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

LESSON PLAN

Subject Name: - Basics of Analog Communication **Subject Code: - ES -208A**
Year: - 2nd **Semester:-4th**

Lecture No	Unit No	Topic	References
L 1	Unit-1	Constituents of communication system, Modulation, Bandwidth requirement	1. Kennedy, G., Electronic Communication Systems, McGraw-Hill (2008) 4th ed.
L 2	Unit-1	**Analog Modulation Techniques**: Theory of amplitude modulation	2. Lathi.B.P.,Modern Digital and Analog Communications Systems 3rd ed.
L 3	Unit-1	AM power calculations	1. Kennedy, G., Electronic Communication Systems, McGraw-Hill (2008) 4th ed.
L 4	Unit-1	AM modulation with a complex wave	2. Lathi.B.P.,Modern Digital and Analog Communications Systems 3rd ed.
L 5	Unit-1	Concepts of angle modulation, Theory of frequency modulation	1. Kennedy, G., Electronic Communication Systems, McGraw-Hill (2008) 4th ed.
L 6	Unit-1	, Mathematical analysis of FM, Spectra of FM signals	2. Lathi.B.P.,Modern Digital and Analog Communications Systems 3rd ed.
L 7	Unit-1	Narrow band FM, Wide band FM,	1. Kennedy, G., Electronic Communication Systems,

			McGraw-Hill (2008) 4th ed.
L 8	Unit-1	Phase modulation, Phase modulation obtained from frequency modulation	2. Lathi.B.P.,Modern Digital and Analog Communications Systems 3rd ed.
L 9	Unit-1	Comparison of AM, FM & PM.	1. Kennedy, G., Electronic Communication Systems, McGraw-Hill (2008) 4th ed.
L 10	Unit-1	Low level and high level modulation	2. Lathi.B.P.,Modern Digital and Analog Communications Systems 3rd ed.
L 11	Unit-2	, Basic principle of AM generation, Square law modulation,	1. Kennedy, G., Electronic Communication Systems, McGraw-Hill (2008) 4th ed.
L 12	Unit-2	Vander bijl modulation,.	2. Lathi.B.P.,Modern Digital and Analog Communications Systems 3rd ed.
L 13	Unit-2	Suppressed carrier AM generation (Balanced Modulator) ring Modulator	1. Kennedy, G., Electronic Communication Systems, McGraw-Hill (2008) 4th ed.
L 14	Unit-2	**AM Reception:** Tuned Ratio Frequency (TRF) Receiver,	2. Lathi.B.P.,Modern Digital and Analog Communications Systems 3rd ed.
L 15	Unit-2	Super heterodyne Receiver,	1. Kennedy, G., Electronic Communication Systems, McGraw-Hill (2008) 4th ed.
L16	Unit-2	RF Amplifier,	2. Lathi.B.P.,Modern Digital and Analog Communications Systems 3rd ed.
L 17	Unit-2	Image Frequency Rejection	1. Kennedy, G., Electronic Communication Systems,

			McGraw-Hill (2008) 4th ed.
L 18	Unit-2	Cascade RF Amplifier	2. Lathi.B.P.,Modern Digital and Analog Communications Systems 3rd ed.
L 19	Unit-2	Frequency Conversion and Mixers, Tracking & and Alignment	1. Kennedy, G., Electronic Communication Systems, McGraw-Hill (2008) 4th ed.
L 20	Unit-2	IF Amplifier, AM detector,	2. Lathi.B.P.,Modern Digital and Analog Communications Systems 3rd ed.
L 21	Unit-2	Distortion in diode detectors	1. Kennedy, G., Electronic Communication Systems, McGraw-Hill (2008) 4th ed.
L 22	Unit-2	AM receiver characteristics.	2. Lathi.B.P.,Modern Digital and Analog Communications Systems 3rd ed.
L 23	Unit-3	**FM Transmission:** FM allocation standards,	1. Kennedy, G., Electronic Communication Systems, McGraw-Hill (2008) 4th ed.
L 24	Unit-3	Generation of FM by direct method,	2. Lathi.B.P.,Modern Digital and Analog Communications Systems 3rd ed.
L 25	Unit-3	Varactor diode Modulator,	1. Kennedy, G., Electronic Communication Systems, McGraw-Hill (2008) 4th ed.
L 26	Unit-3	Indirect generation of FM,	2. Lathi.B.P.,Modern Digital and Analog Communications Systems 3rd ed.
L 27	Unit-3	The Armstrong method RC phase shift method,	1. Kennedy, G., Electronic Communication Systems,

