

Lesson Plan

Name of the Faculty : Er. Manisha Dhindsa

Discipline : Electronics and Communication Engineering (ECE)

Semester : 6th

Subject : **Antenna Propagation (ECP-6A)**

Lesson Plan Duration : 15 weeks (from January to May, 2026)

****Work Load (Lecture / Practical) per week (in hours):** Lectures-04

Week	Theory	
	Lecture Day	Topic (including assignment / test)
1 st	1 st	Physical concept of radiation
	2 nd	Retarded potential
	3 rd	Radiation pattern, near- and far- field regions.
	4 th	Radiation Resistance
2 nd	5 th	Gain, Directive Gain, Power Gain
	6 th	Directivity, Efficiency
	7 th	Bandwidth and Antenna Temperature
	8 th	Short Dipole, Monopole Antenna
3 rd	9 th	Radiation from Hertzian Dipole
	10 th	Folded Dipole Antenna and Half Wave Dipole
	11 th	Uniform Linear Arrays
	12 th	Broadside Arrays and Endfire Arrays
4 th	13 th	Analysis of arrays of 2 Isotropic Sources
	14 th	Analysis of arrays of N Isotropic Sources - Different Cases
	15 th	Principle of Pattern Multiplication
	16 th	Binomial Array
5 th	17 th	Chebyshev Array
	18 th	TV Transmission & Reception Antennas
	19 th	Yagi-Uda antennas
	20 th	Turnstile Antennas
6 th	21 th	Loop Antenna (Rectangular & Circular),
	22 th	Helical Antenna
	23 th	Biconical Antenna
	24 th	Aperture & Slot Antennas
	25 th	Radiation from Rectangular Apertures

7 th	26 th	Uniform and Tapered Aperture
	27 th	Horn antenna
	28 th	Reflector Antenna
8 th	29 th	Numericals
	30 th	Cassegrain and Gregorian Feeding Structures
	31 th	Rectangular Slot Antenna
	32 th	Huygens' Principle
9 th	33 th	The frequency independent concept
	34 th	Rumsey's principle
	35 th	Frequency Independent Planar Log Spiral Antenna
	36 th	Frequency independent conical spiral antenna
10 th	37 th	Log periodic antenna
	38 th	Numericals
	39 th	Basic configurations of patch antennas
	40 th	Rectangular, Circular MPA
11 th	41 th	Different Feeding Techniques
	42 th	Method to Analyze Patch antenna
	43 th	Transmission Line Model
	44 th	Lens Antenna
12 th	45 th	Beam width
	46 th	Effective Height
	47 th	Effective Aperture
	48 th	Formulas Revision
13 th	49 th	Sky Wave Propagation
	50 th	Numericals
	51 th	Tropo scatter Propagation
	52 th	Multi Hop Propagation, Duct Propagation
14 th	53 th	Maximum Usable Frequency (MUF)
	54 th	Ground Wave Propagation
	55 th	Space Wave Propagation
	56 th	Virtual Height
	57 th	Skip Distance

15 th	58 th	Flat Earth and Curved Earth Concept
	59 th	Critical Frequency
	60 th	Fading

Er. Manisha Dhindsa

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