PANIPAT INSTITUTE OF ENGINEERING & TECHNOLOGY
Department of Electronics & Communication Engineering

LESSON PLAN

Subject Name: - Digital Communication **Subject Code: - EC- 202A**
Year: - 2nd **Semester: - 4th**

Lecture No	Unit No	Topic	COs Covered
L 1	UNIT-I	Pulse modulation, Sampling process	CO1
L 2		Pulse Amplitude and Pulse code modulation (PCM)	
L 3		Differential pulse code modulation	
L 4		Delta modulation, Noise considerations in PCM	
L 5		Time Division multiplexing	
L 6		Quantization noise in delta modulation	
L 7		The O/P signal to quantization noise ratio in delta modulation	
L 8		Varients of DM	
L 9		Sampling theorem	
L 10		Doubt Session	
L 11	UNIT-II	Matched filter and its properties	CO2
L 12		Average probability of symbol error in binary enclosed PCM receiver	
L 13		Intersymbol interference	
L 14		Nyquist criterion for distortion less base band binary transmission	CO2
L15		Correlative level coding Duo binary signalling	
L16		Tapped delay line equalization, Adaptive equalization	
L 17		LMS algorithm, Eye pattern	
L 18	UNIT-III	Elements of Detection Theory	CO3
L 19		Optimum detection of signals in noise	
L 20		Digital Modulation schemes- ASK	
L 21		Phase Shift Keying, Frequency Shift Keying	
L 22		Quadrature Amplitude Modulation	
L 23		Continuous Phase Modulation and Minimum Shift Keying	
L 24		Effect of intersymbol interference	

L 25		Bit symbol error probabilities, Synchronization	
L 26		Signal space diagram and spectra of the above systems	
L 27	UNIT-IV	Digital Modulation tradeoffs	CO4
L 28		Optimum demodulation of digital signals over band-limited channels	
L 29		Optimum demodulation of digital signals over band-limited channels	
L 30		Maximum likelihood sequence detection (Viterbi receiver)	
L 31		Equalization Techniques	
L 32		Synchronization and Carrier Recovery for Digital modulation.	
L 33		Synchronization and Carrier Recovery for Digital modulation.	
L 34		Doubt Session	

Text Books:

1.Haykin S., "Communications Systems", John Wiley and Sons, 2001.

2.Proakis J. G. and Salehi M., "Communication Systems Engineering", Pearson Education, 2002.

3. Taub H. and Schilling D.L., "Principles of Communication Systems", Tata McGraw Hill, 2001.

References:

1.Proakis J.G., "Digital Communications", 4th Edition, McGraw Hill, 2000.

2.Lathi B.P., "Modern Digital and Analog Communication", 4th edition, Oxford university Press, 2010