

TCIS, Hyderabad

Course: Classical Electrodynamics- I

Start Date: 8th August, 2017

Coordinates: Tuesdays and Thursdays between 9.30 am and 11.00 am

Instructor: Prof. N.D. Hari Dass

Syllabus:

- Electrostatic fields, potentials, energy and forces, conductors and dielectrics, capacitors.
- Electrostatic boundary conditions.
- Analytical and numerical ways of solving electrostatic potential problems; mean value theorem; solving Poisson's equation; method of images and inversion; conformal mapping.
- Current distributions and magnetic fields
- Magnetic materials
- Charged particles in electric and magnetic fields.
- Maxwell's equations, EM waves and their propagation in free space and in media.
- EM waves in confined spaces
- Wave guides.

References Books:

1. David J. Griffiths : Introduction to Electrodynamics (Prentice Hall) – 2 Nos
2. J.D. Jackson : Classical Electrodynamics (John Wiley) – 2 nos
3. R.P. Feynman, R.B. Leighton, M.Sands : Lectures on Physics (Addison – Wesley) – 2 nos

Evaluation Method:

Assessment: 40% assignments + 60% Final exam