Techno India NJR Institute of Technology

Academic Administration of Techno NJR Institute

SyllabusDeployment

Name of Faculty: Dr. Nitin Kothari Subject Code:6EC4-22

Subject Name:Antenna and Wave PropagationLabSEM: VI

Department: Department of Electronicsand Communication Engineering

Total no. of experiments: 14

COURSE OUTCOMES

At the end of this course students will be able to:

CO1: Understand the radiation phenomena and pattern of various antennas.

CO2: Analyse different characteristics and can discriminate various antennas on the basis oftheir electrical performance.

CO3: Understand the optical fiber network links.

S. No.	Name of Experiments
	PART-I (Antenna)
1	Study the gain pattern, HPBW, FNBW and Directivity of a dipole antenna.
2	Measurement of Radiation Pattern, Gain, HPBW of a folded dipole antenna.
3	Measurement of Radiation Pattern, Gain, HPBW of a loop antenna
4	Measurement of Radiation Pattern, Gain, VSWR, input impedance and reflection coefficient for given Monopole antenna
5	Measurement of Radiation Pattern, Gain, VSWR, input impedance and reflection coefficient for given Yagi antennas.
6	Study of the Radiation Pattern, Gain, HPBW of a horn antenna
7	Study of the Radiation Pattern, Gain, HPBW of a reflector antennas
8	Study the radiation pattern, gain, VSWR, and input impedance of a rectangular microstrip patch antenna
9	Study the effect of inset feed on the input impedance of a rectangular

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	patchantenna
10	Study the effect of ground plane on the radiation pattern of an antenna
11	Study antenna designing in CST Microwave Studio
12	Design a rectangular microstrip patch antenna using CST MWS
	PART-II (Optical Fiber)
13	To set up Fiber Optic Analog link and Digital link.
14	Measurement of Propagation loss and numerical aperture.

TEXT/REFERENCE BOOKS

1. Antenna theory, Analysis and design, 3rd edition,Balanis Constantine A, John Wiley & Sons Inc. Publication
2. Microwave Engineering, D. M. Pozar, John Wiley & Sons.
3. Optical Fiber Communication: Principles and Practice, J.M. Senior, Pearson Education