

## List of Labs Available at [vlabs.iitb.ac.in](http://vlabs.iitb.ac.in) & [vlabs.co.in](http://vlabs.co.in)

### • Electronics & Communications

- Virtual Advanced Lab for Interactive Design and Test in Electronics
- Virtual Microwave Laboratory
- Virtual Wireless Lab
- Engineering Electro-magnetics Laboratory
- Queuing Networks Modelling Lab
- Virtual Microwave & Antenna Laboratory
- Advanced Communication
- Hybrid electronics Lab
- RF microwave characterization Lab
- Transducer and instrumentation virtual lab
- Virtual Laboratories for VLSI Design and Verification
- Single Board Heater System
- Electronic design using DSP,FPGA,CPLD and Micro controllers through simulation and direct access of the hardware
- Digital Electronic Circuits Laboratory
- Digital Signal Processing Laboratory
- Fading Channels and Mobile Communications
- Basic Electronics
- Systems, communication and control laboratory
- Speech Signal Processing Laboratory
- Digital VLSI Design Virtual lab
- Signals and Systems Laboratory
- Remote Triggered Fiber Optics Communication Lab
- Electromagnetic Theory
- Virtual Electric Circuits

### • Computer Science & Engineering

- Problem Solving
- Analog CMOS VLSI Circuit Design
- FPGA & Embedded systems lab
- Computer Architecture & organization
- Advanced Network Technologies
- Software Engineering
- Data Structures
- Computer Programming
- Principles of Programming Languages
- Data Mining
- Databases
- Linux Lab
- Computer Organization
- VLSI
- Digital Logic Design
- Speech Signal Processing
- Mobile Robotics
- Computer Graphics
- Image Processing
- Pattern Recognition
- Artificial Neural Networks
- Virtual Advanced VLSI Lab
- Cryptography Lab

- **Electrical Engineering**

- Electrical Machines Lab
- Remote Triggered Electromechanical Conversion Laboratory
- Sensors Modeling & Simulation
- Industrial Automation Laboratory
- PLC
- Analog Signals, Network and Measurement Laboratory
- Real Time Embedded Systems Laboratory
- Electrical Machines Laboratory
- Creative Design, Prototyping & Experiential Simulation Lab
- Ergonomics Lab for Assessing Physical Aspects of Design
- Virtual English and Communication
- Virtual Anthropology Lab

- **Mechanical Engineering**

- Metal Forming Lab
- Vibration and Acoustics
- Micromachining laboratory
- FAB laboratory
- General Purpose Production Shop Simulation Lab
- Laser Based Flow Diagnostics Laboratory
- Mine Automation and Virtual Reality
- Virtual Labs for Mechanical Vibrations

- **Chemical Engineering**

- Process control, reaction engineering and unit operations lab
- Chemical Engineering
- Simulation of Control of Magnetic Levitation System
- Virtual Lab for Mass Transfer

- **Chemical Sciences**

- Analytical Lab
- Virtual Chemistry Lab
- Colloid and Surface Chemistry
- Molecular Absorption Spectroscopy
- Circular Dichroism Spectroscopy
- Molecular Interactions
- Physical chemistry lab
- Physical Chemistry
- Organic Chemistry
- Inorganic Chemistry

- **Civil Engineering**

- Strength of Materials Lab
- Fluid Mechanics Lab
- Soil Mechanics Lab
- Basic Structural Analysis Lab
- Geotechnical Engineering
- Virtual Smart Structures and Dynamics Lab
- Virtual Satellite Image Processing & Analysis Lab
- Urban Transportation Systems Planning Lab
- Soft Computing Tools in Engineering
- Surveying Lab

- **Biotechnology and Biomedical Engineering**

- Bioinformatics Virtual Lab I
- Bioinformatics Virtual Lab II
- Bioinformatics Virtual Lab III
- Systems Biology Virtual Lab
- Computer-Aided Drug Design Virtual Lab
- Ecology Virtual Lab
- Biological Image processing Virtual Lab
- Bio-inspired Robotics Virtual Lab (Remote Trigger)
- Virtual Biophysics Lab (Remote Trigger)
- Bioreactor Modeling & Simulation lab
- Biomedical and Signal processing Laboratory
- Virtual Proteomics Laboratory
- Biomedical Instrumentation
- Medical Signal & Image Processing
- Neurophysiology (pilot)
- Neuron Simulation Lab (pilot)
- Biochemistry Virtual Lab I
- Biochemistry Virtual Lab II
- Population Ecology I
- Population Ecology II
- Immunology Virtual Lab I
- Immunology Virtual Lab II
- Microbiology Virtual Lab I
- Microbiology Virtual Lab II
- Molecular biology Virtual Lab I
- Molecular biology Virtual Lab II
- Cell biology Virtual Lab I
- Cell biology Virtual Lab II

- **Physical Sciences**

- Virtual Laboratory on Oscillations
- Material Response to Microstructural, Mechanical, Thermal and Biological Stimuli
- Physical sciences
- Virtual Optics Lab
- Solid State Physics Virtual Lab
- Virtual Advanced Mechanics Lab
- Laser Optics Virtual Lab
- Virtual Electricity & Magnetism Lab
- Virtual Heat & Thermodynamics Lab
- Virtual Modern Physics Lab
- Virtual Harmonic Motion and Waves Lab