SUBJECT NO-PH21001, SUBJECT NAME- Electrodynamics-I

LTP- 3-1-0,CRD- 4

SYLLABUS :-

Curvilinear coordinates, vector calculus, Electrostatics and magnetostatics in vacuum and in media; method of images, boundary value problems with examples, multipole expansion of potentials, energy of charge distributions, Displacement current, Maxwells equations, electromagnetic energy,
Poynting vector, wave equation, polarisation; Propagation of electromagnetic waves in dielectric and conducting media, skin effect. Reflection and refraction of electromagnetic waves at the interface between dielectric media, Brewsters law, reflection from conducting surfaces. Wave guides, elementary theory of rectangular and cylindrical wave guides, coaxial transmission lines; rectangular and cylindrical resonant cavities.