters, Voltmeters, Watt-meters, Digital Multimeter, Tachometers etc.

#### **Various Experimental Kits :**

- Maxwell's Bridge Trainer
- Hay's Bridge Trainer
- De Sauty's and Schering Bridge Trainer
- Anderson's Bridge Trainer