Research Project Lab-1

DEPARTMENT OF ELECTRONICS & COMMUNICATIONS ENGINEERING

Coordinator: Dr. Hemant Kumar

Location: Ground Floor, Sector-128 Campus.

Objective

The lab will provide a platform to the researchers to work in the area of fabrication and characterization of solid-state electronic device and photodetectors. The lab facilitates the synthesis of novel semiconducting materials such as colloidal Quantum Dots and their application in optoelectronics and gas sensing.

Hardware/Software Availability

Thermal Evaporation Unit

Thermal evaporation unit is used for deposition of metallic contacts. The equipment has diffusion pump and rotary pump mechanism to obtain the high vacuum ($\sim 10^{-6}\, mbar$), which can be extended by using liquid nitrogen. Thermal evaporation unit has two LT sources and also supports HT crackling. Substrate rotation feature is also available with the equipment.

Digital Multimeter

7 ½ digital multimeter by Keysight instruments has the capability to sense currents in nA. This instrument is suitable for calculating transient response against current and voltage.

Single Channel Source Measuring Unit

The single channel source measuring unit from Keysight shown is used for calculating $I - V$ response of diodes, resistors and other two terminal devices.