

Lesson Plan of Physics, B.Tech first Semester (Phy 101)

Lecture 1: Transformation of vectors under rotation of coordinates

Lecture 2: Spherical and cylindrical coordinate systems

Lecture 3: gradient of a scalar field in Cartesian, Spherical and cylindrical coordinate systems

Lecture 4: Divergence & Curl of vector field in Cartesian, Spherical and cylindrical coordinate systems

Lecture 5: Problems, Divergence and curl of electric and magnetic field

Lecture 6: Gauss's divergence theorem

Lecture 7: Stokes theorem

Lecture 8: Revision and problems

Lecture 9: Damped harmonic motion and its energy considerations

Lecture 10: Forced oscillations and its energy considerations

Lecture 11: Amplitude and velocity resonance

Lecture 12: Sharpness of resonance, resonance in mechanical and electrical systems

Lecture 13: Maxwell's equation

Lecture 14: Electromagnetic waves in free space

Lecture 15: polarization, Energy & Momentum of Electromagnetic waves