

**NATIONAL INSTITUTE OF TECHNOLOGY, DURGAPUR  
(DEEMED UNIVERSITY)  
DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING**

**LABORATORIES of M. Tech Course in Telecommunication Engineering:**

**Telecommunication Laboratory (ECE-1051) (L=0, T=0, P=3)**

1. Design/Simulation of different Analog Communication Circuits using IC's and discrete components/ simulation packages - Multisim 2001, Commsim 2001, Matlab or Electronics Workbench.
2. Design/Simulation of different Digital Communication Circuits using IC's and discrete components/ simulation packages - Multisim 2001, Commsim 2001, Matlab or Electronics Workbench.
3. Matlab based simulation for different applications of Communication and DSP.
4. Study of various transducers used in DSP.
5. ASIC Design.
6. Telecommunication Switching Experiments using PLC's.

**Design and Simulation Laboratory (ECE-2051) (L=0, T=0, P=3)**

1. Simulation of different communication systems using application software – Multisim 2001/Multisim-10, Commsim 2001/Vissim 5.0 and MATLAB.
2. Simulation, synthesis, implementation and Design of digital circuits using Verilog HDL.
3. Simulation of Microcontroller based applications using PROTEUS VSM, Virtual Simulation Modelling Software for Microcontollers.
4. Matlab based simulation of different antenna applications.
5. Familiarization of TMS 320C5416 DSK and the Code Composer studio (CCS), generation of different types of signals – sine, square and noise using this DSK. Study of aliasing effect.
6. Familiarization of TMS 320C6711 DSK and the Code Composer studio (CCS), generation of different types of signals – sine, square and noise using this DSK. Observing spectrum of signals using CCS.
7. Implementation of different real time filters (IIR and FIR) using TMS320C5416DSK and Code Composer Studio.
8. Study of some applications of DSP using TMS320C6711 DSK and Code Composer Studio.
9. Study of some applications of DSP using TMS320C6713 DSK and Code Composer Studio

**Project- I ECE-1052 (L=0, T=0, P=2)**

Thesis work to be done under the guidance of any faculty members of the department during Ist semester.

**Project- II ECE-2052 (L=0, T=0, P=2)**

Thesis work to be done under the guidance of any faculty members of the department during 2nd semester.

**Project- III ECE-3051 (L=0, T=0, P=15)**

Thesis work to be done under the guidance of any faculty members of the department during 3rd semester.

**Project- IV ECE-4051 (L=0, T=0, P=15)**

Thesis work to be done under the guidance of any faculty members of the department during 4th semester.

**Seminar and Viva Voce ECE-4052 (L=0, T=0, P=10)**