LESSON PLAN

Name of the Institute:	C. V. Raman Polytechnic
Department:	ELECTRONICS & TELECOMMUNICATION ENGINEERING
Semester/Division/Branch:	5TH SEM/ETC
Subject Name with code:	WAVE PROPAGATION & BROADBAND COMMUNICATION ENGINEERING
Total No. of Class (Required):	60
Faculty Name:	PRABHAKAR RATH

Class No.	*Brief description of the Topic/Chapter to be taught*	Remarks
1	Unit-1: WAVE PROPAGATION & ANTENNA	
2	Basic concept of EM wave	
3	Effects of environments on electromagnetic wave	
4	Transverse EM wave ,Polarization	
5	Ground wave propagation,Ionospehere	
6	Sky wave propagation,Space wave propagation	
7	Concept of actual height & virtual height	
8	Critical frequency,Max usable frequency	
9	Skip distance,Fading	
10	Wave Radiation in Space	
11	Propagation of EM wave	
12	Radiation mechanism of an antenna	
13	Antenna gain,Directive gain,Directivity, Polarization	
14	Radiator resistance,Bandwidth, Beam width	
15	Transmission equation, Radiation integrals	
16	Directional high frequency antenna(Dipole,Yagi)	

17	UHF & Microwave antenna(Dish & Horn antenna)	
18	Basic concept of Smart antennas	
19	Fundamentals of transmission line	
20	Equivalent circuit of Transmission line	
21	Doubt Class	
22	Unit-2: TRANSMISSION LINES	
23	Calculation of characteristic impedance	
24	Losses in Transmissin line	
25	SWR, VSWR, Reflection coefficient	
26	Quarter wave & half wavelength line	
27	Impedance matching & Stubs	
28	Derivation of primary & secondary constant of T- line	
29	Unit-3: TELEVISION ENGINEERING.	
30	Basic concept of Television system	
31	Aspect ratio, Rectangular switching ,Flicker	
32	Resolution,Video bandwidth,Interlaced scanning	
33	Composite video signal, Synchronization pulses	
34	Block diagram of TV transmitter	
35	Block diagram of Monochrome TV receiver	
36	Block diagram of SMPS of TV receiver	
37	Colour TV Signals	
38	LCD Display	
39	Large screen display	
40	Digital TV signals	
41	Unit-4: MICROWAVE ENGINEERING	
42	Digital TV receiver	
43	Advantages of microwave engineering & application	
44	Define Wave guide	

45	Rectangular wave guide operation & advantages	
46	Propagation of EM wave through wave guide	
47	TE & TM modes of wave propagation	
48	Circular wave guide, Cavity resonator	
49	Directional coupler,Isolators & Circulators	
50	Operation of two cavity Klystron	
51	Principle of Magnetron	
52	Principle of Travelling Wave Guides	
53	Doubt Class	
54	Unit-5: Broadband communication	
55	Network architecture of Broadband communication	
56	Cable broadband data network architecture	
57	Importance of Broadband telecommunication network	
58	Advantages & Application of SONET	
59	Details of ISDN	
60	Details of BISDN & BISON	

Prabhakar Rath.

Signature of the Faculty

Signature of the H.O.D