

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**EECEVAC03 - Basic Communication Systems**

**UNIT – I: Amplitude Modulation:** Introduction to Modulation, Need for Modulation, Ordinary Amplitude Modulation – Modulation index, Side bands, AM Power, Double Side Band Suppressed Carrier Modulation, Single Side Band Modulation, Vestigial Side Band Modulation, AM demodulation, Applications of AM.

**UNIT – II: Angle Modulation:** Angle Modulation fundamentals, Frequency Modulation – Modulation index and sidebands, Narrowband FM, Wideband FM, Principles of Phase Modulation, Frequency Modulation versus Amplitude Modulation, FM demodulation, Frequency Division Multiplexing, Applications of FM.

**UNIT – III: Signal Sampling and Analog Pulse Communication:** Ideal Sampling, Pulse Amplitude Modulation, Pulse Width Modulation, Pulse Position Modulation.

**UNIT- IV: Digital Communication Techniques:** Quantization, Digital Transmission of Data, Parallel and Serial Transmission, Data Conversion, Time Division Multiplexing, Pulse Code Modulation, Delta Modulation.

**UNIT – IV: Transmission of Binary Data in Communication Systems:** Digital Codes, Principles of Digital Transmission, Transmission Efficiency, Modem Concepts and Methods – FSK, BPSK, Error Detection and Correction.

**LEARNING RESOURCES:**

1. Louis E. Frenzel, “Principles of Electronic Communication Systems”, 3rd Edition. Tata Mcgraw Hill 2002.
2. Wayne Tomasi, Electronic Communications Systems, 5th Edition, Pearson Education (1 January 2008).