

Lesson Plan (2023-2024) (oddsem)

Name of the Assistant:

Class and Section: B.Sc III<sup>rd</sup> (5<sup>th</sup> Sem)

Subject: Physics. (Solid state and quantum mechanics)

Week	Date	Topics
	24.07.2023	Introduction
	25.07.2023	Unit - I - Crystalline and glassy forms
	26.07.2023	Liquid crystals, crystal structure
	27.07.2023	periodicity, lattice and basis
	28.07.2023	Crystal translational vectors and axes
	29.07.2023	Unit cell and primitive cell
	1.08.2023	Wigner Seitz primitive cell
	2.08.2023	Symmetry operations for two dim. crys
	3.08.2023	Bravais lattices in two dim.
	4.08.2023	Bravais lattices in three dimo
	5.08.2023	Take problems
	7.08.2023	Unit - I - Test
	8.08.2023	Unit - II - Crystal planes
	9.08.2023	Miller indices
	10.08.2023	Interplanar spacing
	11.08.2023	Crystal structures of Zinc sulphide
	12.08.2023	Sodium chloride.
	14.08.2023	Diamond.
	16.08.2023	X-ray diffraction
	17.08.2023	Bragg's law.
	18.08.2023	Experimental x-ray diffraction methods
	19.08.2023	k-space.
	21.08.2023	Take problems
	22.08.2023	Unit - II - Test
	23.08.2023	Unit - III - Reciprocal lattice
	24.08.2023	physical significance.
	25.08.2023	Reciprocal lattice vectors
	26.08.2023	Reciprocal lattice to a simple cubic lattice.
	28.08.2023	Bcc. and fcc.
	29.08.2023	Specific heat of solids
	31.08.2023	Einstein's theory of specific heat
	1.09.2023	Debye model of S.p. heat at solids
	2.09.2023	Take problems
	3.09.2023	Unit - III - Test
	4.09.2023	paper - II unit - I F.M. Theory
	5.09.2023	Quantum theory of Radiation
	7.09.2023	Photon
	8.09.2023	Photoelectric effect
	9.09.2023	Einstein's photoelectric equation

Lesson Plan (2021-22)

Name of the Assistant:

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Subject:

Week	Date	Topics
	11.09.2023	Compton effect
	12.09.2023	Inadequacy of old quantum theory
	13.09.2023	De-Broglie Hypothesis
	14.09.2023	Davison and Chermak experiment
	15.09.2023	Chap Thomson experiment
	16.09.2023	Phase Velocity
	18.09.2023	Group velocity
	19.09.2023	Heisenberg's uncertainty principle
	20.09.2023	Time - energy and angular momentum
	25.09.2023	position uncertainty
	26.09.2023	principle - from de-Broglie wave
	27.09.2023	Gamma Ray microscope
	28.09.2023	Electron diffraction, from a slit.
	29.09.2023	Take problems
	3.10.2023	Unit - I - Test
	4.10.2023	Unit - II - Time dependent Schrodinger wave equation
	5.10.2023	Eigen values and functions
	6.10.2023	Wave functions and its significance
	7.10.2023	Normalization of wave function
	9.10.2023	Concept of observable and operators
	10.10.2023	Solution of Sch. equ. for Harmonic oscillator
	11.10.2023	Take problem
	12.10.2023	Unit - II - Test
	13.10.2023	Unit - III - Application Sch. equ. 1. dim problem
	14.10.2023	Free particle in one dimensional Box
	16.10.2023	Solution of Schrodinger wave equation
	17.10.2023	Eigen function and values
	18.10.2023	quantization of energy and momentum
	19.10.2023	Nodes and antinodes
	20.10.2023	Zero point energy
	21.10.2023	one-dim potential barriers $E > V_0$
	23.10.2023	one-dim potential barriers $E < V_0$
	25.10.2023	Reflection and Transmission coefficient
	26.10.2023	Reflection coefficient
	27.10.2023	penetration or leakage coefficient
	30.10.2023	penetration depth
	31.10.2023	Take problems
	2.11.2023	Unit - III - Test
	3.11.2023	Revision



