Lesson Plan

Name of Faculty : Virender Sandhu
Discipline : Electronics and Communication
Semester : 6th sem
Subject : MRE
Lesson Plan Duration : 14 weeks(from 6 March 2023 to June 2023)
Work Load (lecture/practical)per week (in hours) : Lectures- 04, practical- 02

Week	Theory		Practical	
	Lecture Day	Topic(including assignment/test)	Practical Day	Practical Topic
1	1	Unit 1. Introduction to microwaves and its applications	1	To measure electronics and mechanical tuning range of a reflex klystron
	2	Classification on the basis of its frequency bands (HF, VHF, UHF, L, S, C, X, Ku, Ka, Sub mm)	2	
	3	Unit 2. Construction, characteristics, operating principles and typical applications of Multi cavity klystron		
	4	Construction and working of Reflex klystron		
2	5	Construction and working of Multi-cavity magnetron	3	Viva - Voice
	6	Construction and working of Traveling wave tube	4	
	7	Construction and working of Gunn diode		
	8	Construction and working of Impatt diode		
3	9	Revision of chapter1	5	To measure VSWR of a given load.
	10	Revision of multicavity and reflex klystron	6	
	11	Revision of Multi-cavity magnetron		
	12	Revision of Traveling wave tube		
4	13	Revision of Impatt diode	7	Viva - Voice
	14	Assignment 1	8	
	15	Revision of 1st sessional test		
	16	1st sessional test		
5	17	Unit 3. Rectangular and circular wave guides and their applications.	9	To measure the Klystron frequency by slotted section method
	18	Mode of wave guide	10	
	19	Propagation constant of a rectangular wave guide		
	20	Cut off wavelength, guide wavelength and their relationship with free space wavelength		
6	21	Impossibility of TEM mode in a wave guide.	11	Viva - Voice
	22	Unit 4. Constructional features, characteristics and application of tees	12	
	23	Bends, matched termination, twists, detector, mount, slotted section		
	24	Directional coupler, fixed and variable attenuator		

7	25	Isolator, circulator	13	To measure the directivity and coupling of a directional coupler.
	26	Duplex, coaxial to wave guide adapter	14	
	27	Horn antenna		
	28	Unit 5. Block diagram and working principles of microwave communication link.		
8	29	Revision of Rectangular waveguide	15	Viva - Voice
	30	Revision of Circular waveguide		
	31	Revision of Mode of wave guide		
	32	Revision of Propagation constant of a rectangular wave guide	16	
9	33	Assignment 2	17	To plot radiation pattern of a horn antenna in horizontal and vertical planes
	34	Revision of chapter 4, 5 (a)		
	35	Revision of 2nd sessional test		
	36	2nd sessional test	18	
10	37	Troposcatter Communication-basic idea	19	Viva - Voice
	38	Unit 6. Introduction to Radar Systems	20	
	39	various applications, radar range equation		
	40	Block diagram and operating principles of basic pulse radar		
11	41	Concepts of ambiguous range, radar area of cross-section and its dependence on frequency.	21	To verify the properties of magic tee.
	42	Block diagram and operating principles of CW (Doppler) and FMCW radars, and their applications.	22	
	43	Block diagram and operating principles of CW (Doppler) and FMCW radars, and their applications.		
	44	Radar display- PPI		
12	45	Assignment 3	23	Viva - Voice
	46	Revision of chapter 5 (b) and 6	24	
	47	3rd sessional test		
	48	Revision of chapter 1,2		
13	49	Revision of chapter 3	25	Viva - Voice of Experiment 1,2,3
	50	Revision of chapter 4		
	51	Revision of chapter 5		
	52	Revision of chapter 6	26	
14	53	Revision of very short answer questions	27	Viva - Voice of Experiment 4,5,6
	54	Revision of short answer questions	28	
	55	Revision of long answer questions		
	56	Revision		