

Contents- Topic Wise

- (1) Maxwell's Equations and EM Waves
- (2) Solution of Wave Equations- Plane Waves, Spherical Waves, Cylindrical Waves
- (3) Electric and Magnetic Field Components and Relations
- (4) Waves at Dielectric-dielectric Interfaces- Reflection and Transmission
- (5) Total Internal Reflection- Concept of Waveguiding
- (6) Polarized Waves- Equations of TE- and TM polarization: Wave Equations
- (7) Relation among the Electric and Magnetic Field Components
- (8) Parallel plate metallic waveguide analysis (TE- & TM modes)
- (9) Rectangular metallic waveguide analysis (TE- & TM modes)
- (10) Dielectric planar waveguides: 3-layer step-index symmetric, asymmetric (TE- & TM modes)
- (11) Ray path in graded index structure: Dielectric planar graded index waveguides- parabolic RI profile waveguide, triangular Profile waveguide
- (12) Optical fiber analysis: wave equation in cylindrical coordinates and solution: scalar modes, LP modes