**17EC2203 – ANALOG COMMUNICATION**

**UNIT –I**

**AMPLITUDE MODULATION:** Introduction to communication system, Need for modulation, Amplitude Modulation, Definition, Time domain and frequency domain description, Single tone modulation, Power relations in AM waves, Generation of AM waves, Square law Modulator, Switching modulator, Detection of AM Waves: Square law detector, Envelop detector.

**UNIT –II**

**SSB MODULATION AND DEMODULATION:** Frequency discrimination method for generation of SSB Modulated Wave, Phase discrimination method for generating SSB Modulated waves. Demodulation of SSB Waves.

**UNIT –III**

**DSB MODULATION AND DEMODULATION:** Double Side Band Suppressed Carrier modulators, Generation of DSB-SC Modulated waves, COSTAS Loop. Vestigial side band modulation: Frequency description, Generation of VSB Modulated wave, Comparison of AM Techniques, Applications of different AM Systems.

**UNIT –IV**

**ANGLE MODULATION:** Frequency Modulation: Single tone frequency modulation, Spectrum Analysis of Sinusoidal FM Wave, Narrow band FM, Wide band FM, Transmission bandwidth of FM Wave - Generation of FM Waves, Direct and Indirect method of FM, Detection of FM Waves: Balanced Frequency discriminator, Phase locked loop, phase discriminator, Comparison of FM and AM.

**UNIT –V**

**NOISE IN ANALOG COMMUNICATION:**  Classification of Noise, Various sources of Noise, Types of Noise: Resistive (Thermal) Noise, Shot noise, Extraterrestrial Noise, Narrowband Noise- In phase and quadrature phase components and its Properties, Noise in DSB and SSB System, Noise in Angle Modulation System, Pre-emphasis and de-emphasis.

**UNIT-VI**

**TRANSMITERS AND RECEIVERS**: Block diagram of AM transmitter, Frequency Scintillation, Radio broadcast transmitter, Armstrong FM transmitter, Simple FM transmitter using Reactance modulator. Classification of radio receivers, TRF receives, Super heterodyne receivers, Intermediate frequency, AGC, AFC.

**TEXT BOOKS:**

1. “Communication Systems” Simon Haykin, Wiley Eastern.
2. “Electronic communication systems” J.Kennedy TMH

**REFERENCE BOOKS:**

1. “Communication Systems Engineering” John Proakis, MasoudSaleb.
2. “Principles of Communication Systems” Taub and Schilling”, McGraw-Hill ISE.