

Branch Name:	Information and Communication Technology
Semester/Year:	Semester IV / Second Year
Subject Title:	Antenna Fundamentals
Subject Code:	1ET1070404
Pre-requisite:	Basic Electronics and Signals

Course Objectives:

- To explain basics of Electromagnetic Waves
- To explain basics of antenna and parameters
- To explain different antennas
- To study different antenna for various applications

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
Lecture (L)	Tutorial (T)	Practical (P)	Credit	Theory (Marks)		Practical (Marks)		Total (Marks)
				University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	
03	00	02	04	70	30	30	20	150

Subject Contents				
Sr. No	Topic	Total Hours	Weight (%)	
1	Fundamentals of Electromagnetics, Maxwell's Equation and Wave Propagation.	10	25	
2	Definition of antenna, Functions of antenna, Properties of antenna, antenna parameters, Radiation mechanism, Dipole	10	25	
3	Two element uniform array, Uniform linear arrays, Effect of Earth on radiation resistance, Impedance matching techniques, SNR	10	20	
4	HF, VHF and UHF Antennas, Microwave Antennas and Antenna Measurement	12	20	
5	Microstrip and Patch Antenna, Printed Antenna	10	10	

Course Outcome:

After learning the course, the students should be able to:

1. Understand wave propagation
2. Understand various antennas and its measurements
3. Understand antenna applications

Text Book:

- (1) “Antennas and Wave Propagation”, G.S.N. Raju, Pearson Education
- (2) “Antenna Theory and Practice”, Rajeswari Chatterjee, New Age International
- (3) “Microstrip and Printed Antenna Design”, Randy Bancroft, PHI

List of Suggested Practicals:

1. Study of different Antennas
2. Study Radiation Patterns of Different Antennas
3. Making Measurement of Different Antenna Parameters
4. Design of Antennas Using Simulation Software
5. Fabrication Case Study of Antenna.