

PANIPAT INSTITUTE OF ENGINEERING & TECHNOLOGY
Department of Electronics & Communication Engineering

LESSON PLAN

Subject Name: - Antennas and Propagation
Year: - 3rd

Subject Code: - ECP-6A
Semester:-6th

Lecture No	Unit No	Topic	References
L 1	Unit-4	Introduction about subject and basic idea about antenna and final exam paper	1. Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan. 2.A.R.Harish, M.Sachidananda, Antenna and Wave Propagation, Oxford University Press.
L 2	Unit-4	Unit-4: Introduction to various modes of propagation. Ground wave propagation	1. Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan. 2.A.R.Harish, M.Sachidananda, Antenna and Wave Propagation, Oxford University Press.
L 3	Unit-4	Surface wave propagation losses	1. Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan. 2.A.R.Harish, M.Sachidananda, Antenna and Wave Propagation, Oxford University Press.
L 4	Unit-4	Sky wave or Ionospheric propagation, Structure of Ionosphere	1. Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan.

			2.A.R.Harish, M.Sachidananda, Antenna and Wave Propagation, Oxford University Press.
L 5	Unit-4	Expression for effective refractive index & critical frequency, MUF	1. Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan. 2.A.R.Harish, M.Sachidananda, Antenna and Wave Propagation, Oxford University Press.
L 6	Unit-4	Critical frequency, MUF- Continue, Skip Distance	1. Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan. 2.A.R.Harish, M.Sachidananda, Antenna and Wave Propagation, Oxford University Press.
L 7	Unit-4	Skip distance- Continue, Virtual Height	1. Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan. 2.A.R.Harish, M.Sachidananda, Antenna and Wave Propagation, Oxford University Press.
L 8	Unit-4	Space wave propagation and its application,	1. Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan. 2.A.R.Harish, M.Sachidananda, Antenna and Wave Propagation, Oxford University Press.
L 9	Unit-4	Tropospheric wave propagation	1. Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan. 2.A.R.Harish, M.Sachidananda, Antenna and

			Wave Propagation, Oxford University Press.
L 10	Unit-4	Fading, Multi Hop Propagation	1. Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan. 2.A.R.Harish, M.Sachidananda, Antenna and Wave Propagation, Oxford University Press.
L 11	Unit-4	Duct Propagation,	1. Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan. 2.A.R.Harish, M.Sachidananda, Antenna and Wave Propagation, Oxford University Press.
L 12	Unit-1	Unit-1: Physical concept of radiation, Retarded potential	J. D. Kraus, Antennas, McGraw Hill, 1988.
L 13	Unit-1	Near- and far- field regions	C.A. Balanis, Antenna Theory - Analysis and Design, John Wiley, 1982.
L 14	Unit-1	Beam Width, Gain, Directivity,	J. D. Kraus, Antennas, McGraw Hill, 1988.
L 15	Unit-1	Effective Height and Aperture	C.A. Balanis, Antenna Theory - Analysis and Design, John Wiley, 1982.
L16	Unit-1	Antenna Bandwidth and Temperature Student Problem	J. D. Kraus, Antennas, McGraw Hill, 1988.
L 17	Unit-1	Radiation from half wave dipole antenna	1. Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan.
L 18	Unit-1	Radiation from Hertzian Dipole	1. Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan.

L 19	Unit-1	Radiation from Hertzian Dipole-Continue	1. Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan.
L 20	Unit-1	Radiation from Short Dipole	1. Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan.
L 21	Unit-1	Radiation from Short Dipole-Continue	1. Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan.
L 22	Unit-1	Folded dipole	1. Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan.
L 23	Unit-1	Monopole antenna	1. Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan.
L 24	Unit-2	Uniform Linear Arrays - Broadside Arrays, Endfire Arrays	Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan.
L 25	Unit-2	Analysis of arrays of 2 Isotropic Sources - Different Cases	Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan.
L 26	Unit-2	Analysis of arrays of N Isotropic Sources - Different Cases	Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan.
L 27	Unit-2	Principle of Pattern Multiplication	Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan.
L 28	Unit-2	Binomial Array and Chebyshev Array	1. Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan.
L 29	Unit-2	Loop antenna	1. Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan.
L 30	Unit-2	Helical antenna Biconical antenna	1. Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan.

L 31	Unit-3	Radiation from Rectangular Apertures Uniform and Tapered Aperture	1. Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan.
L 32	Unit-3	Horn antenna, Reflector Antenna	1. Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan.
L 33	Unit-3	, Cassegrain and Gregorian Feeding Structures, Rectangular Slot antenna	1. Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan.
L 34	Unit-3	Introductory to Frequency independent Concept-Rumsey Principle Planar Log Spiral Antenna	1. Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan.
L 35	Unit-3	Conical Spiral Antenna	1. Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan.
L 36	Unit-3	Log Periodic Antenna Student Problem	1. Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan.
L 37	Unit-3	Lense Antenna	1. Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan.
L38	Unit-3	Introduction to patch antenna	1. Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan.
L39	Unit-3	Rectangular, Circular antennas	1. Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan.
L40	Unit-3	Feeding Techniques of Patch antenna	1. Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan.
L41	Unit-3	Method to analyze Patch antenna	1. Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan.
L42	Unit-3	Transmission Line method	1. Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan.

Text Books:

1. Antenna & Wave Propagation- K.D. Prasad, Satya Parkashan.
2. A.R.Harish, M.Sachidananda, Antenna and Wave Propagation, Oxford University Press

Reference Books:

1. J. D. Kraus, Antennas, McGraw Hill, 1988.
2. C.A. Balanis, Antenna Theory - Analysis and Design, John Wiley, 1982.