

Name of Faculty: — BINDU SINGH

Discipline: — ECE

Semester: — 4th

Subject: — Communication Systems (121042)

Lesson Plan Duration: 15 Weeks (From Jan. 2018 to Apr. 2018)

Week	Lecture	Topic to be covered	Practicals.
1st	1	Transmitters AM/FM. Classifications	To observe
	2	Block diagram of AM Transmitter & working	1st waveforms at different
	3	B.D & working of Reactance FET & FM Tx.	stages of AM Transmitter.
2nd	4	AM/FM Radio Receiver — Principle &	To observe the
	5	working with B.D. of Superheterodyne	waveforms at diff.
	6	AM Rx. for. of each block, Performance chr.	2nd Stages of Radio Receiver
3rd	7	of sensitivity, Selectivity, fidelity, S/N.	To align
	8	radio. Intermediate frequency	3rd AM Broadcast
	9	Simple & delayed AGC. B.D. of FM Rx, function of each block. Need	radio Rx.
4th	10	for limiting and de-emphasis in	
	11	FM reception. B.D. of Communication	— do —
	12	Rx, difference wrt. Broadcast Rx.	
5th	13	Sessional Test, Home Assignment	Checking
	14	Problems, Quizzes.	+
	15	Discussion, Revision.	Viva.
6th	16	Antennas — Electromagnetic spectrum	To identify & study
	17	Physical concept of radiation of E.M. from	4th the various types of Antennas — need
	18	adaptable. Concept of Polarization of EM.	in diff. freq. range.
7th	19	Definition & Physical Concept of EM Energy	To plot the radiation
	20	terms used with antennas like	5th pattern of a
	21	point source, gain, directivity, aperture, effective area, radiation pattern	directional & omni directional Antennas
8th	22	beam width, radiation Resistance, loss Resistance.	
	23	Types of Antennas, Appls. of Half	— do —
	24	wave dipole, Mast Antenna, folded dipole	
	25	Brief description — End fire arrays, Rhombic, & dish antennas.	6th To plot the

9 th	26	Basic Idea about different modes of wave propagation. Applications	6 th	variation of field strength of a radiated wave, with distance from transmitting antenna
	27	Summarise field equation for field strength		
10 th	28	Sessional Test, Home Assignment		checking +
	29	Discussion, Problems, Queries		Viva
	30	and Solutions.		
11 th	31	Space wave Comm. Line of sight prop.		Installation
	32	Standard atmosphere, Concept of eff. earth radius range of space wave prop.	7 th	of Dish Antenna
	33			for best reception
12 th	34	Duct propagation, Sky wave, Ionosphere & its layers.		
	35	Explanation of Terms - Virtual Height		— do —
	36	Critical frequency, Skip distance, MUF		
13 th	37	Digital Modulation Technique.		To observe
	38	PCM, DPCM, DELTA Modu.	8 th	waveforms at input
	39	Basic Block diagram & working		and output
14 th	40	of ASK, FSK, PSK, QPSK		of ASK, and
	41	Spread Spectrum Techniques.		PSK modu-
	42	Frequency Hopping Techniques.		lators.
15 th	43	Sessional Test, Home Assignment		checking +
	44	Submission, checking Problems		Viva.
	45	Queries, and Solutions.		