

UTKALMANI GOPABANDHU INSTITUTE OF
ENGINEERING,ROURKELA



LESSON PLAN

DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATION ENGINEERING

UTKALMANI GOPABANDHU INSTITUTE OF ENGINEERING, ROURKELA



LESSON PLAN

DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATION ENGINEERING

SUBJECT CODE: Th.4

NAME: wave propagation and Broadband Communication
BRANCH: ELECTRONICS & TELECOMMUNICATION

SEMESTER: DIPLOMA -V

PERIODS PER WEEK: 4

NAME OF THE FACULTY: MANINI MONALISA PRADHAN

No. of periods per week: 4(As per AICTE)

No of classes allotted per week offline mode=04(02/10/2021 to 10/01/2022)

No of classes allotted per week online mode=04(10/01/2022 to 31/01/2022)

No of classes allotted per week offline mode=04(07/02/2022 to 12/02/2022)

Week/Date	Lecture	Topic to be covered	Remarks
1 st week 01/10/2021 to 02/10/2021	1 st	Effect of environments such as reflection	
		Interference	
		Diffraction	
		Absorption and attenuation	
2 nd week 04/10/2021 to 09/10/2021	1 st	Classification based on modes of propagation	
	2 nd	Ground wave	
	3 rd	Ionosphere	
	4 th	Sky wave	
3 rd week 11/10/2021 to 16/10/2021	1 st	Space wave propagation	11/10/2021 to 16/10/2021 (holiday) need extra four classes for adjustment
	2 nd	Critical frequency	
	3 rd	Maximum usable frequency	
	4 th	Skip distance	
4 th week 18/10/2021 to 23/10/2021	1 st	Fading	18/10/2021 to 20/10/2021(holiday) Need one class for adjustment
	2 nd	Dot propagation	
	3 rd	Troposphere scatter, actual height , virtual height	
	4 th	Radiation mechanism and Maxwell equation	
5 th week 25/10/2021 to 30/10/2021	1 st	Antenna gain ,directivity, effective aperture, polarization	
	2 nd	Input impedance, efficiency, Radiator resistance	
	3 rd	Bandwidth, beam width, radiation pattern	
	4 th	Antenna types- monopole, dipole, omnidirectional	

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Week/Date	Lecture	Topic to be covered	Remarks
6 th week 01/11/2021 to 06/11/2021	1 st	Yagi,Rohmbus,Dish and smart antenna	
	2 nd	Fundamentals of transmission line	
	3 rd	Equivalent circuit of transmission line	
	4 th	Characterstics impedance,losses in transmission line	
7 th week 08/11/2021 to 13/11/2021	1 st	SWR,VSWR, Reflection coefficient	
	2 nd	Quarter wave and wavelength line	
	3 rd	Impedance matching	
	4 th	Stubs -single and double	
8 th week 15/11/2021 to 20/11/2021	1 st	Primary and secondary constant of transmission line	
	2 nd	Aspect ratio, Rectangular switching,flicker	
	3 rd	Horizontal Resolution,video bandwidth	
	4 th	Line scanning, Composite video signal ,synchronisation pulses	
9 th week 22/11/2021 to 27/11/2021	1 st	Monochrome Tv Receiver block diagram and functions	
	2 nd	Colour Tv signal -Luminance and chrominance signal	
	3 rd	CRT TV,Plasma display panels	
	4 th	Digital light processing,LCD	
10 th week 29/12/2021 to 04/12/2021	1 st	OLED	
	2 nd	QLED	
	3 rd	LCD	
	4 th	Large screen display	

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11 th week 06/12/2021 to 11/12/2021	1 st	CATV system and type of Network	
	2 nd	Digital Tv, Transmission of digital Tv signal	
	3 rd	Define Microwave and wave guide	
	4 th	Operation of Rectangular Wave guide	
12 th week 13/12/2021 to 18/12/2021	1 st	Propagation of EM wave	
	2 nd	Circular wave guide	
	3 rd	Working of circular wave guide	
	4 th	Operational cavity resonator	
13 th week 20/12/2021 to 25/01/2021	1 st	Directional coupler	
	2 nd	Isolator	
	3 rd	Circular Coupler	
	4 th	Principle of two cavity klystron	
14 th week 27/01/2022 to 01/01/2022	1 st	Travelling wave Tube	
	2 nd	Cyclotron	
	3 rd	Tunnel diode	
	4 th	Gun diode	
15 th week 03/01/2022 to 08/01/2022	1 st	Broadband communication	
	2 nd	Network architecture	
	3 rd	Cable broadband data	
	4 th	Future of broadcast Telecommunication	

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16 th week 10/01/2022 to 15/01/2022	1 st	SONET	13/01/2022
	2 nd	ISDN	14/01/2022
	3 rd	BISDN	(holiday)
	4 th	Discussion of MCQ	Two extra classes are required.