

LESSON PLAN

NAME OF THE FACULTY: - Sh. Harish Kumar

DISCIPLINE: - ECE

SEMESTER:- 4th

SUBJECT—Communication Systems

Lesson Plan Duration:- 15 weeks (15.02.2014 to 12.06.2024)

Work Load (Lecture/Practical) per week (In hours): Lecture- 03, Practical -03

Week	Theory		Practical	
	Lecture Day	Topic (Including assignment/test)	Practical	Topic
1 st	1st	Introduction to subject, syllabus and books, Introduction to communication.	1st	To observe the waveforms at different stages of a AM transmitter
	2nd	Classification of transmitters on the basis of modulation, service, frequency and power		
	3rd	Block diagram of AM transmitters and working of each stage		
2 nd	4th	Block diagram and working principles of reactance FET and armstrong FM transmitters	2nd	To observe the waveforms at different stages of a Radio Receiver
	5 th	Introduction to AM receiver, Principle and working with block diagram of super heterodyne AM receiver		
	6 th	Function of each block and typical waveforms at input and output of each block		
3 rd	7 th	Performance characteristics of a radio receiver: sensitivity, selectivity	3 rd	To align AM broadcast radio receiver
	8 th	fideliy, S/N ratio, image rejection ratio and their measurement procedure. ISI standards on radio receivers		

	9 th	Selection criteria for intermediate frequency (IF). Simple and delayed AGC		
4 th	10 th	Block diagram of an FM receiver, function of each block and waveforms at input and output of different blocks	Internal viva for the conducted 3 practicals	
	11 th	Need for limiting and de-emphasis in FM reception		
	12 th	Block diagram of communication receivers, differences with respect to broadcast receivers.		
5 th	13 th	Rapid Revision of 1st unit and Assignment-1	4 th	To align the dish antenna.
	14 th	Rapid revision of 2 nd unit		
	15 th	Introduction to Antenna, Electromagnetic spectrum and its various ranges: VLF, LF, MF, HF, VHF, UHF, Microwave		
6 th	16 th	Physical concept of radiation of electromagnetic energy from a dipole. Concept of polarization of EM Waves.	5 th	To identify and study the various types of antennas used in different frequency ranges
	17 th	Point source, gain directivity		
	18 th	Aperture, effective area, radiation pattern		
7 th	19 th	Beam width and radiation resistance, loss resistance	6 th	To plot the radiation pattern of a directional and omni directional antenna
	20 th	Types of antennas-brief description, half wave dipole		
	21	Medium wave (mast) antenna, folded dipole		
8 th	22	Patch, loop antenna		

	23	yagi and ferrite rod antenna	Internal viva for the conducted 6 practicals	
	24	Brief description of broad-side and end fire arrays		
9 th	25	dish antenna	7 th	To plot the variation of field strength of a radiated wave, with distance from a transmitting antenna.
	26	Revision of 3 rd unit and Assignment-2		
	27	modes of wave propagation and typical areas of application		
10 th	28	Ground wave propagation and its characteristics	8 th	To study and rectify different faults in a broadcast radio receiver.
	29	summer field equation for field strength		
	30	Space wave communication – line of sight propagation, standard atmosphere		
11 th	31	Effective earth radius range of space wave propagation	Internal viva for the conducted 8 practicals	
	32	Sky wave propagation - ionosphere and its layers		
	33	virtual height, critical frequency		
12 th	34	Skips distance, maximum usable frequency		
	35	Multiple hop propagation.		
	36	Revision of 4 th unit		
13 th	37	Basic idea, passive and active satellites, Meaning of the terms; orbit, apogee,		
	38	Perigee concept		
	39	Geo-stationary satellite and its need.		
14 th	40	Block diagram and explanation of a satellite		

		communication link.		
	41	Introduction to VSAT and its features.		
	42	Uplink & downlink concept		
15 th	43	Revision		
	44	Revision		
	45	Rapid Revision of 5 th unit and Assignment-3		

Teacher Name

Harish Kumar