			McGraw-Hill (2008) 4th ed.
L 28	Unit-3	Frequency stabilized reactance FM transmitter,	2. Lathi.B.P.,Modern Digital and Analog Communications Systems 3rd ed.
L 29	Unit-3	FM stereo transmitter, Noise triangle.	1. Kennedy, G., Electronic Communication Systems, McGraw-Hill (2008) 4th ed.
L 30	Unit-3	**FM Reception:** Direct methods of Frequency demodulation,	2. Lathi.B.P.,Modern Digital and Analog Communications Systems 3rd ed.
L 31	Unit-3	Frequency discrimination (Balanced slope detector), Foster seelay of phase discriminator,	1. Kennedy, G., Electronic Communication Systems, McGraw-Hill (2008) 4th ed.
L 32	Unit-3	Ratio detector,	2. Lathi.B.P.,Modern Digital and Analog Communications Systems 3rd ed.
L 33	Unit-3	Indirect method of FM demodulation,	1. Kennedy, G., Electronic Communication Systems, McGraw-Hill (2008) 4th ed.
L 34	Unit-3	FM detector using PLL, Pre-emphasis / de-emphasis,	2. Lathi.B.P.,Modern Digital and Analog Communications Systems 3rd ed.
L 35	Unit-3	FM receiver, FM stereo receiver.	1. Kennedy, G., Electronic Communication Systems, McGraw-Hill (2008) 4th ed.
L 36	Unit-4	**SSB Transmission:** Introduction, Advantages of SSB Transmission, Generation of SSB,	2. Lathi.B.P.,Modern Digital and Analog Communications Systems 3rd ed.
L 37	Unit-4	The Filter method The Phase Shift Method,	1. Kennedy, G., Electronic

			Communication Systems, McGraw-Hill (2008) 4th ed.
L38	Unit-4	The Third Method, Pilot Carrier SSB, Vestigial Side-band Modulation (VSB), VSB-SC,	2. Lathi.B.P.,Modern Digital and Analog Communications Systems 3rd ed.
L39	Unit-4	Application of AM and FM in TV transmission.	1. Kennedy, G., Electronic Communication Systems, McGraw-Hill (2008) 4th ed.
L40	Unit-4	**SSB Reception:** SSB Product Demodulator, Balanced Modulator as SSB Demodulator,	2. Lathi.B.P.,Modern Digital and Analog Communications Systems 3rd ed.
L41	Unit-4	Pilot Carrier SSB Receiver, Modern Communication Receiver.	1. Kennedy, G., Electronic Communication Systems, McGraw-Hill (2008) 4th ed.
L42	Unit-4	**Analog Pulse Modulation:** Introduction, Pulse amplitude modulation (PAM),	2. Lathi.B.P.,Modern Digital and Analog Communications Systems 3rd ed.
L43	Unit-4	PAM Modulator Circuit Demodulation of PAM Signals, Pulse Time Modulation (PTM)	1. Kennedy, G., Electronic Communication Systems, McGraw-Hill (2008) 4th ed.
L44	Unit-4	: Pulse Width Modulation (PWM), Pulse Position Modulation (PPM), PWM and PPM Demodulator	2. Lathi.B.P.,Modern Digital and Analog Communications Systems 3rd ed.

Text Books:

1. Kennedy, G., Electronic Communication Systems, McGraw-Hill (2008) 4th ed.
2. Lathi.B.P.,Modern Digital and Analog Communications Systems 3rd ed.

Reference Books:

1.Taub, H., Principles of Communication Systems, McGraw-Hill (2008) 3rd ed.
2. Haykin, S., Communication Systems, John Willey (2009) 4th ed.
3. Proakis, J. G. and Salehi, M., Fundamentals of Communication Systems, Dorling Kindersley (2008) 2nd ed.
4. Mithal G K, Radio Engineering, Khanna Pub.
5. Singh & Sapre—Communication Systems: 2/e, TMH