Lesson planning for B.Tech. 2nd semester started w.e.f ……. 1st January 2019
Subject: Introduction To Electromagnetic Theory BS-119A
Name of institute: Seth Jai Parkash Mukand Lal Institute of Engineering & Technology (JMIT)
Name of teachers with designation: Ms Ritu Verma, Assistant Professor
Department: Applied Sciences

Lecture Plan

Lecture	Topic /chapter covered
Day 1	**Electrostatics in Vacuum**: Calculation of Electric Field: Coulomb's law
Day 2	Continuous charge distribution
Day 3	Divergence and Curl of Electrostatic Fields: Field lines, Flux
Day 4	Gauss's law
Day 5	Applications of Gauss's law
Day 6	Electrostatic Potential
Day 7	Comments on Potential
Day 8	Poisson's and Laplace's Equation
Day 9	The potential of a localized charge distribution
Day 10	Electrostatic boundary conditions
Day 11	Work and Energy in Electrostatics; The work done to move a charge
Day 12	The energy of a point charge distribution
Day 13	The energy of a continuous charge distribution.
Day 14	**Electrostatics in a Linear Dielectric Medium**: Polarization: dielectrics, Induced dipoles
Day 15	Alignments of polar molecules
Day 16	The field of polarized object: bound charges and its physical interpretation
Day 17	The field inside a Dielectric
Day 18	The Electric Displacement: Gauss's law in the presence of dielectrics
Day 19	A deceptive parallel
Day 20	Boundary conditions
Day 21	Linear Dielectrics: Susceptibility, Permittivity, dielectric constant
Day 22	Boundary value problem with linear dielectrics

Day 23	Energy in dielectric systems
Day 24	Forces in dielectrics.
Day 25	**Magnetostatics:** The Lorentz Force Law; Magnetic fields
Day 26	Magnetic forces
Day 27	Currents
Day 28	Biot- Savart law
Day 29	Divergence and Curl of magnetic filed
Day 30	Magnetic Vector Potential: vector potential
Day 31	Magnetostatic boundary conditions
Day 32	Multiple expansion of vector potential.
Day 33	**Magnetostatics in a linear magnetic:** Magnetization
Day 34	Effect of magnetic field on atomic orbits
Day 35	The Field of a Magnetized Object: Bound currents
Day 36	Physical interpretation of bound currents
Day 37	The Auxiliary Magnetic Field: Ampere's law in magnetized materials, A deceptive parallel, Boundary conditions
Day 38	Linear and Nonlinear Media: magnetic susceptibility and permeability
Day 39	Ferromagnetism.
Day 40	**Faraday's law:** Electromotive Force: Ohm's law
Day 41	Motional emf
Day 42	Electromagnetic Induction: Faraday's law, The induced electric field
Day 43	Inductance
Day 44	Energy in magnetic fields.
Day 45	**Maxwell's Equations:** Electrodynamics before Maxwell, How Maxwell fixed Ampere's law
Day 46	Maxwell's equations, Maxwell's equations in matter.
Day 47	**Electromagnetic Waves:** Electromagnetic Waves in Vacuum
Day 48	The wave equation for electric and magnetic field
Day 49	Electromagnetic Waves in Matter: propagation in linear media.