2/4 B.Tech. FOURTH SEMESTER

EM4L2 **COMMUNICATION LAB** **Credits: 2**

Lab/Practice: 3 periods/week **Internal assessment: 25 marks**
Semester end examination: 50 marks

Course Objectives:

- The purpose of this lab is to train the students to analyze the modulation and demodulation techniques and understand their performanc and to simulate them.

Learning Outcomes:

At the end of this course, the students will be able to demonstrate the

- The students have hands on experience on various Communications modulation schemes and experimentally the working of Analog, pulse and Digital Modulation Techniques and Source Coding techniques and the various parameters involved in it.
- MATLAB software is used to simulate the analog and digital modulation techniques.

List of Experiments-**Simulation Using Matlab**

1. Amplitude Modulation – Modulation with different modulation indices
2. AM-DSB SC - Modulation & Demodulation
3. AM- SSB SC - Modulation & Demodulation
4. Frequency Modulation - Modulation & Demodulation
5. Pre-emphasis & De-emphasis Circuits
6. Sampling Theorem- Verification
7. PAM Modulation and Demodulation
8. Pulse width Modulation and Demodulation(PWM)
9. Pulse position Modulation and Demodulation(PPM)
10. Pulse Code Modulation and Demodulation(PCM)
11. ON-OFF Keying(OOK)
12. Frequency shift keying (FSK)
13. Phase shift keying (PSK)
14. Source Coding (Calculation of efficiency,Redundancy)-Huffman Coding