

LECTURE PLAN

Subject: ELECTROMAGNETIC WAVES

CODE:EC-25564

Lecture no.	TOPIC COVERED	DATE
UNIT 1		
1	Introduction to subject of EM Waves	
2	Basics of Vector calculus	
3	Basic Laws of Electrostatics, Gauss's theorem for electrostatics	
4	Equivalence theorem, method of images	
5	Basic laws of magneto statics, Ampere's Law	
6	Duality, Uniqueness and reciprocity theorem	
7	Development of Maxwell's equations	
UNIT 2		
8	Boundary conditions	
9	Wave equation and solution	
10	Wave polarization and Numerical	
11	Wave propagation indifferent mediums, Phase and group velocities	
12	Power flow and pointing vector	
13	Surface currents and power loss in a conductor.	
UNIT 3		
14	Plane waves in arbitrary direction	
15	Reflection and refraction at dielectric interface	
16	Total internal reflection, Brewster's angle	
17	Standing waves and Numerical	
18	Conducting surface, Skin depth.	
19	Flow control and congestion control at transport layer	
UNIT 4		
20	Introduction of Transmission Lines, Equations of voltage and current on Transmission lines	
21	Propagation count and characteristics impedance, Reflection coefficient and VSWR	
22	Impedance transformation on lossless and low loss transmission lines	
23	Power transfer on Transmission lines	
24	Smith chart, admittance Smith chart	
25	Applications of Transmission lines and Numerical	
UNIT 5		
26	Introduction of Waveguide and Wave propagation in parallel plate waveguides	
27	Analysis of wave guides general approach	
28	Rectangular waveguides	
29	TE & TM modes in rectangular waveguides	
30	Surface currents on the waveguide walls	
31	Attenuation in waveguide	
32	Field visualization using simulation software in CST software	