SARASWATI MAHILA MAHAVIDHYALAYA, PALWAL

LESSON-PLAN

Class: M.Sc III sem (Physics) **Semester: ODD/EVEN**

Subject: Electrodynamic and wave Propagation **Session: 2020-21**

Lecture Number	Topic
Lect 1	Review of four-vector and Lorentz transformation
Lect 2	Lorentz transformation in four Dimⁿ. conservation of charge.
Lect 3	conservation of current density, Maxwell eqⁿ.
Lect 4	Electromagnetic field Tensor in four Dimⁿ.
Lect 5	Maxwell covariance under Lorentz transformation.
Lect 6	Lorentz Invariants of electromagnetic fields.
Lect 7	Dual field Tensor - Introduction
Lect 8	Transformation of Electric and magnetic field vector.
Lect 9	Covariance of force equation.
Lect 10	Radiating System - Introduction
Lect 11	field and radiation of Localized source.
Lect 12	oscillating electric dipole
Lect 13	centre fed linear antenna.
Lect 14	centre half fed linear antenna.
Lect 15	Lienard-wiechert Potential
Lect 16	Electric and magnetic field due to uniformly moving charge
Lect 17	Electric and magnetic field due to accelerated charge
Lect 18	Linear and Circular acceleration.

Signature:

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Lecture Number	Topic
Lect-19	angular distribution of Power radiated.
Lect-20	Numerical Prapkm on centre fed antenna.
Lect-21	Numerical Problem on accelerated charge.
Lect-22	Radiative Reaction force - Introduction
Lect-23	Scattering and absorption of radiation.
Lect-24	Thomson scattering.
Lect-25	Rayliegh scattering.
Lect-26	Normal dispersion - Expression
Lect-27	anomalous dispersion
Lect-28	Ionosphere.
Lect-29	Types of Ionsphere.
Lect-30	Propagation of ~~Ionosphere~~ wave through Ionosphere
Lect-31	Reflection of electromagnetic wave by Ionosphere
Lect-32	Motion of charged particle in uniformly E and B
Lect-33	Time varying field.
Lect-34	Numerical Prapkm on Thomson scattering
Lect-35	Numerical Problem on Rayliegh scattering

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Lecture Number	Topic
Lect-36	field at the surface and with in conductor wire
Lect-37	wave guide
Lect-38	Mode of rectangular wave guide
Lect-39	TE mode
Lect-40	TM mode
Lect-41	Attenuation wave guide
Lect-42	Dielectric wave guide
Lect-43	circuit representation of II Plate Transmission line.
Lect-44	Transmission line equation and slowtion.
Lect-45	Characteristic impedance
Lect-46	Propagation cofficient
Lect-47	Low loss frequency
Lect-48	UHF Transmission Lines.
Lect-49	Numerical Problem on TE
Lect-50	Numerical Problem on TM modes

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