Lesson Plan ~~(2023-2024)~~ 2023-2024. (odd sem)

Name of the Assistant:

Class and Section: — Bisc II<sup>nd</sup> Y (3<sup>rd</sup> sem)

Subject: physics. (PT and optics)

Week	Date	Topics
	24.07.2023	Introduction.
	25.07.2023	Unit-I - computer, organisation, Binary representation.
	26.07.2023	Algorithm development, flow charts, interpretation.
	27.07.2023	Fortran preliminaries, Integer and floating.
	28.07.2023	Built in functions executable and non executable.
	29.07.2023	Input and output statements, IF, DO, GO TO.
	1.08.2023	Dimension arrays statement function, subprogram.
	2.08.2023	Unit-II - second law of thermodynamics.
	3.08.2023	Carnot theorem, Absolute scale of temperature.
	4.08.2023	Absolute zero, Entropy, $dQ/T = Q$ , T-S diagram.
	5.08.2023	Nernst heat law, Joule's free expansion.
	7.08.2023	Joule Thomson Experiment, effect.
	8.08.2023	Liquefaction of gases, Air pollution.
	9.08.2023	Test - Unit - I.
	10.08.2023	Unit-III - Derivation of Clausius-Clapeyron theorem.
	11.08.2023	Phase diagram and triple point of a substance.
	12.08.2023	Development of Maxwell's thermodynamical.
	14.08.2023	Application of Maxwell's relations in the derivation.
	16.08.2023	Specific heats and thermodynamic variables.
	17.08.2023	Thermodynamic functions - U, F, H, G.
	18.08.2023	Test - Unit - II.
	19.08.2023	problems.
	21.08.2023	Test - Unit - III.
	22.08.2023	problems.
	23.08.2023	Unit-I - speed of transverse waves and string.
	24.08.2023	speed of longitudinal wave in a fluid.
	25.08.2023	superposition of waves.
	26.08.2023	Fourier Analysis of complex waves.
	28.08.2023	Application for triangular waves.
	29.08.2023	Rectangular waves.
	31.08.2023	Half and full wave rectifier outputs.
	1.09.2023	Fourier transform and properties.
	2.09.2023	Application of Fourier transform.
	3.09.2023	problems.
	4.09.2023	Test - Unit - I.
	5.09.2023	Unit-II - matrix methods in paraxial optics.
	7.09.2023	effects of translation and refraction.
	8.09.2023	Thin lens formulae.
	9.09.2023	Thick lens formulae.

Lesson Plan (2021-22)

Name of the Assistant:

Class and Section:

Subject:

Week	Date	Topics
		U
	11.09.2023	Unit plane
	12.09.2023	nodal planes
	13.09.2023	system of thin lenses.
	14.09.2023	chromatic
	15.09.2023	spherical coma
	16.09.2023	Astigmatism
	18.09.2023	Distortion aberrations and their Remedies
	19.09.2023	problems
	20.09.2023	unit - II - Test
	25.09.2023	problems
	26.09.2023	Unit - III - Division of wavefront.
	27.09.2023	Fresnel's Biprism
	28.09.2023	determination of wave length of sodium light
	29.09.2023	thickness of a mica sheet
	3.10.2023	Lloyd's mirror.
	4.10.2023	phase change on reflection.
	5.10.2023	problems
	6.10.2023	problems
	7.10.2023	unit - III - Test
	9.10.2023	Revision.
	10.10.2023	Revision.
	11.10.2023	Revision.
	12.10.2023	Revision.
	13.10.2023	Revision
	14.10.2023	paper - I. unit - I Test.
	16.10.2023	Revision
	17.10.2023	Revision
	18.10.2023	Revision.
	19.10.2023	Revision
	20.10.2023	paper - I unit - II Test
	21.10.2023	Revision
	23.10.2023	Revision.
	25.10.2023	Revision.
	26.10.2023	Revision
	27.10.2023	paper - I unit - III Test
	30.10.2023	Revision
	31.10.2023	Revision
	2.11.2023	Revision
	3.11.2023	Revision
	4.11.2023	paper - II unit - I Test

