

Course Name: Electromagnetic Fields

Faculty Name: Prof. Harishankar Ramachandran

Institute Name: IIT Madras

Introduction to Vector, Coulomb's Law, Electric Field, Electro Static Potential, The Gradient, Gauss's Law, Poisson's Equation, Energy in the Field, Example Problems in Electro Statics, Fields in Materials, Fields in Material Bodies, Displacement Vector, Capacitors, Method Of Image, Poisson's Equation 2Dimensions, Field near Sharp Edges and Points, Magnetic Fields, Stokes Theorems, The Curl, Field Due to Current Loop, Ampere's Law, Examples of Ampere,s Law, Inductance, Mutual Inductance, Faraday's law, Magnetic Energy, Magnetic Energy, Generalised Ampere's Law, The Wave Equation, Wave Equation, Poynting Theorem, Skin Effect, Radiation & Circuits, Phasor Form of Poynting Theorem, Reflection at Dielectric boundaries, Transmission Lines