



## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

### ANALOG AND DIGITAL COMMUNICATION LABORATORY

**Lab incharge : Mr.G.Shanmugavadivel**

**Lab instructor : Mr.P.Sakthivel**

#### **Overview:**

Communication engineering laboratory focuses on training the students in both analog and digital transmission/reception of signal. The students here start in the analog communication area by constructing the circuits of amplitude modulation, frequency modulation and phase modulation. A mini AM transmitter is constructed by them in the MW frequency of electromagnetic spectrum and they do a live transmission with minimum power output. The signals are then received in a pocket AM radio. Learning the concepts, with small applications give them plenty of joy and real motivation towards their studies. The other important area of analog signal processing is the phase locked loop. Students are given NE 565 PLL IC and made to conduct an experiment to find the capture and lock ranges with their designed specifications. Here the students make use of the function generators with frequency sweep facility. The students are enlighten yet in another area is audio systems, widely used to address the public. The students perform the characteristics of microphone. So they gain knowledge in Acoustical Engineering. They also test condenser, coil and piezo electric transducers used in the audio engineering. In the area of pulse techniques, faculty helps them in PAM and PWM experiments. In addition to all the above, the lab consists of the fiber optic trainer, analog signal sampling kit, TDM trainer and microwave test benches.

**The area of laboratory is 86.62 Sq.m**

#### **Major equipments:**

- Function generators and cathode ray oscilloscopes



- Audio oscillator with counter
- 150MHz RF signal generator
- Various analog /digital study and trainer kits
- Fiber optic trainer kit
- Digital storage oscilloscope with 1.0 GHZ sampling rate
- Amplitude modulation/demodulation trainer kit
- Frequency modulation/demodulation trainer kit
- PAM,PPM and PWM trainer kit(all 3 in single trainer kit)



Snapshot of analog and digital communication laboratory