NARULA INSTITUTE OF TECHNOLOGY
Department of Electronics and Communication Engineering

Two M Tech programmes are running under ECE department. Each program is supported by specific software/hardware as below:

M Tech (Communication)

1. **QUALNET**
   It is a simulation platform for planning, testing and training tool that "mimics" the behaviour of a real communications network.

2. **MPLS**
   The Multipurpose Lab Station (MPLS) is a measurement solution for teaching and research. MPLS complements and augments the measurement hardware.

3. **OPNET**
   It analyses and designs communication networks, model all network types and technologies. Simulate networks compare impact of different technology on end-to-end behaviour.

4. **ISDN module**
   It provides full capture and protocol analysis at all layers for primary rate ISDN, PPP, AsyncPPPand Multi-link PPP. It also performs bit error ratio testing (BERT).

5. **MATLAB**
   MATLAB is a high-level language and interactive environment for numerical computation, visualization, and programming.

M Tech (Microelectronics & VLSI)

1. **Cadence**

   It is used for designing front end and back of integrated circuits includes schematic entry, behavioural modelling, circuit simulation, custom layout, physical verification, extraction and back-annotation.

2. **Visual T-CAD**

   It is used for designing 2D and 3D semiconductor devices and simulates a circuit using those devices.

3. **PCB design lab**

   A PCB is a printed circuit board, also known as a printed wiring board. It is used in electronics to build electronic devices. A PCB serves two purposes in the construction of an electronic device; it is a place to mount the components and it provides the means of electrical connection between the components.

4. **Tanner Spice**

   It simulates the circuit to be as close to perfect as possible before the integrated circuit is first built. Simulating the circuit with SPICE is the industry-standard way to verify circuit operation at the transistor level before committing to manufacturing an integrated circuit.

5. **MATLAB**

   MATLAB is a high-level language and interactive environment for numerical computation, visualization, and programming.

   Other salient features:

   - We have three **MODROBs** projects under credit:
     1. Advanced communication Engineering Lab.
     2. AdvancedMicrowave Engineering Lab.
     3. Circuit design Lab.
   - One to one PC with net connection
   - Dedicated classroom
   - Facility for doing research
   - Publication in Journal/Conference based on the M. Tech Project