Lesson Plan

Name of the Assistant/ Associate Professor: - Ms. Neha

Class and Section: M.Sc. Physics (Semester-4th)

Subject: Electrodynamics and Plasma Physics   Paper code: PHY 401

Week	Date	Topics
1	1-Jan-18	Electric Field
	2-Jan-18	Gauss Law, Differential form of Gauss Law
	3-Jan-18	Electromagnetic scalar and vector potentials
	4-Jan-18	do
	5-Jan-18	Maxwell's equations in terms of scalar and vector potentials
	6-Jan-18	do
	7-Jan-18	Sunday
2	8-Jan-18	Non uniqueness of Electromagnetic potentials
	9-Jan-18	concept of Gauge
	10-Jan-18	Lorentz gauge and coulomb gauge
	11-Jan-18	Boundary value problem
	12-Jan-18	Poisson and Laplace equations
	13-Jan-18	do
	14-Jan-18	Sunday
3	15-Jan-18	Solution of Laplace equation in Rectangular coordinates
	16-Jan-18	do
	17-Jan-18	Green's Theorem
	18-Jan-18	Dirichlet and Neumann boundary conditions
	19-Jan-18	do
	20-Jan-18	test
	21-Jan-18	Sunday
4	22-Jan-18	Vasant Panchami
	23-Jan-18	Formal solution of boundary value problem with Green's function
	24-Jan-18	Sir Chhotu Ram Jayanti
	25-Jan-18	do
	26-Jan-18	Republic Day
	27-Jan-18	Electrostatic potential energy and energy density
	28-Jan-18	Sunday
5	29-Jan-18	do
	30-Jan-18	Assignment
	31-Jan-18	test

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Week	Date	Topics
1	1-Feb-18	Point charge near an infinite good conducting plane
	2-Feb-18	Point charge in the presence of grounded conducting sphere
	3-Feb-18	do
	4-Feb-18	Sunday
2	5-Feb-18	Point charge in the presence of charged, insulated conducting sphere
	6-Feb-18	Point charge near a conducting sphere at fixed potential
	7-Feb-18	do
	8-Feb-18	Conducting sphere in a uniform electric field
	9-Feb-18	do
	10-Feb-18	Maharshi Dayanand Saraswati Jayanti
	11-Feb-18	Sunday
3	12-Feb-18	Review of Four vectors
	13-Feb-18	Maha Shivratri
	14-Feb-18	Lorentz transformation in four dimensional space
	15-Feb-18	do
	16-Feb-18	Mathematical properties of the space-time of special relativity
	17-Feb-18	Problem on above topics
	18-Feb-18	Sunday
4	19-Feb-18	do
	20-Feb-18	Electromagnetic field tensor
	21-Feb-18	do
	22-Feb-18	do
	23-Feb-18	covariance of Electrodynamics under Lorentz transformation
	24-Feb-18	do
	25-Feb-18	Sunday
5	26-Feb-18	test
	27-Feb-18	Assignment
	28-Feb-18	As per Uni. Calendar Holiday

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Class and Section: M.Sc. Physics (Semester-4th)

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Week	Date	Topics
1	1-Mar-18	Guru Ravidas Birthday
	2-Mar-18	Holi
	3-Mar-18	As per Uni. Calendar Holiday
	4-Mar-18	Sunday
2	5-Mar-18	Wave equation
	6-Mar-18	Reflection and Refraction of electromagnetic waves at a plane interface between dielectrics
	7-Mar-18	do
	8-Mar-18	Wave propagation in a non-conducting and conducting media
	9-Mar-18	do
	10-Mar-18	Fresnel relations
	11-Mar-18	Sunday
3	12-Mar-18	do
	13-Mar-18	Brewster's angle
	14-Mar-18	Wave guides: TE and TM modes in rectangular wave guides
	15-Mar-18	do
	16-Mar-18	problems
	17-Mar-18	test
	18-Mar-18	Sunday
4	19-Mar-18	Moving point charges
	20-Mar-18	Retarded potentials
	21-Mar-18	Lienard-Wiechart potentials for a point charge
	22-Mar-18	do
	23-Mar-18	The fields of moving charge particles
	24-Mar-18	problems
	25-Mar-18	Sunday/ Ram Navami
5	26-Mar-18	Total power radiated by a point charge
	27-Mar-18	do
	28-Mar-18	Larmor's formula and its relativistic generalization
	29-Mar-18	Mahavir Jayanti
	30-Mar-18	Assignment
	31-Mar-18	do

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Class and Section: M.Sc.Physics (semester-4th)

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Week	Date	Topics
1	1-Apr-18	Sunday
	2-Apr-18	Elementary concepts
	3-Apr-18	Derivation of moment Equations from Boltzmann Equation
	4-Apr-18	do
	5-Apr-18	Plasma Oscillation
	6-Apr-18	Theory of simple oscillations
	7-Apr-18	do
	8-Apr-18	Sunday
2	9-Apr-18	Electron oscillation in a plasma
	10-Apr-18	Electronic oscillations when the motion of ions is also considered
	11-Apr-18	do
	12-Apr-18	Derivation of plasma oscillation using Maxwell's equation
	13-Apr-18	do
	14-Apr-18	Dr AmbedkarJayanti / Vaisakhi
	15-Apr-18	Sunday
3	16-Apr-18	Propagation of em waves in plasma containing a magnetic field
	17-Apr-18	do
	18-Apr-18	Parashurama Jayanti
	19-Apr-18	Quasineutrality of plasma
	20-Apr-18	Debye shielding distance
	21-Apr-18	Plasma production and heating of the plasma
	22-Apr-18	Sunday
4	23-Apr-18	Confinement of plasma
	24-Apr-18	plasma instabilities
	25-Apr-18	do
	26-Apr-18	problems
	27-Apr-18	test
	28-Apr-18	Assignment