**Content Development for Lab:**

1. **Introduction:**

The idea/focus of this lab is to enhance student’s theoretical knowledge in the subject by giving the students hand’s on training experience in the virtual tool with which students’ understanding rate of the concept would be high meaning the students would have a high degree of knowledge in the concept and could even develop various other methods in performing the same .In other words “ we aim to help to increase the student’s understanding/Learning in the concept so as it would help during their theoretical exam’s ,projects ,etc.”.

1. **Objective:**

**The students should be made to**

• To implement and classify Amplitude & Frequency Modulation & demodulation.

• To implement Pulse Code Modulation & Delta Modulation.

• To implement line coding Schemes.

• To implement Binary Frequency Shift Keying modulation & demodulation schemes.

• To implement & compare Binary Phase Shift Keying & Quadrature Phase Shift Keying modulation & demodulation schemes.

1. **Purpose:**

To simulate and validate the various functional modules of a communication system.

1. **List of Experiments:**

**1) Amplitude Modulation and Demodulation**

2) Frequency Modulation and Demodulation

3) Pulse Code Modulation (PCM)

4) Delta Modulation (DM)

5) Binary Frequency Shift Keying (BFSK) Modulation

6) Binary Phase Shift Keying (BPSK) Modulation

7) Quadrature Phase Shift Keying (QPSK) modulation

1. **Target Audience:** E.C.E, C.S.E, I.T, E.E.E
2. **Course Alignment:**

* Communication Systems I Lab – NIT Srinagar,
* Communication Engineering Lab – IIT Ropur,
* Analog & Digital communication Laboratory – AICTE**.**

1. **Lab Overview:**

The main goal for this lab is to improve the students understanding in the theoretical concepts by performing the experiments listed under the laboratory section.

The laboratory consists of a virtual simulator, procedure to perform the simulation, theory to provide a good understanding on the functions performed by each block in the simulator and periodic tests to test the students understanding before and after performing the experiment.